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# Current Affairs (CONSOLIDATION)

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# Polity and Governance

## Highlights

- Supreme Court Sets Deadline for Lokpal Appointment (1)
- Retirement Age of Judges (2)
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## Supreme Court Sets Deadline for Lokpal Appointment

Recently, the Supreme Court has fixed a **February-end deadline** for the **search committee on Lokpal** to recommend a panel of names for appointment of the country's first anti-graft ombudsman.

- Earlier in January, 2019, the government informed the Supreme Court that an **eight-member search committee** has been constituted in September, 2018, **headed by former Supreme Court judge, Justice Ranjana Prakash Desai**.
- The government informed SC that because of **lack of infrastructure and manpower** the search committee was not able to hold deliberations on the issue.

### Background

- The first Bill for a Lokpal was tabled in Parliament in 1968. Institutions such as the Central Bureau of Investigation and the Central Vigilance Commission were set up in those years.
- Amid repeated demands for such an ombudsman, many attempts were made at legislation, with Lokpal Bills introduced in 1971, 1977, 1985, 1989, 1996, 1998, 2001, 2005 and 2008.
- The Act intends the LoP to be the part of the selection committee which will be headed by the **PM and will consist of the CJI and the Lok Sabha Speaker**, the leader of the largest opposition party and an eminent jurist.

- Though passed in 2014, the Lokpal and Lokayukta Act of 2013 was not implemented all these years because **there was no Leader of Opposition (LoP) in the 16<sup>th</sup> Lok Sabha**.
- However, on April 27, 2018, the Supreme Court, in a judgment, clarified that the Lokpal appointment process need not be stalled merely due to the absence of the LoP.
- The court has for the past several months stated the government's stand on Lokpal Appointment as unsatisfactory and has constantly urged the government to complete the Lokpal appointment.

### Lokpal and Lokayuktas Act, 2013

- To provide for the establishment of a body of **Lokpal for the Union and Lokayukta for States** to inquire into allegations of corruption against certain public functionaries and for matters connected therewith or incidental thereto.
- It **extends to the whole of India** and shall apply to **public servants in and outside India**.
- The Lokpal shall inquire or cause an inquiry to be conducted into any matter involved in, or arising from, or connected with, any allegation of corruption made in a complaint in respect of the following, namely:—
  - Any person who is or has been a Prime Minister **(except for certain exceptions with respect to matters related to security, international relations etc.)**

Note:

- Any person who is or has been a Minister of the Union or an MP.
- Group A to D officers as defined in Prevention of Corruption Act, 1988.
- It shall be the duty of the Lokpal to **present annually** to the **President a report to be laid before each House of Parliament**.
- Every State shall establish a body to be known as the Lokayukta for the State, by a law made by the State Legislature.

## Retirement Age of Judges

The Ministry of Law and Justice has said there was no proposal as of now to increase the retirement age of **Supreme Court judges from 65 to 67 and of High Court judges from 62 to 65**.

- The Ministry was responding to the recommendation of a **Parliamentary Standing Committee** that raising the retirement age of judges would help retain the existing judges, which in turn would help in **reducing both vacancy and pendency** of cases in short run.
- Another key factor highlighted by the committee was the **life expectancy, which has increased considerably** in the last few years.

### Background

- The **Venkatachaliah Report (Report of the National Commission to review the working of the Constitution, 2002)** recommended that the retirement age of the Judges of the High Court should be increased to 65 years and that of the Judges of the Supreme Court should be increased to 68 years.
- The **Constitution (114<sup>th</sup> Amendment) Bill** was introduced in 2010 to increase the retirement age of High Court judges to 65. However, it was not taken up for consideration in Parliament and lapsed with the dissolution of the 15<sup>th</sup> Lok Sabha.
- Recently, Justice Kurian Joseph of Supreme Court also recommended increasing retirement age of judges in higher judiciary to decrease the pendency of cases.
- However, it has also been argued that 65 years is a good enough an age to retire, because at this age, **mental and physical wear and tear start manifesting**.
- As of now, out of a total **approved strength of 1,079 judges in 24 High Courts** (excluding the 25<sup>th</sup> High Court of Andhra Pradesh) across the country, **only 695 posts are filled**.

### The Case in Western Democracies

- A retirement **age of around 70** for judges is commonplace in **most Western liberal democracies**. Some of them even opt for **tenures for life**. E.g.:
  - In the Supreme Court of the **United States**, and in constitutional courts in **Austria** and **Greece**, judges are **appointed for life**.
  - In Belgium, Denmark, Ireland, the Netherlands, Norway and Australia, the retirement age for judges is **70 years**.

### Need

- The **judge-population ratio in India is among the lowest** in the world at 19.66 judges per million (10 lakh) people as of today. In 2016, the U.K. had 51 judges per million people, the U.S. had 107, Australia had 41, and Canada had 75.
- It is also necessary to increase the number of judges in the pool to enable the judiciary to **deal with the enormous pendency of cases**.
- According to **National Judicial Data Grid data**, more than 2.84 crore cases are pending in the subordinate courts, 43 lakh cases are pending before the High Courts, and 57,987 cases are pending before the Supreme Court.
- Moreover, legislations provide for retired High Court and Supreme Court judges to **man tribunals till the age of 70 as chairman and 65 as members**. There is no reason why these judges should be retired so early.
- One aspect which has not been factored in is that as the **Indian economy grows**, the ratio of litigation to population will increase exponentially. Advanced economies such as Australia, Canada, France, the U.S., the U.K., and Japan have much **higher litigation-to-population ratios**.

### Positive Consequences

- Senior serving judges will bring with them **years of experience**.
- It will ensure the continued presence of a **strong talent pool of experienced judges**.
- New judges can be appointed without displacing existing judges.
- It will address the **problem of mounting arrears**.
- It will be a buffer against **impending litigation explosion**.
- It will render **post-retirement assignments unattractive** and, as a consequence, **strengthen the rule of law and the independence of the judiciary**, both of which are crucial to sustain democracy.

### Way Forward

- India faces the **perennial issue of backlog of cases**. Increasing the age of Judges will certainly help in addressing this issue. The retirement age of judges of the Supreme Court and High Courts could be increased, but with the **option of quitting before reaching the age of superannuation – a practice prevailing in Zimbabwe**, where a top court judge is appointed to retire at 65 years but can opt to continue till 70.
- Moreover, merely increasing the retirement age of the Judges is **not a solution for problems** in Indian Judiciary. Other issues like **lack of transparency (particularly in the appointment of judges), under trials of the accused, lack of information and interaction among people and courts must also be addressed**.

## Dam Safety Bill, 2018

The Dam Safety Bill, 2018 was introduced in Lok Sabha on December 12, 2018.

### Key Provisions of the Bill

- **National Committee on Dam Safety:**
  - The Bill provides for the constitution of a National Committee on Dam Safety.
  - The Committee will be chaired by the Chairperson, Central Water Commission and other members nominated by the central government.
  - Functions of the Committee include:
    - Formulating policies and regulations regarding dam safety standards and prevention of dam failures.
    - Analysing causes of major dam failures and suggesting changes in dam safety practices.
- **National Dam Safety Authority:** The Bill provides for a National Dam Safety Authority.
  - Its functions include:
    - Implementing the policies formulated by the National Committee on Dam Safety.
    - Resolving issues between State Dam Safety Organisations (SDSOs), or between an SDSO and any dam owner in that state.
    - Specifying regulations for inspection and investigation of dams.
    - Providing accreditation to agencies working on construction, design, and alteration of dams.

### State Dam Safety Organisation:

- The Bill provides for the establishment of SDSOs by the State governments.
- All specified dams situated in a State will fall under the jurisdiction of that state's SDSO.
- In certain cases the National Dam Safety Authority will act as the SDSO.
- Functions of the SDSOs include:
  - Keeping surveillance, inspecting, and monitoring the operation and maintenance of dams.
  - Keeping a database of all dams
  - Recommending safety measures to owners of dams.

### State Committee on Dam Safety:

The Bill provides for the constitution of State Committees on Dam Safety by the state governments.

- Functions of the Committee include:
  - Reviewing the work of the SDSO.
  - Ordering dam safety investigations.
  - Recommending dam safety measures and reviewing the progress on such measures.
  - Assessing the potential impact on upstream and downstream states. These states will also have their representatives on the State Committee.

### Obligations of dam owners:

The Bill requires the owners of specified dams to provide a **dam safety unit** in each dam. This unit will inspect the dams:

- Before and after the monsoon season.
- During and after every earthquake, flood, or any other calamity or sign of distress.
- Dam owners will be required to prepare an emergency action plan, and carry out risk assessment studies at specified regular intervals.

### Challenges

- Certain states have put a question mark over the legislative competence of the Centre in violation of federal spirit of constitution. States fear that the Centre may take control over their dams.
- Tamil Nadu has opposed it, fearing that the dams owned and operated by it would come under the purview of the National Dam Safety Organisation (NDSO) and that Kerala would also get access to the dam and information about it.

Note:

- The bill is too focused on the structural safety of dams, not so much on their operational safety.
- There is no provision for compensation to the victims of dam failures, which was a key recommendation of the June 2011 report of the Parliamentary Standing Committee (15<sup>th</sup> Lok Sabha) on Dam Safety Bill, 2010.

### Conclusion

- Dam Safety Bill, 2018 is a much needed legislation to ensure the safety of man and materials in the downstream areas of the dam.
- The Bill is a critical adaptive measure in context of climate change, as extreme weather events like floods are expected to increase e.g. recent Kerala floods are attributed to climate change.
- In the spirit of cooperative federalism, and to allay the concerns of the States, there is a need for wider consultation.

## Parliamentary Standing Committee Report on CBI and CAT

A Parliamentary Standing Committee (PSC) has raised concerns over non-filling of vacancies in the Central Bureau of Investigation (CBI).

- In a **separate finding**, the PSC has observed that the **Central Administrative Tribunal (CAT)** lacks human as well as physical infrastructure. Because of this, 14 of the 17 Benches are not fully functional.
- The level of vacant positions in executive rank, law officers and technical officers is about 16, 28 and 56% respectively.
- At the top level, out of four posts of Special Director or Additional Director, three are lying vacant.

### Recommendations on CBI

- Terms of **deputation to the CBI be made more rewarding** in order to retain capable officers and to attract best officers from the State police forces, Central paramilitary forces, Intelligence Bureau, etc.
- The committee recommended that the government simplify recruitment rules to **overcome the procedural bottlenecks**.

- The CBI and the government should **expedite approvals for setting up the International Centre of Excellence in Investigation (ICEI-CBI) at the CBI Academy in Ghaziabad**, which was announced in 2015.
  - ICEI-CBI was to offer world-class certified courses on investigation and prosecution in specialised and emerging domains of crime including cybercrime.
- With the **increasing number of cases** now being referred to the CBI pertaining to areas like **internal security, cybercrimes, corruption, financial irregularities**, the nation cannot afford to have its premier investigative agency understaffed and thus ill-prepared.

### Recommendations on CAT

- **Strict timelines** to fill the vacancies.
- It suggested that the **appointment process** of tribunal members should start **well in advance** and the government should examine the reasons for members leaving service prematurely and take remedial measures.
- The Department of Personnel and Training (DoPT) and CAT should chalk out strategy to overcome the procedural hurdles in commencement of construction of buildings for Benches. It pointed out that despite allocation of funds, CAT was not carrying out construction at these sites.

### Central Bureau of Investigation

- CBI functions under the superintendence of the Dept. of Personnel, Ministry of Personnel, Pension & Public Grievances, Government of India - which operates under the Prime Minister's office.
- However for investigations of offences under the Prevention of Corruption Act, its superintendence vests with the Central Vigilance Commission.
- It is also the nodal police agency in India which coordinates investigation on behalf of Interpol Member countries.
- CBI derives power to investigate from the Delhi Special Police Establishment Act, 1946.
- In 1978, the L P Singh committee recommended enactment of a "comprehensive central legislation to remove the deficiency of not having a central investigative agency with a self-sufficient statutory charter of duties and functions".
- The Second Administrative Reforms Commission (2007) also suggested that "a new law should be enacted to govern the working of the CBI".



### Central Administrative Tribunal

- The **Central Administrative Tribunal** had been established under **Article 323A** of the Constitution (**inserted by the 42<sup>nd</sup> Constitutional Amendment, 1976**) for adjudication of disputes and complaints with respect to recruitment and conditions of service of persons appointed to public services and posts in connection with the affairs of the Union or other authorities under the control of the Government.
  - The **42<sup>nd</sup> Constitutional Amendment, 1976 added two articles viz. 323-A and 323-B**. While article 323-A deals with Administrative Tribunals; article 323-B deals with tribunals for other matters.
- It was **established in 1985** by the **Administrative Tribunals Act, 1985**.
- The Tribunal is guided by the **principles of natural justice** in deciding cases and is not bound by the procedure, prescribed by the Civil Procedure Code.
- Initially the decision of the Tribunal could be **challenged before Supreme Court by filing Special Leave Petition**. However, after the Supreme Court's decision in **L. Chandra Kumar vs the Union of India & Ors (1997)**, the orders of Central Administrative Tribunal are now being challenged by way of **Writ Petition under Article 226/227 of the Constitution before respective High Court** in whose territorial jurisdiction the Bench of the Tribunal is situated.
- The Principal seat of Central Administrative Tribunal is at **New Delhi** and it has **16 Outlying Benches scattered all over the Country**.

## Aadhaar And Other Laws (Amendment) Bill, 2018

Lok Sabha has recently passed the Aadhaar And Other Laws (Amendment) Bill, 2018.

- The Bill aims to amend three existing laws: the Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016, the Indian Telegraph Act, 1885, and the Prevention of Money Laundering Act, 2002.
- The Bill is brought to modify existing laws to implement the **Supreme Court's judgment (September 2018)** which upheld Aadhaar but limited its use for only certain subsidies and schemes funded by the Consolidated Fund of India and disallowed private companies from seeking Aadhaar for authentication.

### Provisions of the Bill

- **Enrolment of Children:** Permits the enrolment of children to the scheme with the consent of their parents or guardian.
  - Children can opt out of Aadhaar on attaining majority.
- **Offline verification:** The Bill permits offline verification, i.e. the use of Aadhaar number to establish an identity without authentication using biometric data or other electronic means.
  - As per the present Act, Aadhaar number without electronic authentication cannot be used to verify the identity.
- **Virtual ID:** The Bill changes the definition of 'aadhaar number' to include 'virtual ID', in addition to the 12 digit number. The 16-digit Virtual ID enables one to authenticate identity without providing aadhaar number.
- **High Court judge can order disclosure:** The authority which can issue orders to disclose Aadhaar information is proposed to be changed as 'High Court judge' from 'District Judge'.
- **The right of hearing before disclosure order:** The Bill states that the holder of the Aadhaar number should be heard before issuing such order.
- **Secretary authorized to order disclosure in the interest of national security:** The authority which can issue orders of disclosure of Aadhaar information in the interests of national security is proposed to be changed to the officer of the rank of "Secretary" from "Joint Secretary".
- **No denial of services due to authentication failure:** The Bill clarifies that failure in authentication of Aadhaar number due to old age, sickness, or technical reasons should not result in denial of any service, benefit or subsidy. It states that alternate means to verify identity should be used in such cases.
- **Civil penalties:** The Bill proposes civil penalties for collection, use, and disclosure of Aadhaar information in contravention with the violation of the provisions of the Act.
  - The maximum penalty proposed is ₹ 1 crore.
- **Section 57 Omitted:** The Bill proposes to omit Section 57 of the Aadhaar Act that permitted private entities to use Aadhaar number for authenticating identity before providing services.

Note:

- **Amending Telegraph Act:** The Bill proposes to amend the Indian Telegraph Act 1855 to provide for voluntary use of Aadhaar number for identity verification by the telecom companies. However, the Bill does not say that Aadhaar has to be compulsorily used for verification.
- **Bank Accounts and Aadhaar:** The Bill proposes an amendment to the Prevention of Money Laundering Act to permit voluntary use of Aadhaar for identity verification by banks before opening bank accounts. Aadhaar is specified as one of the means of identity verification, and there is no compulsion to use it.
- **UIDAI Fund:** Under the Act, all fees and revenue collected by the UIDAI shall be credited to the Consolidated Fund of India.
  - The Bill removes this provision and creates the Unique Identification Authority of India Fund. The fund shall be used for expenses of the UIDAI, including salaries and allowances of its employees.

## Section 66A of IT Act

The Supreme Court has sought the Centre's response to a plea alleging that **despite the striking down of draconian Section 66A of the IT Act in 2015 by the apex court**, police in various states were still invoking it in FIRs to clamp down on free speech on social media platforms.

- The petition said there had been a **huge communication gap** at the ground level and many officials may not even know about the Supreme Court verdict.
- It said trial courts and prosecutors were **not actively implementing the verdict** and the burden of terminating illegal prosecutions **based on Section 66A fell on the accused persons**.

### Background

- Section 66A dealt with **information related crimes** in which sending information, by means of a computer resource or a communication device, which is inter alia offensive, derogatory and menacing is made a punishable offence.
- In **Shreya Singhal v. Union of India** judgement (2015), the Supreme Court had observed that the Section 66A had **created an offence on the basis of undefined actions**: such as **causing "inconvenience, danger, obstruction and insult"**, which do not fall among the exceptions **granted under Article 19** of the Constitution, which guarantees the freedom of speech.

- The court also observed that the challenge was to **identify where to draw the line**. Traditionally, it has been drawn at incitement while terms like obstruction and insult remain subjective.
- In addition, the court had noted that **Section 66A did not have procedural safeguards** like other sections of the law with similar aims, such as:
  - The need to obtain the concurrence of the Centre before action can be taken.
  - Local authorities could proceed autonomously.
- The judgment had found that **Section 66A was contrary to both Articles 19 (free speech) and 21 (right to life) of the Constitution**. The entire provision was struck down by the court.
- Post judgment government had appointed an expert committee (**T.K. Viswanathan committee**) which proposed a legislation to meet the **challenge of hate speech online**.

## The Constitution (124<sup>th</sup> Amendment) Bill, 2019

The Constitution (124<sup>th</sup> Amendment) Bill, 2019 that aims to provide reservation in public employment and higher education for economically weaker sections has been passed by the parliament.

- Economic reservation in jobs and education is proposed to be provided by inserting **clause (6) in Articles 15 and 16 of the Constitution**.

### Provisions of Amendment Bill

- **Amendment to Article 15:** This clause enables State to make special provisions for advancement of any economically weaker section of citizens, including reservations in educational institutions.
  - It states that such reservation can be made in any educational institution, including private institutions, whether aided or unaided, except minority educational institutions covered under Article 30 (1).
  - It further states that the upper limit of the reservation will be 10%, which will be in addition to the existing reservations.
- **Amendment to Article 16:** The proposed Article 16 (6) enables State to make provision for reservation in appointments, in addition to the existing reservations, subject to a maximum of 10%.

- **Definition of "Economically weaker sections":** The central government will notify the "economically weaker sections" of citizens on the basis of family income and other indicators of economic disadvantage.
  - This will be a class distinct from the already specified classes of SCs, STs, and socially and educationally backward classes.

### ***Challenges for Introducing Economic Based Reservation***

- **It breaches the 50% ceiling on reservations** laid down by the Supreme Court in Indra Sawhney's case.
- In the 1992 Indira Sawhney case, the Supreme Court said that such quotas cannot be provided for poverty alone. It has to be poverty plus social and educational backwardness and the backwardness should reflect historic injustice through generations.
- **The court then said that reservations beyond 50% will hit Article 14 (right to equality).** Half of jobs and seats in educational institutions must, therefore, be for the general merit category.
- **Equality is part of the basic structure, the court insisted.** Hence this step will also violate the Supreme Court ruling of Kesavananda Bharati which said that any amendment which offended the basic structure of Constitution would be ultra vires.

### ***Positive Impact of Economic based Reservation***

- **The reservation has historically been associated with caste.** And often in our imagination, there was a stigma that the upper caste put on those who had come through the reservation. By including upper castes under the sign of reservation, it dissociates caste and the stigma of reservation.
- 10% reservation will be in addition to the existing cap of 50% reservation for the Scheduled Castes, Scheduled Tribes, and the Other Backward Classes, taking a total reservation to 60%.

### ***Reasons for Increasing Reservation Demand***

- The Indian economy is **not generating enough attractive jobs; nor is our education system training graduates** properly enough to participate in the economy. There has been a clamor amongst the educated upper caste groups like Rajputs for a reservation route to be opened up for them. This is in a context where public sector jobs are scarce.

- **Farmers Distress** has also been another reason for demand in the reservation, as the agriculture dominant upper caste is now facing an economic slowdown. To a large extent this contributed to the recent demand of Jats, Marathas, and Patidars to be included in the other backward classes (OBC) category so that they could shift away from agriculture.

### ***Concerns***

- **Reservations in India have become a political necessity.** Reservation is only seen as a tool to get access to the vote bank.
- Affirmative action was designed for those who have suffered social discrimination and historical wrong that certain caste/ tribal groups experienced for centuries, **not as a poverty alleviation, employment measure.**
- **It will open a Pandora's box with other communities also demanding the reservation** as the deterrence of 50% limit would be already breached.
- **This would also further the caste-based politics,** dividing society along caste-based lines, instead of creating a more egalitarian and integrative society, as envisaged by the Constitution.
- **Other groups would also claim stakes** such as gender-based reservation, religion-based reservation etc.
- This divisive trend for clamor for jobs, education would incite vote bank politics, threatening the cohesive structure of India in the long run.

### ***Way Forward***

- Equal opportunities in school education are imperative. This would address problems of unequal access, uneven completion rates, and asymmetrical dropout rates, to progressively diminish the need for reservations.
- It is necessary to recognize that discrimination, hence exclusion, is multi-dimensional. It is not only about caste but also about religion, gender, ethnicity and, ultimately, income.
- It is also essential to accept the idea that affirmative action must be limited to first-time entrants or first-generation learners. And, even with this correction, reservations cannot suffice, without an Equal Opportunities Commission to ensure implementation.
- Reservations served an important social purpose in independent India, to address the problems of embedded discrimination. But more of the same is no longer a solution. The answer lies in expanding educational and employment opportunities. It would ease conflict, soften divides, and progressively reduce the need for affirmative action.



## Legal Status for SSC

A **Parliamentary Standing Committee (PSC)** has recommended **statutory status to the Staff Selection Commission (SSC)**, one of the largest recruitment agencies in the country.

- The Union Public Service Commission (UPSC) and all State Public Service Commissions either have constitutional or legal status. The SSC is the only such organisation that performs similar functions on a much larger scale, but does not enjoy a statutory status.

### Staff Selection Commission

- The Government of India constituted the **Subordinate Services Commission in 1975** which was subsequently **re-designated as Staff Selection Commission in 1977**.
- The Staff Selection Commission is **an attached office** of the **Department of Personnel and Training** and comprises of Chairman, two Members and a Secretary-cum-Controller of Examinations who are appointed on such terms and conditions as may be prescribed by the Central Government.
- **Estimates Committee of the Parliament in its 47<sup>th</sup> Report (1967-68)** and the **First Administrative Reforms Commission (ARC) in 1968** recommended the setting up of a Service Selection Commission for conducting examinations for recruitment to lower categories of posts.
- The SSC was created to ease the burden of the UPSC by taking over the recruitment for posts below the Group 'A' level.
- The workload and responsibilities of the SSC have increased exponentially over the years, from 9.94 lakh candidates in 2008-09 to over 2 crore in 2016-17.
- Moreover, the SSC has a sanctioned staff strength of 481 officers but is functioning with 75% of its sanctioned strength.
- Statutory status to the SSC would contribute to **greater functional autonomy, faster decision-making and efficiency** in the overall performance and delivery of results by the SSC in the recruitment process.

## Tallying of VVPAT with EVMs

The Supreme Court has directed the Election Commission to respond to a plea that the counts from Electronic Voting Machines (EVMs) and voter verifiable paper audit trail (VVPAT) units should be cross-verified in at least 30% randomly chosen polling stations in each Assembly and Lok Sabha constituency.

- At present only 10% of the VVPAT and vote counts from EVMs are cross verified.
- Apart from increasing the mandatory tallying of VVPAT with EVMs, the SC issued notice to EC on two other related issues:
  - Directions to make it mandatory for Returning Officer to order hand-counting of all the VVPAT slips of every polling station where the margin of victory is very narrow, less than 3%.
  - Making it mandatory for the poll panel to ask Returning Officer to order hand-counting of all VVPAT slips of all the polling stations where the discrepancy between the machine-counting total and the hand-counting total in respect of the 5% sample EVMs taken together is more than 1%.

### Background

- The Supreme Court in its judgment in *Subramanian Swamy vs ECI*, 2013, had held that it was imperative that elections held through EVMs ought to implement a mechanism of voter verifiable paper audit trails so that the voter can satisfy himself that his vote was accurately recorded.
- The mechanism for random cross-verification of EVM and VVPAT counts was placed in order to detect any technological mischief or mal-programming of EVMs.

### Voter Verified Paper Audit Trail

- VVPAT is an independent verification printer machine and is attached to electronic voting machines. It allows voters to verify if their vote has gone to the intended candidate.
- When a voter presses a button in the EVM, a paper slip is printed through the VVPAT. The slip contains the poll symbol and name of the candidate. It allows the voter to verify his/her choice.
- After being visible to the voter from a glass case in the VVPAT for seven seconds, the ballot slip will be cut and dropped into the drop box in the VVPAT machine and a beep will be heard.
- VVPAT machines can be accessed by polling officers only.

## Global Report on Trafficking in Persons 2018: UN

The recent study from the United Nations Office on Drugs and Crime (UNODC) has shown that human trafficking is on the rise with sexual exploitation of victims as the main driver.

- The 2018 UNODC Global Report on Trafficking in Persons is the **fourth of its kind** mandated by the **General Assembly** through the **2010 United Nations Global Plan of Action to Combat Trafficking in Persons**.
- It covers 142 countries and provides an overview of patterns and flows of trafficking in persons at global, regional and national levels, based primarily on trafficking cases detected between 2014 and 2016.
- The main focus of the report was on the **impact of armed conflict on trafficking**. In conflict zones, where the rule of law is weak, and civilians have little protection from crime, armed groups and criminals take the opportunity to traffic them to offer as incentives to recruit new fighters.

### Note:

**Article 23 of the Constitution of India** prohibits trafficking in any form. It prohibits trafficking in human beings and begar and other forms of forced labor making provisions for punishment of the contravention of such laws.

### Key Findings

- **Victims:** Women and girls make up most trafficking victims worldwide. Almost three-quarters of them are trafficked for sexual exploitation, and 35% (women and girls) are trafficked for forced labor.
  - Children now account for 30% of those being trafficked, and far more girls are detected than boys.
- **Factors:** Trafficking for sexual exploitation is the most prevalent form in European countries, whilst in sub-Saharan Africa and the Middle East, forced labour is the main factor.
- **Region:** Victims are trafficked from most South Asian countries, including Bangladesh, India, and Pakistan, and to a limited extent also from Nepal and Sri Lanka.
- **Detection and Reporting:** Asia and the Americas are the regions which have seen the largest increase in the numbers of victims detected, which may be explained by improved methods of detecting, recording and reporting data on trafficking — or a real increase in the number of victims.

- Although, there has been an **increase in the number of convictions** for trafficking in these regions, the study concluding that large areas of impunity still exist in many Asian and African countries, and **conviction rates for trafficking remain very low**.
- While the average numbers of reported victims had fluctuated during the earlier years for which UNODC had collected data, the global trend has shown a **steady increase since 2010**.

### United Nations Office on Drugs and Crime (UNODC)

- UNODC is mandated to assist the Member States in their struggle against illicit drugs, crime and terrorism.
- It was established in **1997 through a merger** between the United Nations Drug Control Programme and the Centre for International Crime Prevention.
- UNODC relies on **voluntary contributions**, mainly from Governments, for 90% of its budget.
- In 2013, the **General Assembly designated July 30 as the World Day against Trafficking in Persons**.

### Way Forward

- Addressing human trafficking is a key part of the **UN Sustainable Development Agenda**, requiring the Member States to monitor progress in tackling the problem, and report the number of victims by sex, age and form of exploitation.
- However, significant gaps in knowledge remain, with many countries in sub-Saharan Africa, South Asia and some parts of East Asia still lacking sufficient capacity to record and share data on trafficking in persons.
- This report highlights the need to **step up technical assistance and strengthen cooperation**, to support all countries to protect victims and bring criminals to justice, and **achieve the Sustainable Development Goals**.

## Citizenship (Amendment) Bill, 2016

Lok Sabha has passed the Citizenship (Amendment) Bill, 2016.

### **Citizenship (Amendment) Bill, 2016**

- The Citizenship Amendment Bill was proposed for amending the Citizenship Act, 1955. Through this Bill, the government plans to change the definition of illegal migrants.
- Illegal migrants belonging to the **Hindu, Sikh, Buddhist, Jain, Parsi or Christian religious communities** coming from **Afghanistan, Bangladesh, and Pakistan** will be eligible for Indian citizenship.
- These citizens will **gain permanent citizenship after six years of residency in India instead of 11 years** as mentioned in the Citizenship Act, 1955.
- Under the Act, one of the requirements for citizenship by naturalization is that the applicant must have resided in India during the last 12 months, and for 11 of the previous 14 years.
- The Bill allows **cancellation of Overseas Citizen of India (OCI) registration** for violation of any law.

### **Concerns regarding the Citizenship Amendment Bill, 2016.**

- The Bill **violates Article 14 of the Indian constitution** as it discriminates among refugees on the basis of religion (Muslim community has not been considered).
- The **cancellation of OCI registration** for 'violation of any law' may cover a range of violations, including minor offenses (e.g. parking in a no-parking zone) and **can be misused by the authorities.**

### **Proposed Suggestions**

- **Checks and balances:** It is necessary to curtail the wide powers given to the central government to rescind the OCI card status or put checks and balances in place by appointing a committee or an ombudsman.
- **Remove religion as a basis:** The provision of granting citizenship only to immigrants of religion other than Muslims is against the idea of secularism as enshrined in the Indian Constitution.
- **Refugees:** It is necessary to keep in mind the international migrant crisis and to draw a clear demarcation between a refugee and an immigrant.

### **Way Forward**

- Law should have no biases and try its utmost to provide justice and liberty to all. In past India has given shelter to refugees who were being persecuted because of their language or culture (Tamils of Sri

Lanka, Bangladeshi, and Tibetan refugees). This Bill does not include such minorities. So it is necessary to broaden the scope of the law by including the term 'persecuted minorities' rather than religious minorities.

**Article 14:** Equality before the law and equal protection of laws. This right is available to both citizens and foreigners (except enemy aliens).

### **Citizenship under the Indian Constitution**

- The Constitution deals with the citizenship from Articles 5 to 11 under Part II.
- It empowers the Parliament to enact a law to provide for such matters and any other matter relating to citizenship.

### **Illegal Immigrant**

- According to the Citizenship Act (1955), an illegal immigrant is defined as a person who enters India without a valid passport or stays in the country after the expiry of the visa permit.
- Also, the immigrant who uses false documents for the immigration process.

### **Overseas Citizens of India**

- OCIs are foreigners who are persons of Indian origin. For example, they may have been former Indian citizens or children of the current Indian citizen.
- OCIs are entitled to multipurpose, multiple entries, a lifelong visa allowing them to visit India at any time, for any length of time and for any purpose.

### **Citizenship by Naturalisation**

- **By Naturalisation:** The Central Government may grant a certificate of naturalization to any person (not being an illegal migrant) if he possesses the following qualifications like:
  - he or she is not a subject or citizen of any country where citizens of India are prevented from becoming subjects or citizens of that country by naturalization
  - that, if he is a citizen of any country, he undertakes to renounce the citizenship of that country.

## **High-Level Panel to Safeguard Assamese Identity**

The Cabinet has approved the setting up of a High Level Committee for implementation of Clause 6 of the Assam Accord (provides for protection of the rights of indigenous people of the state).

- The panel will recommend how to provide constitutional, legislative and administrative safeguards to the indigenous people of Assam, including by reserving seats in the state assembly.

### Background

- The government is facing criticism in Assam over the Citizenship (Amendment) Bill, 2016, which proposes to make minority (non-Muslim) immigrants from three neighbouring countries — Bangladesh, Afghanistan and Pakistan — eligible for Indian citizenship.
- But as per the Assam Accord, any person who came to the state after the midnight of March 24, 1971, will be identified as a foreigner.
- So the proposed Bill is seen to violate the Assam Accord by differentiating between migrants on the basis of religion.

### Assam Accord

- It has been felt that Clause 6 of the Assam Accord has not been fully implemented, and therefore the Committee shall examine the effectiveness of actions since 1985 to implement Clause 6 of the Assam Accord.
- This high level committee will also look into issues of the Bodo people, especially the measures mentioned in the Memorandum of Settlement signed between the Government of India, Assam government and the Bodo Liberation Tigers Force in 2003.
  - The Cabinet also approved the establishment of a **Bodo Museum-cum-language and cultural study center**, modernization of existing All India Radio Station and Doordarshan Kendra at Kokrajhar and naming a Superfast Train passing through BTAD as ARONAI Express.
- The historic Assam Accord was signed in 1985 to end a six-year-long mass movement demanding detection and deportation of illegal immigrants, mostly from Bangladesh, who threatened the culture, identity and economic future of the indigenous people of Assam.
- According to the accord, all those foreigners who had entered Assam between 1951 and 1961 were to be given full citizenship, including the right to vote; the entrants between 1961 and 1971 were to be denied voting rights for ten years but would enjoy all other rights of citizenship; and those who had done so after 1971 were to be deported under the provisions of the Foreigners Act, 1946 and the Foreigners (Tribunals) Order, 1964.

### Bodo Accord

- The Bodo Accord was signed in 2003 which resulted in the establishment of an autonomous administrative unit- Bodoland Territorial Council (BTC) under Sixth Schedule of the Constitution of India.
- The Bodoland Territorial Council has been divided into four districts viz. Kokrajhar, Chirang, Baska, and Udalguri.
- The sixth schedule of the constitution provides provisions for the administration of Tribal Areas in the States of Assam, Meghalaya, Tripura and Mizoram.

## Sikkim Proposes Universal Basic Income

The government of Sikkim has mooted the idea to implement Universal Basic Income (UBI).

- If implemented Sikkim will become the first state in India to have UBI Scheme.
- Sikkim has indicated that it will do away with most subsidies before launching its UBI scheme.
- Economic survey 2016-17 has also mentioned that subsuming other schemes is an essential prerequisite for managing funds for UBI.
  - The Budget for FY18 showed there were about 950 central sector and centrally sponsored sub-schemes in the country, which accounted for about 5% of GDP by Budget allocation.
  - The top 11 schemes accounted for about 50% of the budgetary allocation. If the states were included, the number of schemes would be even larger.

### Universal Basic Income

- A basic income is a regular, periodic cash payment delivered unconditionally to all citizens on an individual basis.
- The five broad features of such schemes are payments at periodic regular intervals (not one-off grants), payments in cash(not food vouchers or service coupons), payments to individuals, universality (all citizens included), and unconditionality (no prior condition).

### International Examples

- **Finland** recently concluded a two-year experiment on effects of UBI on unemployed citizens, which commenced in January 2017.

Note:



- **The government of Ontario, Canada,** had announced a plan to test a kind of unconditional income guarantee and enrolled participants in three areas of the province for a guaranteed income for up to three years.
- **Netherlands and Spain:** Some cities in the Netherlands have launched municipal-level trials for UBI. Barcelona in Spain has also tested several potential changes to its anti-poverty programmes, including unconditional cash payments.

### Advantages of UBI

- **Social Justice:** UBI promotes many of the basic values of a society. It promotes liberty as it allows an individual to be financially independent. It promotes efficiency by reducing waste in government transfers.
- **Poverty Reduction:** As per the economic survey 2016-17, UBI could be the fastest way of reducing poverty. UBI ensures minimum basic income to everyone.
- **Agency:** By providing cash assistance State allows individuals to take decision for themselves how they are going to use the money as the circumstances that keep individuals trapped in poverty are varied. UBI liberates citizens from paternalistic and clientelistic relationships with the state.
- **Minimum Living Standard:** UBI is an acknowledgment of society's obligation to guarantee a minimum living standard to all individuals who are part of society.
- **Administrative Efficiency:** The existing welfare schemes are riddled with misallocation, leakages, and exclusion of the poor. By replacing the plethora of separate government schemes with UBI, it will help in reducing the administrative burden on the State.
  - Due to universality and unconditionality, UBI prevents misallocation and leakages.
- **Insurance against shocks:** UBI can provide a safety net against health, income and other shocks.
- **Psychological benefits:** A guaranteed income will reduce the pressures of finding a basic living on a daily basis.

### Disadvantages of UBI

- **Reduces incentive to work:** A minimum guaranteed income might make people lazy and opt out of the labor market.
- **Gender disparity:** Gender norms may regulate the sharing of UBI within a household – men are likely to exercise control over the spending of the UBI. This may not be the case with other in-kind transfers.

- **Implementation:** Given the current status of financial access among the poor, a UBI may put too much stress on the banking system.
- **Exposure to market risks (cash vs. food):** Unlike food subsidies that are not subject to fluctuating market prices, a cash transfer may not address the issue of the decline in purchasing power due to inflation.

## Government Re-Promulgates Triple Talaq Ordinance

The government has **re-promulgated the Muslim Women (Protection of Rights on Marriage) Ordinance, 2019**, banning the practice of instant triple talaq ('talaq-e-biddat').

- **A Bill to convert the earlier ordinance,** issued in September, 2018, was cleared by **the Lok Sabha in December and is pending in the Rajya Sabha**. Since the Bill could not get the Parliamentary approval, the fresh ordinance was issued.
- This ordinance makes Instant Triple Talaq or Talaq-e-biddat a cognizable offense.

### Background

- In August 2017, the Supreme Court ruled that Instant Triple talaq or talaq-e-biddat is unconstitutional and illegal in Shayara Bano vs. Union of India and Ors.
- To enforce the Supreme Court ruling, the government brought the Muslim Women (Protection of Rights on Marriage) Bill, 2017.
- The ordinance gives effect to amended version of the Muslim Women (Protection of Rights on Marriage) Bill, 2017 as presented in Rajya Sabha by the government.

### Provisions in Ordinance

- Any pronouncement of Talaq by a Muslim husband upon his wife in any manner, written, spoken or electronic, will be illegal.
- Any husband who pronounces triple talaq can be punished by a jail term up to three years and will also be liable for fine.
- Muslim women will now be entitled to custody of her minor children.
- Muslim women are now entitled to receive maintenance for herself and her dependent children.
- Triple talaq is now a cognizable offense if the case is filed by married Muslim women or any person related to her by blood or marriage.

- The offense will be compoundable, i.e. there can be a compromise but only on the insistence of the wife and magistrate will determine the terms and conditions.
- The offender can be granted bail by a magistrate but only after hearing the victim wife and magistrate is satisfied that there is reasonable ground for bail.

### ***What is instant triple talaq?***

- In the practice of talaq-e-biddat, when a man pronounces talaq thrice in a sitting, or through phone, or writes in a talaq-nama or a text message, the divorce is considered immediate and irrevocable, even if the man later wishes to re-conciliate.
- However, women cannot pronounce triple talaq and are required to move a court for getting the divorce under the Sharia Act, 1937.
- There are three forms of talaq (divorce) in Islam: Ahsan, Hasan, and Talaq-e-Biddat (triple or instant talaq). Ahsan and Hasan are revocable but talaq-e-Biddat is irrevocable.
- Triple talaq is a practice mainly prevalent among India's Muslim community following the Hanafi Islamic school of law.
- Triple talaq is banned by many Islamic countries, including Pakistan, Bangladesh, Turkey, UAE, and Indonesia.

### ***Triple Talaq and the Indian constitution***

- Article 25 of the Constitution guarantees religious freedom as Freedom of Practice and Propagation of Religion.
- Like all other Fundamental Rights, it is subject to restrictions and does not protect religious practices that can negatively affect the welfare of citizens.
- Hence, Article 25 is overridden by Article 14, which guarantees the Right to Equality as triple talaq denies a Muslim woman's equality before the law.
- Article 25 is also subject to Article 15 (1) which states that the State "shall not discriminate against any citizen on grounds only of religion, race, caste, sex..." Since triple talaq does not work in the favour of women, it violates Article 15 (1) of the Constitution.

### **Ordinance Making Power of President**

- Under the Constitution, the power to make laws rests with the legislature. However, in cases when Parliament is not in session, and '**immediate action**' is needed, the President can issue an ordinance.
- **Article 123** of the Indian constitution empowers the **President** to promulgate ordinances.
- After the ordinance is notified it is to be laid before Parliament **within 6 weeks** of its first sitting.
- Parliament could either choose to pass the ordinance, disapprove it or it may lapse within the 6 week time frame.
- As **maximum gap between two session of a house can be 6 months** therefore maximum life of an ordinance can be **6 months and 6 weeks**.
- An ordinance made when both the Houses are in session is void. Thus, the power of the President to legislate by ordinance is **not a parallel power of legislation**.
- In addition, the President may chose to withdraw the ordinance.
- In **Cooper case, (1970)**, the Supreme Court held that the President's satisfaction can be questioned in a court on the ground of malafide.
- In the **D C Wadhwa case (1987)** the court ruled that successive re promulgation of ordinances with the same text without any attempt to get the bills passed by the assembly would amount to violation of the Constitution and the ordinance so re-promulgated is liable to be struck down.
  - It held that the exceptional power of law-making through ordinance cannot be used as a substitute for the legislative power of the state legislature.
- In **Krishna Kumar Singh vs. State of Bihar (2017)**, the Supreme Court stated that ordinances are subject to judicial review, and do not automatically create enduring effects.



# Economic Scenario

## Highlights

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## Financial Stability Report

The Reserve Bank of India released its **18th Financial Stability Report (FSR)**. **FSR is a biannual publication.**

- The FSR is periodic exercise for reviewing the nature, magnitude and implications of risks that may have a bearing on the **macroeconomic environment, financial institutions, markets and infrastructure.**
- This report also assess the resilience of the financial sector through **stress tests.**
  - Stress tests are used to gauge how certain unfavorable economic scenarios, such as a deep recession or financial crisis will affect a company, industry or specific portfolio. Stress tests are usually **computer-generated simulation** models that test hypothetical scenarios.
- It reflects the collective assessment of the **Sub-Committee of the Financial Stability and Development Council (FSDC)** on risks to the financial stability of the country, as also the resilience of the financial system.

### Findings

- India's financial system **remains stable**, and the **banking sector shows signs of improvement**, even though the global economic environment and the emerging trends in financial sector pose challenges.
  - The reasons for these positive signs include **credit growth of banks** coupled with **improvement in the asset quality of the banks.**

- Credit growth of scheduled commercial banks (SCBs) has improved between March 2018 and September 2018, driven **largely by private sector banks (PVBs).**
- The global growth outlook for 2018 and 2019 remains steady although the spillover risk to emerging economies because of **tightening of financial conditions in Advanced Economies, protectionist trade policies and global geopolitical tension** has significantly increased.
- On the domestic front, growth of **gross domestic product (GDP) showed slight moderation** while **inflation remains contained.** At present, Inflation is at 2% which falls in the comfortable range of 2% to 6%.
- Slowdown in GDP growth to 7.1%, but there is growth in **Gross Fixed Capital Formation** along with the dip in crude oil prices which are positive for a sustained growth.

### Gross Fixed Capital Formation

- Gross fixed capital formation (GFCF) refers to the **net increase in physical assets (investment minus disposals).** It does not take into account consumption (depreciation) of fixed capital.
- It is a component of **expenditure approach** to calculating Gross Domestic Product (GDP).
- GFCF is **not a measure of total investment**, because only the value of net additions to fixed assets is measured, and all kinds of financial assets, as well as stocks of inventories and other operating costs are excluded.

Note:

- Decline in the ratio of gross non-performing assets (GNPA) to advances since September 2015, with both public sector and private sector lenders posting drops in the key indicator of bad loans.
  - However, State-owned banks continue to have higher levels of bad loans than their private sector peers and are projected to show slower improvements over the second half of the fiscal.
- Recommended solution is **reforms in governance**, while the weaker ones among the public sector banks need to be **supported through recapitalisation**.
- Data on **banking frauds** are also a cause for concern. Close to 95% of the frauds reported in the six months were credit-related, with higher exposure to PSBs.
  - The graph of **both the frauds as well as the amount** involved has been on the **rise steadily** through the four years till FY18.
- In the wake of the crisis at infra-lender **Infrastructure Leasing & Financial Services (ILFS)** and also a few years after chit fund scams, the RBI pitched for **greater coordination** between **financial sector regulators** to plug any possible gaps which may be exploited by players.

#### Financial Stability and Development Council (FSDC)

- The Financial Stability and Development Council (FSDC) was set up by the Government as the apex level forum in **December 2010. It is not a statutory body.**
- The objective of FSDC is to strengthen and institutionalize the mechanism for maintaining financial stability, enhancing inter-regulatory coordination and promoting financial sector development.
- The Chairman of the Council is the **Finance Minister** and its members include the heads of all Financial Sector Regulators (RBI, SEBI, PFRDA & IRDA), Finance Secretary and/or Secretary, Department of Economic Affairs (DEA), Secretary, Department of Financial Services (DFS), and Chief Economic Adviser.
  - **In May, 2018** government reconstituted FSDC to include the Minister of State responsible for the Department of Economic Affairs (DEA), Secretary of Department of Electronics and Information Technology, Chairperson of the Insolvency and Bankruptcy Board of India (IBBI) and the Revenue Secretary.
- **FSDC sub-committee** is headed by the **Governor of RBI.**
- The **Raghuram Rajan committee (2008)** on financial sector reforms first **proposed the creation of FSDC.**

## Export Promotion Council (EPC) Established for MSME Sector

The **Ministry of Micro, Small and Medium Enterprises (MSME)** has recently established an **Export Promotion Cell (EPC)** with an aim to create a sustainable ecosystem for entire MSME development.

- MSME sector has a huge impact on Foreign Exchange earnings and has large export potential.
- As per the Directorate General of Commercial Intelligence and Statistics (DGCIS), the share of MSME related products in the country's exports was 48.56% during 2017-18.
- In addition to the above, MSMEs account for about 85-90 % of leather exports; around 6% to India's manufacturing GDP (about 33% to the manufacturing output) and about 25% to the GDP from service activities.

### Objective of EPC

- Evaluate readiness of MSMEs to export their products and services.
- Recognize areas that can be improved to export effectively and efficiently.
- **Integration** of MSME into the **global value chain.**
- The target of **USD 100 billion of exports** from India by **2020.**
- **Identify potential clusters** which can start exporting directly or through aggregators and export houses with the help of export promotion councils.
- Coordinate with other departments and export promotion councils for **increasing shipments of products like khadi, leather and coir.**

### Governing Council Composition

- **Chaired by Secretary, Ministry of MSME** and Co-chaired by Development Commissioner, Ministry of MSME.
- The council will comprise of senior officials and members from the Ministry of MSME, Commerce, MSME Export Promotion Councils, Export Development Authorities, Commodity Boards, and other bodies.

### Key Benefits to MSME

- Simplification of procedures.
- Incentives for higher production of exports.
- Preferential treatments to MSMEs in the market development fund.



- Simplification of duty drawback rules.
- Products of MSME exporters are displayed in international exhibitions free of cost.
- Export Promotion Programmes/Measures

### **Marketing Assistance**

#### **And Export Promotion Scheme**

- **Participation in the International Exhibitions/Fairs.**
- **Training Programmes** on Packaging for Exports.
- **Marketing Development Assistance Scheme** for MSME exporters (MSME-MDA).
  - In addition, the above scheme also provides for financial assistance up to Rs. 2 lakhs for commissioning specific market studies and assistance for initiating/contesting anti-dumping cases are available to MSME Association limited to 50% of the total cost or Rs. 1 lakh whichever is less.
- The **Merchandise Exports from India Scheme (MEIS)** was introduced in the Foreign Trade Policy (FTP) 2015-20 in 2015 with the objective to offset infrastructural inefficiencies and associated costs involved in exporting goods/products which are produced/manufactured in India including products produced/manufactured by MSME Sector.
- The Government has implemented the **Niryat Bandhu Scheme with an objective to reach out to the exporters from Micro, Small & Medium Enterprises (MSMEs)** and mentor them through orientation programmes, counselling sessions, individual facilitation, etc., on various aspects of foreign trade to enable them to get into international trade and boost exports from India.

## **RBI sets up MSME Panel**

The Reserve Bank of India (RBI) has set up an eight-member expert committee under **former SEBI chairman U.K. Sinha** to understand the structural bottlenecks and **factors affecting the performance of the Micro, Small and Medium Enterprises (MSME).**

- The panel will suggest **long-term solutions for the economic and financial sustainability** of the MSME sector.
- Recently, RBI has also allowed a one-time restructuring of existing debt up to ₹25 crore for the MSMEs.

### **The Terms of Reference (TOR) of the Committee**

- To review the **current institutional framework** in place to support the MSME sector;

- To study the **impact of the recent economic reforms** on the sector and identify the structural problems affecting its growth;
- To examine the factors affecting the **timely and adequate availability of finance** to the sector;
- To study the **global best practices with respect to MSMEs** and recommend its adoption in India, wherever appropriate;
- To review the **existing MSME focused policies** and its impact on the sector;
- To propose **measures for leveraging technology** in accelerating the growth of the sector;
- To suggest **long-term solutions for the economic and financial sustainability** of the MSME sector;
- The Expert Committee will **submit its report by the end of June 2019.**

### **Problems faced by the MSME sector**

- **Lack of adequate capital:** The MSMEs are presently facing the problems of credit from the banks.
- **Poor infrastructure:** MSMEs are developing rapidly but their infrastructure is very poor. With poor infrastructure, their production capacity is very low while production cost is very high.
- **Access to modern technology:** The owners of MSMEs are either not aware of advanced technologies of production or they are very expensive. Thus, their methodology is outdated and the cost of production is high.
- **Access to markets:** Their advertisement and sales promotion are comparatively weaker than the multinational companies. The ineffective advertisement and poor marketing channels lead to very poor selling and they are not able to compete with big firms.
- **Getting statutory clearances related to power, environment, labor etc:** All the laws related to all aspects of manufacturing and service concern are very complex and compliance with these laws are practically difficult.

## **Nandan Nilekani to Head Panel on Digital Payments**

The Reserve Bank of India has appointed a **five-member panel** headed by **Nandan Nilekani** to suggest ways to **improve digital payments**. The committee will submit its report in 90 days from its first meeting.

- **Terms of reference** of the panel are
  - Assess the **current levels of digital payments** in financial inclusion,
  - Suggest measures to strengthen the **safety and security** of digital payments,
  - Provide a road map for increasing **customer confidence** to use digital transactions, and
  - Suggest a **medium-term strategy** for deepening of digital payments.
- According to a report on India's financial sector by Credit Suisse, **cash share** in India is still **estimated at 70% in value terms and digital payments currently aggregate only \$200 billion**, compared with \$5-trillion mobile payments in China. One way to increase digital payments is **payment integration into popular apps**.

### Background

- In **August, 2016** the government had constituted the **Ratan Watal Committee on Digital Payments** to review the payment systems in the country and to recommend appropriate measures for encouraging Digital Payments.
- Payments through all electronic forms such as debit and credit cards, mobile wallets, real-time gross settlement (RTGS), national electronic funds transfer (NEFT) and Unified Payments Interface (UPI) have **seen a huge rise over the last few years**, especially since the government's **demonetization exercise in November 2016**.

### Digital Payments

- As per the **Payment and Settlement Act, 2007**, digital payment is any **"electronic funds transfer"** means or any transfer of funds which is initiated by a person by way of instruction, authorization or order to a bank to debit or credit an account maintained with that bank through electronic means and includes point of sale transfers; automated teller machine transactions, direct deposits or withdrawal of funds, transfers initiated by telephone, internet and, card payment.

#### Types of Digital Payments

- **Unified Payment Interface (UPI)** is a payment mode which is used to make fund transfers through the mobile app.
- **AEPS (Aadhaar Enabled Payment Service)** is an Aadhaar based digital payment mode wherein customer needs only his or her Aadhaar number to pay to any merchant. AEPS allows bank to bank transactions.

- **E-Wallets** or mobile wallet is the digital version of physical wallet with more functionality. E.g.: ICICI Pockets, Freecharge, Paytm etc.
- **Cards** have been the most used digital payment modes till now. They are used for transferring funds and making digital payments. Credit cards, debit cards and prepaid cards are the main types of cards.
- **Unstructured Supplementary Service Data (USSD)** banking or **\*99# Banking** is a mobile banking based digital payment mode. One does not need to have a smartphone or internet connection to use USSD banking. It can be used with any normal feature phone.
  - The **\*99#** code works as a bridge between telecom operator's server and bank's server.

### Best Practices of Digital Payments

#### Contactless Payment

- Alternate payment channels such as **contactless and wearables** have gained acceptance with the widespread use of smartphones, mobile banking and payments applications.
  - Contactless payments enable consumers to make everyday purchases quickly and safely especially for low-value transactions.
  - **Mobility, Internet of things (IOT)**, connected homes, entertainment, and media are expected to augment the volumes of non-cash transaction volumes significantly.

#### Distributed Ledger Technology

- Banks and FinTech's are exploring **blockchain technology** for cross-border payments to provide faster, inexpensive, and efficient services.

#### Cybersecurity Regulations

- Cyberattacks can cause **personal and commercial data to be lost or compromised** causing financial institutions financial and reputational loss. Based on estimates, cyberattacks cost the **global economy 1% of annual GDP**.
- As cyber-attacks and data breaches around the world are **rising in terms of both, frequency and intensity**, regulators are focusing on compliance with current cybersecurity and data privacy laws.
- Regulators across the world are bringing in new cybersecurity regulations and standards which could impose heavy fines, injunctions, audits, even criminal liability on firms for a data breach.

- However, **lack of harmonization in cybersecurity laws** in different countries is posing a challenge for multinational companies operating across the globe.

#### Payment Infrastructure

- Globally, **payments infrastructure is being transformed** to become faster and more inclusive to new players that will launch valuable offerings for retail and businesses.
- Payments infrastructure is expected to **converge through mergers and acquisitions** to expand the reach of the payments firms, increase their value proposition to meet changing customer expectations, and create customized solutions.
- Payment schemes and intermediaries are also looking for infrastructure rationalization to be able to **provide services in niche** and high demand areas of **data analytics, cloud, and Digital Customer Experience (DCX)**.

## Supreme Court Upholds Monsanto's Patent Claim on Bt Cotton Seed

The Supreme Court has **allowed Monsanto Technology** to claim patent on its genetically-modified cotton seeds, giving a boost to firms developing new seed technologies.

- The ruling overturned an order of a Division Bench of the Delhi High Court (2018) which invalidated the patent granted to Monsanto — acquired by German firm Bayer AG — saying the gene sequence responsible for the Bt trait that eradicates pests afflicting cotton plants is a part of the seed, and hence, **cannot be patented under Section 3(j) of the Patents Act, 1970**.

### Background

- With its ruling, the Supreme Court has also set aside an earlier order of the division bench of the Delhi high court, which had held that plant varieties and seeds cannot be patented under Indian law by companies.
- Mahyco Monsanto Biotech (MMB) sells GM cotton seeds under license to more than 40 Indian seed companies. These Indian seed companies in turn pay a **"trait fee"** to Monsanto which is fixed by the government.

### Impact

#### Positive

- The **outcome is positive for foreign agricultural companies** such as Monsanto, Bayer, Dupont, Pioneer and Syngenta which have been concerned that they could lose patents on GM crops in India.
- The verdict validates that patents are integral to innovation and will encourage more companies to come out with **India specific innovations**.
- The ruling is expected to **encourage biotechnology firms** to step up investment in the country.

#### Negative

- The dispute has led Monsanto to withdraw its **herbicide tolerant (HT)** seeds from the process of government approval. Indian farmers who need better quality seeds (global warming adaptation measures requires both drought- and flood-resistant seeds), will be worst hit.
- Most international companies have stopped releasing new technology in the Indian market due to the uncertainty over patent rule. Access to advanced technology is important to help Indian farmers compete with rivals overseas because Bt cotton seed, the only lab-altered crop allowed in India, has helped transform India into the world's top cotton producer and second-largest exporter of the fiber.

#### Government's Response

- The prices of GMO seeds and the royalty to Monsanto are **already under government control** and keep seeds affordable for the Indian farmers.
- Till recently, every seed firm **like Nuziveedu required an annual No Objection Certificate (NOC)** from Monsanto whose job was to ensure the right processes were being followed — this was critical if Monsanto was to be responsible for any problems with the seeds, however, the government removed the annual NOC requirement; as a result, if these firms choose to not pay royalty, there is little a Monsanto can do except to file a civil suit which can take decades to resolve.

#### Bt Cotton

- **Bollgard II cotton contains two genes (Cry1Ac and Cry2Ab)** derived from the common soil bacterium *Bacillus thuringiensis* (Bt).
- India ratified the **Cartagena Protocol** which protects biodiversity from potential risks of genetically modified organisms and the products of modern biotechnology. The protocol requires setting up of a regulatory body.

**Genetic Engineering Appraisal Committee (GEAC).**

- Currently the top biotech regulator in India is **Genetic Engineering Appraisal Committee (GEAC)**. The committee functions as a statutory body **under the Environment Protection Act 1986** in the Ministry of Environment & Forests (MoEF).
- GEAC, the apex body regulates manufacturing, use, import, export and storage of hazardous micro-organisms or genetically engineered organisms and cells in the country.
- GEAC is chaired by the **Special Secretary/Additional Secretary of MoEF&CC** and co-chaired by a representative from the Department of Biotechnology (DBT). Presently, **it has 24 members** and meets every month to review the applications in the areas indicated above.

**Other Regulatory Agencies for GMO**

- As per powers conferred by Sections **"Regulation of Genome Engineering Technologies in India", 8 and 25 of Environment (Protection) Act, 1986**. These rules are essentially covering entire spectrum of activities involving GMOs.
- **Six Competent Authorities** and their composition have been notified under these Rules that includes:
  - rDNA Advisory Committee (RDAC)
  - Institutional Biosafety Committee (IBSC)
  - Review Committee on Genetic Manipulation (RCGM)
  - Genetic Engineering Appraisal Committee (GEAC)
  - State Biotechnology Coordination committee (SBCC)
  - District Level Committee (DLC)
- While the **RDAC is advisory in function, the IBSC, RCGM, and GEAC are responsible for regulating function. SBCC and DLC are for monitoring purposes.**

**Conclusion**

- Patent protection is one of core incentives for researchers in the fields of science and technology that ensures innovation and introduction of new technologies which are **important for solving the domestic problems** of the country and more so to compete in the age of Globalised economy.
- However, developing countries like India need more affordable, frugal innovations and that too from the Indian research institutes and councils so that the knowledge could be distributed without barriers within India which will ultimately benefit the poor.

**Merger of Vijaya Bank, Dena Bank, and Bank Of Baroda**

The Cabinet Committee on Economic Affairs (CCEA) has approved the **merger of state-run Vijaya Bank, Bank of Baroda and Dena Bank.**

- This marks the first-ever three-way merger in the country's banking sector. The merged entity will become the third largest bank in the country, after government-owned State Bank of India and private sector lender ICICI Bank.
- Bank of Baroda will be the transferee bank while the other two public sector banks will be transferor banks. That means the businesses of Vijaya Bank and Dena Bank will be transferred to Bank of Baroda.

**Why Amalgamation?**

- One of the reasons for choosing these three banks was that the two stronger ones will be able to absorb the weaker entity.
- The amalgamation is part of the government's efforts to consolidate the banking industry with a focus on overcoming the bad loan crisis. Public sector banks are suffering from Non Performing Assets, in FY18, the banking system has reported a net loss of Rs 40,000 crore because of the sharp rise in NPAs.
- India has a target to meet the **Global Basel III capital norms by March 2019**. The move is a part of the steps to meet the norms.
- With amalgamation announcement, the government is moving closer to implementing the **Narasimham Committee (1998)** recommendation on structural reforms. The committee recommended the merger of Indian banks as it will have a **"multiplier effect" on the economy.**
- The Government of India has majority stakes in 21 public sector banks and owns more than two-thirds of banking assets in India. Having several government-owned Banks, doing the same business, and competing for same customers is not sensible. It also meant a lower return on the capital employed by the government which has competing demands for funds, and growing competition.
- With the increase in GDP, it is necessary for India to have globally stronger financial institutions.

Note:



### Impact of Merger

- It will consolidate and strengthen the banking industry, given the fact that amalgamated bank would be the third-largest after State Bank of India and ICICI.
- BoB and Dena Bank have a strong presence in Gujarat. Dena Bank is also strong in Maharashtra and part of Chhattisgarh. Vijaya Bank is strong in South. The duplication of work can be avoided. Their accounts can be easily merged. The three banks operate on the same core banking platform, Finacle, this also eases up technology integration to a large extent.
- There is also a significant overlap among public sector banks in terms of branches, mode of operation and clients. Mergers can bring down costs through economies of scale and address the problem of fragmentation.
- Global network strength of Bank of Baroda will be leveraged to enable customers of Dena Bank and Vijaya Bank to have global access.
- Dena Bank's strength in MSME will further augment the strength of the other two to position the amalgamated bank for being an **MSME Udyami Mitra**.

### Challenges

- Dena Bank is under the RBI's Prompt Corrective Action framework (PCA) due to its huge bad loans and weak financial ratios. The re-stabilization after the merger can take a long time as observed in the case of New Bank of India's merger with Punjab National Bank in the mid-80s.
  - The same was the case when the erstwhile Global Trust Bank (a private sector bank) was merged with Oriental Bank of Commerce (a public sector bank) in 2004.
- For investors, the merger of the Bank of Baroda with a weaker PSB, Dena bank is a concern. A complex merger with a weaker and under-capitalized PSB would put the bank's recovery efforts on the backburner. While the merger is positive for shareholders of Dena Bank, it is negative for Bank of Baroda and Vijaya Bank
- The merger also sends out poor signals about banking governance, here a dominant shareholder in the form of the government is dictating critical moves which will impact the minority shareholders.
- There is a concern among employees that amalgamation may lead to rationalization of bank branches, many branches of these banks operate in the same neighborhoods. If branches will be shut down there are fears that staff will be laid off.

### Way Forward

- Creation of large banks to meet the requirements of the economy is the necessity. But, it is more important for the government to address the core issue impacting the Banking Sector, that is, of Governance.
- The Government can consider the recommendations of the **PJ Nayak Committee, 2014** on Governance of PSB which **advocated for restricted government interference in bank administration**. Protection of Banks from political interference is the real challenge, without governance reform, any other measure to tackle the crisis of bank may not turn out to be useful.

#### Basel III Norms

- Basel III norms aim at making most banking activities more capital-intensive and promoting a more resilient banking system by focusing on four vital banking parameters viz. capital, leverage, funding and liquidity.
- The Reserve Bank of India has extended the timeline for implementation of the Basel III capital regulations by March 31, 2019.

#### Narasimham Committee, 1998

- The merger of major banks which will have 'multiplier effect' on the industry.
- To improve the strength of the Indian banking system the committee recommended to raise capital adequacy norms.
- Review of functions of boards to adopt a professional corporate strategy to check the imbalance between government control over the banks in the form of management and ownership, and bank autonomy.

#### PJ Nayak Committee, 2014

- Conversion of PSBs into Companies as per the Companies Act.
- Formation of a Bank Investment Company (BIC) under the Companies Act and transfer of shares by the central government in PSBs to the BIC.
- BIC should be given the controlling power of boards of PSBs.
- Proportionate voting rights to all shareholders and reduction of government shareholding to 40%.

Note:

**Prompt Corrective Action (PCA)**

- PCA norms allow the RBI to place certain restrictions such as halting branch expansion and stopping dividend payment. It can even cap a bank's lending limit to one entity or sector.
- Other corrective actions that can be imposed on banks include special audit, restructuring operations and activation of the recovery plan. Banks' promoters can be asked to bring in new management, too. The RBI can also supersede the bank's board, under PCA.
- **When is PCA invoked?**
  - The PCA is invoked when banks breach certain regulatory requirement like minimum capital, return on asset and quantum of non-performing assets.

**Capital Adequacy Ratio (CAR)**

- CAR is the ratio of a bank's capital in relation to its risk-weighted assets and current liabilities.
- The Basel III norms stipulated a capital to risk-weighted assets of 8%. However, as per RBI norms, Indian scheduled commercial banks are required to maintain a CAR of 9% while Indian public sector banks are emphasized to maintain a CAR of 12%.

**Tier 1 Capital**

- Tier 1 Capital is the core measure of a bank's financial strength from a regulator's point of view. It is composed of core capital, which consists primarily of common stock and disclosed reserves.

## Government to Open Bid for Oil/Gas Licensing

The Centre has launched a new round of the auction for the 14 blocks for prospecting of oil and gas.

- The auction will be done under the **Open Acreage Licensing Programme (OALP)** under the liberalized **Hydrocarbon Exploration and Licensing Policy (HELP)**.
- The blocks on offer in OALP-II include one in deep waters of Krishna Godavari basin and five shallow water blocks — two each in Andaman and Kutch basin and one in Mahanadi basin. Eight on land blocks - four in Mahanadi basin, two in Cambay and one each in Rajasthan and Cauvery are on offer.

**Procedure of Auction**

- Under the Open Acreage Licensing Programme or OALP, **companies are allowed to put in an expression of interest (Eoi) for prospecting of oil and gas in any area** that is presently not under any production or exploration license.
- The blocks or areas that receive Eois at the end of a cycle are put up for auction with the originator or the firm that originally selected the area getting a 5-mark advantage.
- Blocks are awarded to the company which **offers the highest share of oil and gas to the government** as well as commits to doing **maximum exploration work by seismic survey and drilling exploration wells**.

**Significance of Auction**

- Increased exploration will lead to **more domestic oil and gas production**, helping India, which is the world's third largest oil importer, cutting import dependence.
- New blocks will bring **substantial investment in the sector** and will help in **generating employment**.
- It will also help in achieving the **government target of cutting oil import bill to 67% by 2022 and to half by 2030**.

**Hydrocarbon Exploration Licensing Policy (HELP)**

- The government has launched the Hydrocarbon Exploration Licensing Policy (HELP) replacing the old policy of National Exploration and Licensing Policy (NELP).
- Four main facets of HELP are:
  - **uniform license** for exploration and production of all forms of hydrocarbon,
  - an **open acreage policy**,
  - easy to administer the **revenue sharing model** and
  - **marketing and pricing freedom** for the crude oil and natural gas produced.
- The uniform license will **enable the contractor to explore conventional as well as unconventional oil and gas resources** including coal bed methane, shale gas/oil, tight gas, and gas hydrates.
- The concept of **Open Acreage Policy enables Exploration and Production (E&P) companies to choose the blocks from the designated area**.
- The new policy has replaced the old system of government carving out areas and bidding them out.

Note:

- It guarantees marketing and pricing freedom and moves away from production sharing model of previous policy to a revenue-sharing model, where companies offering the maximum share of oil and gas to the government are awarded the block.
- Under the new regime, **the Government will not be concerned with the cost incurred and will receive a share of the gross revenue** from the sale of oil, gas etc. This is in line with Government's policy of "Ease of Doing Business".
- HELP also provides for marketing freedom for crude oil and natural gas produced from these blocks. This is in tune with Government's policy of "Minimum Government – Maximum Governance".

### National Data Repository

- National Data Repository (NDR) is an **integrated data repository of Exploration and Production (E&P) data of Indian sedimentary basins**.
- NDR is a **fully Government of India owned E&P data repository**.
- NDR is **hosted at Directorate General of Hydrocarbons (DGH)**. DGH is a technical arm of the Ministry of Petroleum and Natural Gas (MoPNG).
- NDR offers an unique platform to all E&P Operators, E&P Service Companies, E&P Investors, Academia to delve inside diverse E&P datasets of Indian sedimentary basins.

### Seismic Surveys

- Reflection seismology (or seismic reflection) is a **method of exploration geophysics** that uses the principles of seismology to estimate the properties of the earth's subsurface from reflected seismic waves.
- The method requires a **controlled seismic source of energy, such as dynamite or a specialized air gun**.

## Defense Manufacturing Rules Eased

The government has simplified the approval process for the manufacturing of defense and aerospace equipment and components by private industry.

- The government has **brought the equipment under the licensing authority of the Department for Promotion of Industry and Internal Trade**, Ministry of Commerce and Industry.

- The Equipment is listed in three categories — **defense aircraft, warships of all kinds, and allied items of defense equipment**.
- Defense items are covered by two different Acts — the Industries (Development and Regulation) Act, 1951, (IDRA Act) and the Arms Act, 1959.
- Items of defense aerospace and warships now do not require a license under Arms Act. Such items shall now be covered by IDRA Act.

### Significance

- The most significant aspect is that warships of all kinds, surface and sub-surface, have been included in the listing.
- This move is also expected to help foreign Original Equipment Manufacturers (OEM) looking for partnerships with the private sector.
- The new guidelines would give a boost to the small and medium enterprises (SMEs).

### Defense Procurement Procedure

- The government has appointed **Dhirendra Singh Committee** in May 2015 to review the Defense Procurement Procedure (DPP), 2013.
- Based on the recommendations of the committee Defence Procurement Procedure (DPP-2016) was brought which replaced the DPP-2013.
- DPP, 2016 focuses to boost the Make-in-India initiative by promoting indigenous design, development, and manufacturing of defense equipment, platforms, and systems.
- The government has introduced a newly incorporated procurement class called "Buy Indian (IDDM)", where IDDM stands for Indigenous Designed Developed and Manufactured. This would have the first preference in all acquisitions once the DPP comes into effect.
- Besides this, preference has been accorded to 'Buy (Indian)' and 'Buy and Make (Indian)' categories of capital acquisition over 'Buy (Global)' & 'Buy & Make (Global)' categories.

### Special Partnership Model under the Defense Procurement Procedure

- Ministry of Defence has formulated the Strategic Partnership (SP) model under the Defence Procurement Procedure (DPP), covering four specific areas to promote the role of the private sector in defense manufacturing.

- The Strategic Partnership Model (SPM) is a different category in addition to the existing categories i.e. 'Buy (Indian-IDDMM)'; 'Buy (Indian)'; 'Buy & Make (Indian)'; 'Buy & Make' and 'Buy (Global)'.
- The policy is intended to institutionalize a transparent, objective and functional mechanism to encourage participation of the private sector, in manufacturing the defense equipment such as aircraft, submarines, helicopters, and armored vehicles.
- The policy aims to enhance competition, increase efficiencies, facilitate faster absorption of technology, leading to the reduction in dependence on imports and greater self-reliance in defense manufacturing.

## Global Economic Prospects, 2019: WB

According to World Bank's Global Economic Prospects report titled "Darkening Skies", the global growth is expected to slow down to 2.9% in 2019 and 2.8% in 2020.

### Key Findings

- Global growth is **moderating** as the **recovery in trade and manufacturing activity is slowing down**.
- Despite ongoing negotiations, **trade tensions** among major economies like US and China remain elevated. These tensions, combined with concerns about softening global growth prospects, have affected investor sentiment and contributed to declines in prices of shares.
  - **US and China account for 20% of global trade and 40% of global GDP.** If they impose proposed tariffs on each other, its **impact will be felt** all around the world.
- The **tightening of global financing conditions, or the recent appreciation of the US dollar**, could slow down the economic activity in emerging market and developing economies (EMDEs), including in those with large current account deficits.
- **Brexit** appears as a possible risk for countries that are especially reliant on selling to Europe.
  - If the UK's exit takes place with no agreement there is a chance of **significant economic damage** to both the UK and the EU which could then affect countries in **Eastern Europe and North Africa** which are closely integrated with Europe.

- China's economic growth is **projected to slow down** to 6.2% each in 2019 and 2020 and 6% in 2021.
  - Slower growth in China can affect **developing countries that export industrial commodities, energy and metals to China**.
  - In 2017, China with 6.9% growth was marginally ahead of India's 6.7%, mainly because of the slowdown in the Indian economy due to **demonetisation and implementation of the Goods and Services Tax (GST)**.
- **Debt vulnerabilities in emerging market** and developing economies, particularly low-income countries, have increased.
- More **frequent severe weather events** would raise the possibility of volatility in international food prices, which could deepen poverty.
- Emerging market and developing economies should rebuild policy buffers by **boosting human capital, promoting trade integration, and addressing the challenges associated with informality**.

### India Specific Findings

- India will continue to be the **fastest growing major economy** in the world.
- India's GDP is expected to grow at 7.3% in the fiscal year 2018-19, and 7.5% in the following two years, attributing it to an **increase in consumption and investment**.
- Domestic demand has **strengthened** under the structural reforms such as the **Goods and Services Tax (GST) harmonisation and bank recapitalisation**.
- The recent introduction of the GST and steps toward demonetisation can encourage a **shift from the informal to the formal sector**.
- Public sector banks in India, which represent roughly 70% of the banking sector assets, still report **low profitability** and high non-performing assets.
- Strong **domestic demand** can widen the **current account deficit** to 2.6% of GDP next year.
- Inflation is projected to rise above the RBI's target range of 2 to 6%, mainly **owing to energy and food prices**.
- Rising interest rates and currency volatility can negatively impact the economic activity.
- This comes in the wake of the Central Statistics Office (CSO) recently projecting the Indian economy to grow at 7.2% in 2018-19. The CSO has noted following points in its advance estimates of GDP for 2018-19:
  - **Farm and Industrial sectors are likely to grow faster in FY19 than in FY18.**



- **Services** sector may **slow down**.
- **Sluggish increase in rural wages, low farm prices** (despite hike in minimum support prices), **worsening prospect of global growth** may add to slow down.
- However, **election related spending**, increase in disposable income from softening oil prices may increase rural demand.

#### Global Economic Prospects

- Global Economic Prospects is a **World Bank Group flagship report** that examines global economic developments and prospects, with a special focus on **emerging market and developing economies**.
- It is **issued twice a year**, in January and June. The **January edition includes in-depth** analyses of certain policy challenges while the **June edition contains shorter analytical pieces**.
- **Other reports** released by World Bank:
  - **Ease of Doing Business Report**
  - **Human Capital Index**
  - World Development Report

## Electronic National Agricultural Market (e-NAM)

**First-ever inter-State transaction on e-NAM** has taken place between Uttarakhand and Uttar Pradesh.

- The electronic National Agricultural Market (e-NAM) is a pan-India electronic trading portal which networks the existing APMC (Agricultural produce market committee) mandis to create a unified national market for agricultural commodities. It was launched in 2016.
- e-NAM allows trading of commodities at mandis through mobile and web applications.
- Small Farmers Agribusiness Consortium (SFAC) is the lead agency for implementing e-NAM under the aegis of Ministry of Agriculture and Farmers' Welfare, Government of India.
- e-NAM requires states to implement 3 changes:
  - Provide for electronic trading,
  - single trading licences that are valid in all mandis in a state.
  - a single-window levy of transaction fees.
- The e-NAM Portal provides a single window service for all APMC related information and services. This includes commodity arrivals & prices, buy & sell trade offers, provision to respond to trade offers, among other services.

## GST Council Meeting

Recently, 32nd Meeting of Goods and Service Tax (GST) Council took place.

#### Decisions made:

- GST Council has allowed Kerala to impose "**calamity cess**" on the intra-state supply of goods and services.
- Kerala is the first state to impose "calamity cess" after the introduction of GST.
- GST Council has raised the exemption limit from GST for micro, small and medium enterprise from Rs. 20 lakh to Rs. 40 lakh.

#### How are decisions taken at the GST Council?

- No decision can be taken in the Council without the concurrence of both the union or the state governments.
- **Decisions are taken by a 75% majority** of the weighted votes of members present and voting.
- **Union government's vote has a weightage of one-third** of the votes cast, while **all states together will have a weightage of two-third** of the votes cast.

#### Goods & Services Tax Council

- **Goods & Services Tax Council is a constitutional body constituted by the President** under Article 279A (1), for making recommendations to the Union and State Government on issues related to Goods and Service Tax.
- **The GST Council is chaired by the Union Finance Minister** and other members are the Union State Minister of Revenue or Finance and Ministers in-charge of Finance or Taxation of all the States.

## Pradhan Mantri Rojgar Protsahan Yojana

Pradhan Mantri Rojgar Protsahan Yojana (PMRPY), the flagship scheme of the Central Government for employment generation has crossed the milestone of one crore beneficiaries as on January 14, 2019.

#### Pradhan Mantri Rojgar Protsahan Yojana (PMRPY)

- Under the scheme, **the government incentivizes employers for generation of new employment**.
- The Government of India **pays the full employer's contribution of 12% (towards Employees' Provident Fund and Employees' Pension Scheme)**, for the new employment generated with salary up to Rs. 15,000 per month.

- PMRPY was announced on August 07, 2016 and is being implemented by the **Ministry of Labour and Employment through the Employees' Provident Fund Organization (EPFO)**.
- The entire system of PMRPY is online and AADHAAR based with no human interface in the implementation of the scheme.
- A direct benefit of this scheme is that workers have access to social security benefit through Provident Fund, Pension and Death Linked Insurance.

## Angel Tax

The **Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry** has issued a clarification on "Angel Tax" levied on startups.

- Recently, many startups have received notices from tax authorities to file their tax returns under angel tax.
- **Angel tax** is a term used to refer to the **income tax payable on capital raised by startup companies** via the issue of shares where the share price is seen in excess of the fair market value of the shares sold. The excess realization is treated as income and taxed accordingly.
- The angel tax is levied on investments made by external investors in startups or companies. The entire investment is not taxed – only the amount that is considered above "fair value" valuations of the startup.
- Differing interpretations of "fair value" of a startup by tax authorities and startup owners and leave startups vulnerable to unduly high taxes.
- The tax was introduced in the 2012 Union Budget to arrest laundering of funds by portraying them as angel investment.

## Tokenization service

The Reserve of India (RBI) has allowed **all card payment networks to offer tokenization service**.

- **No charges should be recovered from the customer** for availing this service.
- **Tokenization involves a process in which a unique token masks sensitive card details**. The token is then used to perform card transactions in **contactless mode at Point Of Sale (POS) terminals, Quick Response (QR) code payments, etc.**

- The RBI has allowed card payment networks to offer card tokenization services to any token requestor, that is, a third-party app provider. It extends to all use cases/channels [e.g., Near-Field Communication (NFC) / Magnetic Secure Transmission (MST)-based contactless transactions, in-app payments, QR code-based payments etc.] or token storage mechanisms (cloud, secure element, trusted execution environment etc.).
- All parties involved in the "payment transaction chain" will have to be registered with the central bank.
- A cardholder can avail of these services by registering the card on the token requestor's app and after giving 'explicit consent'.

## Gold Monetisation Scheme

The Reserve Bank of India made some changes in the Gold Monetisation Scheme **by including charitable institutions and the central government**, among others.

- Apart from individual and joint depositors, **the scheme could now be availed by charitable institutions, the central government, the state government** or any other entity owned by the central government or the state government.
- Allowing government agencies to deposit gold will allow agencies to deposit what they had confiscated.

### Gold Monetization Scheme

- Gold Monetization Schemes (GMS) was **introduced in 2015**.
- It facilitates the depositors of gold to earn interest on their metal accounts. Once the gold is deposited in metal account, it starts earning interest on the same.
- Under the scheme, **a depositor gets 2.25% interest annually** for a short-term deposit of one year to three years. Medium- and long-term deposits get **2.5% interest rate**.
- The gold deposited will be lent by banks to jewellers at **an interest rate little higher than the interest paid** to customer.
- The objective of the **Gold Monetisation scheme** is to mobilize the gold held by households and institutions in the country to put this gold into productive use.
  - In the **long run it aims to reduce the current account deficit** by reducing the country's reliance on the imports of gold to meet the domestic demand.

- It replaced the Gold Deposit schemes and Gold Metal Loan Schemes.
- Along with GMS, a **Sovereign Gold Bond Scheme** (an alternative to purchasing metal gold) and development of Indian Gold Coin, were also announced.
- The **Indian Gold Coins** are the first ever national gold offerings by Government of India.
  - Such an Indian Gold Coin would help reduce the demand for coins minted outside India, and also help to recycle the gold available in the country. was also announced in 2015.
  - The coin is of 24 karat purity, and has the national emblem of **Ashok Chakra** engraved on one side and the face of **Mahatma Gandhi** on the other.
  - The Indian Gold Coin is aligned with the 'Make in India' initiative of Government.

## First Person to be Declared 'Fugitive Economic Offender'

Vijay Mallya became the **first person** to be declared a '**fugitive economic offender**' under the **Fugitive Economic Offenders' Act, 2018** by a **special Prevention of Money Laundering Act (PMLA) Court**.

- **Now, a special FEOA court** can order the confiscation of an FEO's properties, including those which are benami, and the proceeds of crime in and outside India.

- Once properties are confiscated, the Union government has the right over them, and it can **dispose them after 90 days**.
- The Fugitive Economic Offenders Act, 2018 seeks to confiscate properties of economic offenders who have left the country to avoid facing criminal prosecution.
- Offences involving amounts of Rs. 100 crore or more fall under the purview of this law.

### *Fugitive Economic Offender*

- A fugitive economic offender has been defined as a person against whom an arrest warrant has been issued for committing any offence listed in the schedule of the proposed Bill.
- Further the person has:
  - Left the country to avoid facing prosecution.
  - Refuses to return to face prosecution.
- Some of the offences listed in the Bill are-counterfeiting government stamps or currency, cheque dishonour for insufficiency of funds, money laundering, transactions defrauding creditors etc.
- The Act allows the central government to amend the schedule through a notification.
- To declare a person an FEO, an application will be filed in a Special Court (designated under the Prevention of Money-Laundering Act, 2002) containing details of the properties to be confiscated, and any information about the person's whereabouts.

# International Relations

## Highlights

- Bangladesh General Elections (27)
- Norway's PM Visit India (28)
- The United States and Israel Quit UNESCO (29)
- Financial Action Task Force (29)
- Macedonia's New Name (29)
- India-US Mini '2+2' Talks (30)
- Commonwealth Secretariat Arbitral Tribunal (30)

## Bangladesh General Elections

Recently, general elections were conducted in Bangladesh.

- The incumbent prime minister, **Sheikh Hasina's party Awami League** including the coalition **won 288 out of the 300 directly-elected seats in the 350-member unicameral Jatiya Sangsad, the Bangladesh Parliament.** (50 seats are reserved for women which are elected indirectly by Member of Parliaments.)
- With the recent victory, **Sheikh Hasina became Bangladesh's prime minister for the third straight term.** This makes her the **longest-serving head of the government in Bangladesh.**
- Under Sheikh Hasina's tenure, **Bangladesh's economic growth has increased,** averaging over 7% per annum. Bangladesh has become **one of the fastest growing economies in South Asia.**
- Sheikh Hasina's victory is seen as a **positive development for India,** which has been a stable ally during her term. The return of a trustworthy **ally in economic cooperation and in the fight against terrorism is good for India.**
- The Sheikh Hasina's government **has shut down camps of terrorist groups operating in India's Northeast from safe havens in Bangladesh.** The insurgency has dipped in Northeastern India, with leaders of militant groups such as the United Liberation Front of Assam general secretary Anup Chetia being handed over to India.

### Importance of Bangladesh

- Bangladesh is **key to India's plans to connect with South-East Asia,** as well as developing the landlocked Northeast.

- India's plans to forge a **viable alternative to the South Asian Association for Regional Cooperation rests on Bangladesh,** given its location bridging South Asia and South-East Asia.
- India's **'neighbourhood first policy'** has focused on Bangladesh, which is a key part in **India's 'Act East Policy'** and sub-regional groupings like **BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation)** and the **BBIN (Bangladesh, Bhutan, India, Nepal).**

### India-Bangladesh Relations

- **India was the first country to recognize Bangladesh** as a separate and independent state and established diplomatic relations with the country immediately after its independence in December 1971.
- India and Bangladesh **share more than 4000 km of porous border,** which is the longest land boundary that India shares with any of its neighbors.
- Cooperation in connectivity, energy, security and intelligence matters has intensified between the two countries.
  - The Padma multipurpose bridge and the Akhaura-Agartala rail link will dramatically change connectivity within Bangladesh and with India.
  - Waterways are also being revived to reduce the cost of trade.
- **Security & Border Management**
  - The Coordinated Border Management Plan (CBMP) was signed in 2011 to help both of the Border Guarding Forces for checking cross-border illegal activities and crimes as well as for maintenance of peace and tranquility along the India-Bangladesh border.



➤ **Power Projects**

- India is poised to export around 1100 MW of power to meet the energy deficit in Bangladesh. Power projects totaling more than 3600 MW are under implementation by Indian companies.
- India is also a partner in Bangladesh's nuclear power programme, with the beginning of construction at the Rooppur nuclear power plant.

➤ **Trade Ties**

- Bangladesh is India's largest trading partner in South Asia with an annual turnover of around \$9 billion plus an estimated informal trade of around \$8-9 billion.
- Indian investment in Bangladesh has reached \$3 billion. To enable the flow of Bangladeshi exports into India, duty-free entry was granted in 2011 under the South Asian Free Trade Area.

➤ **River water sharing**

- India and Bangladesh share 54 common rivers. A bilateral Joint Rivers Commission (JRC) is working since June 1972 to maintain liaison between the two countries to maximize benefits from common river systems.

➤ **Connectivity**

- The **Protocol on Inland Water Trade and Transit (PIWTT)** operational since 1972 permits movement of goods over vessels from India through the river systems of Bangladesh on eight specific routes.

➤ **Capacity Building and Training**

- **India offers a number of training courses for interested Bangladesh officials/nationals** including personnel of administration, police, judiciary, nuclear scientists, teachers etc.
- Capacity building under the **Indian Technical and Economic Cooperation programme** is an important strand in bilateral ties and people-to-people interaction.

➤ **New Areas of Cooperation**

- Improvement in bilateral ties has led to **newer areas of cooperation such as cyberspace**. Bangladesh has provided cyber connectivity between the international gateway at Cox's Bazar to Agartala for faster Internet connectivity in India's northeastern States.

## Norway's PM Visit India

Recently, Prime Minister of Norway, Erna Solberg visited India.

- Prime Minister Solberg delivered the inaugural address at the **Raisina Dialogue** and inaugurated the India-Norway Business Summit.

### Outcome of the visit

- A Memorandum of Understanding (MoU) on **India-Norway Ocean Dialogue** was signed and a **joint task force for the blue economy** was established.
- Both countries agreed to collaborate in **achieving the global Sustainable Development Goals (SDG)** and to work together in tackling the threat of climate change.
- Both countries emphasized the need for the **reform of the United Nations including the UN Security Council**. Norway agreed that **India is a strong candidate for a permanent seat** in a reformed Security Council.
- Norway supported India's application for **membership of the Nuclear Suppliers' Group (NSG)**. Norway had also supported India's membership to export control regimes the **Missile Technology Control Regime (MTCR)**, the **Wassenaar Arrangement (WA)** and the **Australia Group (AG)**.
- Both countries agreed to urge countries for the early finalization of the **Comprehensive Convention on International Terrorism (CCIT)**.

### India-Norway Relations

- India and Norway have been enjoying a cordial and friendly relationship since the **establishment of relations in 1947**.
- The two countries respect each other for their **commonly shared values such as democracy, human rights and rule of law**. In recent years, both countries have increased their engagements in the field of trade and technology.
- Norway's **Government Pension Fund Global** has made a portfolio **investment of about \$12 billion in India**.
- India has signed a **Double Taxation Avoidance Agreement (DTAA)** with Norway in 1986 which was revised in February 2011.
- Norway is an expert on the subject of the Ocean Economy as 70% of Norway's export is from Norway's maritime industry. Starting of **bilateral ocean dialogue** have added a new dimension in India-Norway relations and will help India to understand the know-how of the maritime industry.

- Total bilateral trade between India and Norway stands around \$1.1 billion in 2015-16.
- Around **100 Norwegian companies are engaged in India** in areas such as shipbuilding, petroleum-related services, marine/sub-sea drilling equipment, hydropower, clean energy, and IT services.
- Indian companies like **Oil and Natural Gas Corporation (ONGC)** and Reliance Industries have tie-ups with Norwegian companies in the petroleum and energy sector.
- Three Arctic Missions from India have so far visited Norway, in **2007, 2008 and 2009. India's Polar Research Station "Himadri" is located at Ny Alesund, Spitsbergen Island, Norway.**

## The United States and Israel Quit UNESCO

- The **United States and Israel** have officially quit the UN's educational, scientific and cultural agency, UNESCO.
- The US filed its notice to withdraw in October 2017 which was followed by Israel.
  - The two countries have blamed UNESCO for having an **anti-Israel bias like criticizing Israel's occupation of East Jerusalem, naming ancient Jewish sites as Palestinian heritage sites and granting full membership to Palestine in 2011.**
  - The United States had pulled out of UNESCO in 1984 as well because it viewed the agency as mismanaged, corrupt and used to advance Soviet interests. The US rejoined in 2003.

### UNESCO

- The **United Nations Educational, Scientific and Cultural Organization (UNESCO)**, formed in 1945, is a specialized agency of the United Nations (UN) based in Paris.
- Its declared purpose is to **contribute to peace and security by promoting international collaboration** through educational, scientific, and cultural reforms in order to increase universal respect for justice, the rule of law, and human rights along with fundamental freedom proclaimed in the United Nations Charter.
- UNESCO has **195 Members (including US and Israel).**

## Financial Action Task Force

The **Financial Action Task Force (FATF)** has identified 11 jurisdictions, **including Pakistan and Sri Lanka**, as having strategic deficiencies in anti-money laundering (AML) measures and combating of financing of terrorism (CFT).

- The other nine jurisdictions are the Bahamas, Botswana, Ethiopia, Ghana, Serbia, Syria, Trinidad and Tobago, Tunisia and Yemen.

### FATF

- The Financial Action Task Force (FATF) was **established in July 1989** by a Group of Seven (G-7) Summit in Paris, initially to examine and develop **measures to combat money laundering.**
- In October 2001, the **FATF expanded its mandate** to incorporate efforts to **combat terrorist financing**, in addition to money laundering.
- Its objectives are to **set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing** and other related threats to the integrity of the international financial system.
- The Financial Action Task Force has developed a series of recommendations that are recognized as the international standard for combating of money laundering and the financing of terrorism and proliferation of weapons of mass destruction.
- The Financial Action Task Force's decision-making body, the **Financial Action Task Force Plenary**, meets three times per year.
- FATF has **38 members. India is a member** along with 35 other countries and 2 regional organizations (European Commission and Gulf Cooperation Council).

## Macedonia's New Name

Parliament of the **Republic of Macedonia** has voted to change their country's name to the **"Republic of North Macedonia"**.

- Macedonia agreed to change its name after signing the **Prespa Agreement with Greece in June 2018.**
- Prespa is a fresh-water lake in southeast Europe shared by Albania, Greece, and Macedonia.
- With this agreement, a long-standing dispute between the two countries came to an end.



- The dispute was that the region of Greece bordering the Republic of Macedonia is also called Macedonia.
- Neighboring country Greece has objected to its name and said that it implied the Macedonian republic's territorial aspirations over the northern region of Greece.
- The change of name will now allow the Republic of Macedonia to enter the North Atlantic Treaty Organization (NATO) and the European Union (EU) as its accession to both organizations was vetoed by Greece.

## India-US Mini '2+2' Talks

India and the U.S. have reviewed the progress of **Industrial Security Annex (ISA)** and the **Basic Exchange and Cooperation Agreement for Geo-spatial Cooperation (BECA)** agreements during the recent '2+2' intercession meeting.

- The agreements are significant in the context of **Asia Reassurance Initiative Act (ARIA)**.
- Under ARIA, around **\$1.5 billion in funding will be channeled into improving US ties with partners in the Asian region** in the next five years. Though the Act frames a strategy for the US in Asia, it singles out India as an important military partner.
- The **inaugural 2+2 dialogue between India and U.S.** was held in September, 2018.

### Industrial Security Annex (ISA)

- ISA agreement allows **sharing of classified information from the US government and US companies with the Indian private sector.**

- Till now, sharing of information was limited to the Indian government and the defence public sector undertakings.
- The ISA will give a boost to the **Indian private sector looking for a greater role in defence manufacturing.**

### "Four Foundational Agreements" between the US and its Partners

- **General Security Of Military Information Agreement (GSOMIA)**
  - GSOMIA allows **militaries to share the intelligence** gathered by them.
  - Signed by India in 2002.
- **Logistics Exchange Memorandum of Agreement (LEMOA)**
  - LEMOA allows both countries to **have access to each other's designated military facilities** for refueling and replenishment.
  - Signed by India in 2016.
- **Communications and Information Security Memorandum of Agreement (CISMOA)**
  - COMCASA (Communications Compatibility and Security Agreement) is the India specific version of CISMOA.
  - Valid for 10 years, COMCASA aims to provide a legal framework for the **transfer of highly sensitive communication security equipment from the US to India** that will streamline and facilitate interoperability between their armed forces.
  - Signed by India in 2018.
- **Basic Exchange and Cooperation Agreement (BECA)**
  - BECA will allow India and US to share geospatial and satellite data with each other.
  - India has not signed BECA yet.

## Commonwealth Secretariat Arbitral Tribunal

- Recently Justice AK Sikri has turned down the government's offer to nominate him to **Commonwealth Secretariat Arbitral Tribunal (CSAT)**.
- This comes days after his vote helped decide the removal of Alok Verma from the post of CBI director.

**Commonwealth Secretariat Arbitral Tribunal (CSAT)**

- The Commonwealth Secretariat is the main intergovernmental agency and central institution of the Commonwealth of Nations.
- The Secretariat is located in **London, the United Kingdom**.
- It was **established in 1965**, plays the role of an arbiter in case of disputes among its 53 member-countries.
- The CSAT has a total of eight members, including its president. The members are picked up on the basis of regional representations from among persons of high moral character who must hold or have held high judicial office in a Commonwealth country.
- A CSAT member has a tenure of **four years**.

**Commonwealth of Nations**

- It is an international intergovernmental organization of countries that were mostly former territories of the British Empire and dependencies.
- It was established by the London Declaration in 1949.
- Queen Elizabeth II is the head of the Commonwealth.
- Many countries from Africa, Asia, Americas, Europe and the Pacific have joined the commonwealth.
- The current membership includes 53 countries. The membership is based on free and equal voluntary cooperation.
- The last country to join the Commonwealth was Rwanda in 2009.
- The Commonwealth Heads of Government Meeting is a biennial summit meeting of the heads of government from all Commonwealth nations.





# Science and Technology

## Highlights

- Ultima Thule (32)
- IIT Madras Team Produces Gas Hydrates (32)
- UNNATI by ISRO (33)
- NASA Discovers a New Planet (34)
- Sahayak Air Droppable Containers (34)
- Two New AIIMS for Jammu and Kashmir, One for Gujarat (34)
- Human Space Flight Centre (35)
- Starship Starhopper (35)

## Ultima Thule

**NASA's New Horizons** spacecraft has flown past the icy object nicknamed **Ultima Thule (TOO-lee)** in Kuiper belt.

- Ultima Thule is located 1.6 billion kilometers beyond Pluto and 6.4 billion kilometers from Earth.
- The spacecraft will fly past within 3,500 kilometers of Ultima Thule.

### Ultima Thule

- This Kuiper Belt object was **discovered by the Hubble Space Telescope in 2014**.
- Officially it is known as **2014 MU69** and is nicknamed as Ultima Thule.
- Thule means the most distant places beyond the known world.

### Significance

- Ultima Thule will be the **farthest object ever visited by a spacecraft**.
- Ultima Thule would have relics dating back to solar system's origin 4.5 billion years ago. No spacecraft has visited anything so primitive. This will help in **understanding the origins of our solar system**.

### New Horizon

- **Launched:** Jan. 19, 2006
- **Pluto Flyby:** July 14, 2015
- **Ultima Thule Flyby:** Jan. 1, 2019
- **Goal:** Study Pluto, its moons, and Kuiper Belt objects.

## Kuiper Belt

- The Kuiper Belt (also known as the Edgeworth–Kuiper belt) is a region of the Solar System that **exists beyond the eight major planets**, extending from the orbit of Neptune (at 30 AU) to approximately 50 AU from the Sun. **(1 Astronomical Unit (AU) = distance between the Earth and the Sun)**.
- It is similar to the asteroid belt, in that it contains many small bodies, all remnants from the Solar System's formation.

## IIT Madras Team Produces Gas Hydrates

A team of Indian researchers at Indian Institute of Technology, Madras has synthesized in a lab tiny water cages containing trace amounts of methane and carbon dioxide at extremely low temperatures and pressure to simulate the conditions of deep space.

- These tiny cages are known as Clathrate Hydrates or Gas Hydrates.
- Normally, the formation of clathrate hydrates requires high pressures and moderate temperature.
- This discovery of hydrates is unexpected at extremely low pressures and ultracold temperatures as cages of water are not expected to form under such conditions.
- At low temperature, both ice and methane are in a frozen state, prolonging the experiment at a very low temperature enhanced the mobility of methane molecules and led to their insertion into the cage of water molecules to form methane hydrate.

Note:

### Clathrate Hydrates

- Clathrate hydrates are solid cages of water containing small non-polar molecules like carbon dioxide and methane.
- Clathrate hydrates are formed when a gas such as methane gets trapped in well-defined cages of water molecules forming crystalline solids. In terrestrial conditions, gas hydrates are formed naturally under the seabed and glaciers under high pressure, low-temperature conditions.
- On earth, they are found on the ocean floor or the permafrost region of the earth.

### Uses of Clathrate Hydrates

- Hydrates are considered as the future sources of fuel. Many countries, including India, have started projects to explore hydrates present on the ocean bed.
- They could be a potentially safe, efficient method for storing and transporting gases.

### Significance

- Carbon Sequestration: Trapping carbon dioxide in hydrates can be a way to reduce to global warming in future. As one can sequester carbon dioxide gas as solid hydrates under the seabed.
- Sustainable Energy source: Development of technology to harvest Gas Hydrates can ensure energy security of the nation.

#### Gas hydrate exploration in India

- Under the aegis of the Ministry of Earth Sciences, a comprehensive research-oriented gas hydrates program was launched during the 11th plan (2007-12) period emphasizing scientific and technology development with following major objectives:
  - Understanding the nature of distribution of gas hydrates in marine sediments
  - Developing techniques for detection and quantification of gas hydrates
  - Identifying promising sites on the regional scale and estimating the resource potential
  - Recommending suitable sites for drilling and ground truth validation
  - Demonstrating occurrences of gas hydrates
  - Understanding the mechanism for the formation and accumulation of gas hydrates
  - Studying the impact of hydrate dissociation on climate and geological environment

- Developing environment-safe technology for commercial production on a pilot scale
- Developing hazardless and cost-effective transportation of gas from gas hydrates and
- Monitoring environmental perturbation during harvesting of gas hydrates
- National Centre For Polar And Ocean Research (NCAOR), Ministry of Earth Sciences has been identified as the nodal agency responsible for implementation of the scientific aspects of the study.
- National Gas Hydrate Programmes (NGHP)
  - The programme was initiated in 1997 with a Steering Committee and a Technical Committee.
  - National Gas Hydrate Programme (NGHP) is steered by the Ministry of Petroleum and Natural Gas and technically coordinated by Directorate General of Hydrocarbons (DGH).

### UNNATI by ISRO

**Indian Space and Research Organization (ISRO)** has launched a training programme **UNNATI (UNISpace Nanosatellite Assembly & Training by ISRO)**.

- UNNATI is a capacity building programme on **nanosatellite development**.
- The Programme provides opportunities to the **participants from developing countries** to strengthen their capabilities in assembling, integrating and testing of nanosatellites.
- It is an ISRO initiative to **commemorate the 50th anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE+50)**.
- UNNATI programme is being conducted by **U.R. Rao Satellite Centre (URSC) of ISRO** for 3 years in 3 batches and has a target to benefit 90 officials from 45 countries.
- The training comprises of theoretical course work on nanosatellite definition, utility, laws governing their impact on space debris, design drivers, reliability & quality assurance and hands-on training on assembly, integration, and testing of nanosatellites.
- The first batch of this programme has started on January 17, 2019, with 30 participants from 17 countries (Algeria, Argentina, Azerbaijan, Bhutan, Brazil, Chile, Egypt, Indonesia, Kazakhstan, Malaysia, Mexico, Mongolia, Morocco, Myanmar, Oman, Panama, and Portugal).

Note:

### United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE)

- **UNISPACE I**, held from 14 to 27 August 1968, was the first in a series of three global UN conferences on outer space, which focused on raising awareness of the vast potential of space benefits for all humankind.
- **UNISPACE II** conference was held from 9 to 21 August 1982. UNISPACE II addressed the concerns of how to maintain the outer space for peaceful purposes and prevent an arms race in outer space.
- **UNISPACE III** conference held from 19 to 30 July 1999. UNISPACE III created a blueprint for the peaceful uses of outer space in the 21st century.

## NASA Discovers a New Planet

NASA has discovered a new planet **HD 21749b** orbiting a dwarf star about 53 light-years away in the constellation of Reticulum.

- This is the third new planet discovery by the **Transiting Exoplanet Survey Satellite (TESS)**.
- HD 21749b revolve around its star in 36 days. The planet is about three times the size of the earth, which puts it in the category of a "sub-Neptune."
- The other two planets discovered by TESS are **Pi Mensae C** located about 60 light-years away in the southern constellation Mensa and **LHS3884b** located about 49 light-years away in the constellation Indus.

## Sahayak Air Droppable Containers

The Navy has successfully tested Sahayak Air Droppable Containers that can be air-dropped to enhance its operational logistics capability at sea.

- The trials were undertaken from an IL-38 aircraft off the coast of Goa.
- Having a test payload of 50 kg, these containers are equipped to carry spares for ships up to 2,000 km away from the coast.
- This will reduce the requirement of ships to be close to the coast for collecting spares and stores, thereby increasing the duration of their deployment. The Sahayak Containers would enhance its operational logistics capability.

- These cylindrical containers have been indigenously developed by the Naval Science and Technological Laboratory and the Aeronautical Development Establishment of the Defence Research and Development Organisation.

**Naval Science & Technological Laboratory (NSTL)**, Visakhapatnam was established on August 20, 1969 to undertake research and development of complete major naval systems (Underwater Mines, Torpedoes, Fire Control Systems, Weapon Launchers, Targets, Decoys, etc) for the Indian Navy to make it self-reliant.

**Aeronautical Development Establishment (ADE)** is a key Aeronautical Systems Design House in Defence Research and Development Organization (DRDO), under Ministry of Defence.

Since its formation in 1959, ADE has been playing an important role in the design & development of a variety of aeronautical systems required by the Indian Armed forces.

The research, design and development activities of ADE include development of Unmanned Aircraft Systems and systems for manned aircrafts including Simulators.

## Two New AIIMS for Jammu and Kashmir, One for Gujarat

The Union Cabinet has approved establishment of three new All India Institutes of Medical Sciences (AIIMS) under the **Pradhan Mantri Swasthya Suraksha Yojana**.

- An **Act of Parliament in 1956** established the All India Institute of Medical Sciences (AIIMS) as an autonomous institution of national importance and defined its objectives and functions.

### Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)

- PMSSY was announced in 2003 with objectives of correcting regional imbalances in the availability of affordable/ reliable tertiary healthcare services and also to augment facilities for quality medical education in the country.
- The PMSSY is implemented by the Ministry of Health and Family Welfare.
- It has two components:
  - Setting up new AIIMS (All India Institute of Medical Sciences)
  - Upgradation of government medical colleges in various states.
- The project cost for upgradation of each medical college institution is shared by the Centre and the state.

## Human Space Flight Centre

The **Indian Space Research Organization (ISRO)** has set up a **Human Space Flight Center in Bengaluru**.

- The center, a new management structure within the organization, will be in charge of all human-related programme at the ISRO, including the **Gaganyaan project**, that will send three astronauts to orbit the earth.
- **Two unmanned** flights are scheduled for **December 2020 and July 2021**, while **manned flight** is expected to take place by **December 2021**.

### Gaganyaan Project

- India and France have announced a working group for Gaganyaan Project which aims to send an Indian astronaut into space by 2022.
- The human space flight programme, called the Orbital Module will have three Indian astronauts, including a woman.

- It will circle Earth at a low-earth-orbit at an altitude of 300-400 km from earth for 5-7 days.
- The payload will consist of:
  - Crew module - spacecraft carrying human beings.
  - Service module - powered by two liquid propellant engines.
- It will be equipped with emergency escape and emergency mission abort.
- GSLV Mk III, also called the LVM-3 (Launch Vehicle Mark-3) the three-stage heavy lift launch vehicle, will be used to launch Gaganyaan as it has the necessary payload capability.

## Starship Starhopper

- The private space agency **SpaceX** has unveiled a spacecraft that will carry humans to **Mars and Moon in future**.
- The spacecraft is named as **"Starship Starhopper"**. The prototype, which is called Starhopper, is 8 meters in diameter.

drishti



# Environment and Ecology

## Highlights

- Exotic Trees Eating up Western Ghats Grasslands (36)
- Climate Change Performance Index (CCPI) (37)
- Govt Launches Mission to Fight Air Pollution (37)
- Cinereous Vulture (38)
- Cyclone Pabuk (38)
- Wayanad Wildlife Sanctuary (38)

## Exotic Trees Eating up Western Ghats Grasslands

As per the study published recently in the international journal Biological Conservation, the **Western Ghats have lost almost one-fourth of high-altitude grasslands** over four decades, primarily due to exotic invasive trees, such as pine, acacia, and eucalyptus.

### ➤ Invasive Alien Species

- Invasive alien plant species are non-native species that spread and interfere in a new ecosystem by posing a serious threat to the native biodiversity, leading to economic loss. Invasive species don't allow local species to grow and wildlife to move through.

### Major Findings

- Most of this loss occurred on the **mountain tops of the Nilgiri, Palani and Annamalai hill ranges**, which comprise more than half of the Ghat's shola-grassland ecosystems, primarily due to the expansion of exotic trees (pine, acacia, and eucalyptus).
- Satellite images reveal that **60% of the shola-grassland landscape has changed**; almost 40% (516 km<sup>2</sup>) of native high-elevation grasslands have disappeared.
- Even though no plantations were established between 2003 and 2017, **invasion by existing trees increased areas under exotic plantations** (acacia, pine, and eucalyptus) by 27% in the Palanis and 17% in the Nilgiris.
- Satellite images show how shola-grasslands across the Ghats – **from the Baba Budan Hills in Karnataka to Tamil Nadu's Ashambu Hills** – changed in extent between 1972 and 2017. Broadly, shola-grassland ecosystems in Tamil Nadu showed the highest rates of invasion.

- However, shola forests have remained “relatively unchanged” over these years. The Annamalai-Munnar areas have also remained stable during this time.

### International Convention on Invasive Species

- **Convention on Biological Diversity (CBD)** was adopted in 1992 and came into force in 1993. It aims to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species.

### Shola Forests

- The **Sholas are a mosaic of montane evergreen forests and grasslands**. They are found only in high altitude (>1500 meters) regions within the tropics and are limited to the southern part of the western ghats.
- They are characterized by undulating grassland patches, interspersed with thickets of stunted evergreen tree species, and are home to a host of endemic and endangered plants and animals. They are also vitally important in keeping water cycles alive.

### Way Forward

- All possible efforts must be made to conserve the remaining grassland tracts, as very little research is focussed on grasslands and mechanisms to restore them are also few, unlike forests.

### Convention on Biological Diversity (CBD)

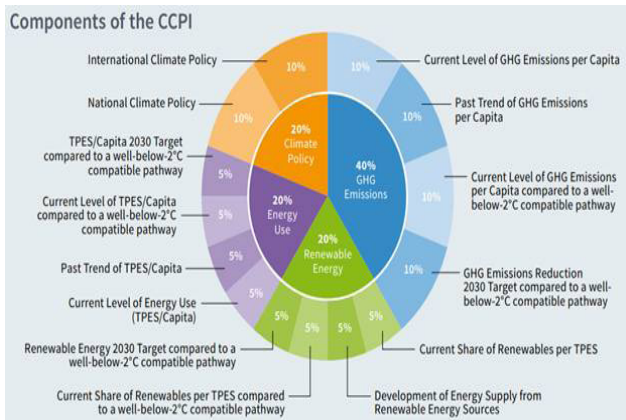
- The **Convention on Biological Diversity (CBD)**, a **legally binding treaty** to conserve biodiversity has been in force since 1993. It has **3 main objectives**:
  - The **conservation** of biological diversity.
  - The **sustainable use** of the components of biological diversity.

- The **fair and equitable sharing** of the benefits arising out of the utilization of genetic resources.
- Nearly all countries have ratified it (notably, the US has signed but not ratified).
- The CBD Secretariat is based in **Montreal, Canada** and it operates under the **United Nations Environment Programme**.

## Climate Change Performance Index (CCPI)

The Climate Change Performance Index is published by **German watch, CAN International and the New Climate Institute**.

- In 2019 index, no country performed well enough to reach the ranking very good, meaning that no country has yet made it to one of the top three places in the rankings. **However, Sweden leads the ranking, followed by Morocco and Lithuania.**
- On the basis of standardized criteria, **the index evaluates and compares the climate protection performance of 56 countries and the EU.**
- The ranking results are defined by a country's aggregated performance regarding 14 indicators within the four categories "GHG Emissions", "Renewable Energy" and "Energy Use", as well as on "Climate Policy", in a globally unique policy section of the index.
- The CCPI is an instrument designed to enhance transparency in international climate politics.
- **India's Score is 62.93 and has been ranked 11th in overall Index.**
- **India has improved its performance by 3 places compared to 2018 in the Renewable Energy category, joining the group of medium performers.**



## Govt Launches Mission to Fight Air Pollution

The Central government has launched a five-year action plan with a tentative target of 20-30% reduction in concentrations of **PM10 and PM2.5 by 2024**, with 2017 as the base year.

- Unlike earlier initiatives which focussed largely on the national capital region, this is a comprehensive **pan-India** air pollution abatement **scheme for 102 cities**.

### Highlights

- The plan includes **102 non-attainment cities**, across 23 states and Union territories, which were identified by Central Pollution Control Board (CPCB) on the basis of their ambient air quality data between 2011 and 2015.
  - The **non-attainment cities** are those that have fallen short of the National Ambient Air Quality Standards (NAAQS) for over five years. These 'non-attainment cities' were marked by CPCB and were asked to implement 42 measures aimed at mitigating air pollution as part of the National Clean Air Programme (NCAP).
- As part of the programme, the Centre also plans to **scale up the air quality monitoring network across India**. At least 4,000 monitors are needed across the country, instead of the existing 101 real-time air quality (AQ) monitors.
- The plan proposes a three-tier system, including real-time physical data collection, data archiving, and an action trigger system in all 102 cities, besides **extensive plantation plans**, research on **clean-technologies**, landscaping of major arterial roads, and **stringent industrial standards**.
- It also proposes **state-level plans of e-mobility** in the two-wheeler sector, rapid augmentation of charging infrastructure, stringent **implementation of BS-VI norms**, boosting public transportation system, and adoption of third-party audits for polluting industries.
- The states have been kept in the loop for implementation and global multilateral agencies have been **brought in for technical support**.
- The ministry (MOEFCC) will periodically review the progress of these components on the basis of appropriate indicators, which will be evolved. However, it is not binding on the state governments as it is not a legal document.

Note:

- It will be operationalised through inter-sectoral groups, which include the ministries of road transport and highways, petroleum and natural gas, renewable energy, and urban affairs among others.

### Criticism

- The pollution reduction target in these cities **are not 'legally binding'** on respective states.
- A reduction of merely 20-30% from 2017 level by 2024 will not be sufficient to bring the air quality at desired level, i.e. the targets under action plan are **less ambitious**.

### Way Forward

- Although, the targets appear less ambitious, the **NCAP is envisaged to be dynamic and would continue to evolve** based on the additional scientific and technical information as they emerge.
- This is a welcome step as it was imperative to have measurable, focused and precise targets with clear timelines and demonstrable accountability towards public health, to succeed in this national-level initiative.

## Cinereous Culture

Recently the **Cinereous culture** was spotted in Jharkhand, as they **migrate from the mountainous regions of Europe and Asia** to warmer places, including India.

- While earlier records of this migratory bird have revealed that it comes to northern parts of India up to Rajasthan, but this is for the **first time they have been spotted in Hazaribagh in Jharkhand**.
- The Cinereous culture (*Aegypius monachus*) draws its name from "**monachus**", which means **hooded (like a monk)** in Latin.
- In many countries, this bird is called '**monk culture**', because of its upright standing neck feathers that resemble the hood of a monk.
- It is a **dark brown and broad-winged species** with a slightly wedge-shaped tail. The bald head and neck are a bluish gray, with a fluffy collar which is lighter in older birds.

- It is classified as **Near Threatened under the IUCN Red List**.
- India is home to **nine species of vultures** and with the population of these birds dwindling, the country has launched a **species-recovery plan** through conservation breeding centres in different parts of the country.

## Cyclone Pabuk

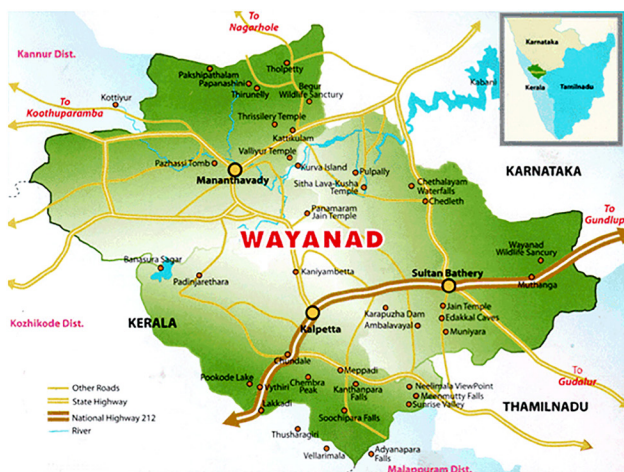
The India meteorological department (IMD) had issued an orange warning for the **Andaman and Nicobar islands** as cyclonic storm **Pabuk** approached the archipelago.

- It **originated over the Gulf of Thailand**.
- An "**orange**" weather warning means people should "be prepared" and there is an increased likelihood of bad or extreme weather, which may disrupt road and air travel and threaten life and property.
- The only typhoon ever known to have hit **Thailand was Gay (in November 1989)**.
- It has been named by **Laos**.

Stage of warning	Colour code
Cyclone Alert	Yellow
Cyclone Warning	Orange
Post Landfall Outlook	Red

## Wayanad Wildlife Sanctuary

The seasonal migration of wild animals from wildlife sanctuaries in Karnataka and Tamil Nadu to the Wayanad Wildlife Sanctuary (WWS) has begun.



Note:

- It is part of **Nilgiri Biosphere Reserve** along with Mudumalai Wildlife Sanctuary, Bandipur National Park, Nagarhole National Park, Mukurthi National Park and Silent Valley.
  - Wayanad Wildlife sanctuary is significant because of **ecological and geographic continuity with other protected areas** such as Bandipur Tiger Reserve and Nagarhole N.P., of Karnataka in north-eastern portion and Mudumalai Tiger Reserve of Tamil Nadu in south-east.
- It has the **world's largest recorded population of Asiatic elephant**.
  - Almost the entire Wayanad district is drained by **Kabini** and its three tributaries, the Panamaram, Mananthavady, and Kalindy rivers.
    - The Kabini River, one of the **three east flowing rivers of Kerala**, is an important tributary of the Kaveri River.





# Security

## Highlights

- Centre Extends AFSPA in Nagaland (5)

## Centre Extends AFSPA in Nagaland

The entire State of **Nagaland** has been **declared 'disturbed area'** for six more months up to June 2019, under Armed Forces (Special Powers) Act (AFSPA) 1958.

- In a notification, the **Ministry of Home Affairs** said that the Central government is of the opinion that the area comprising the whole of State of Nagaland is in such a disturbed and dangerous condition that the use of armed forces in aid of civilian power is necessary.
- The decision has been taken as killings, loot and extortion have been going on in various parts of the State which necessitated the action.

### Armed Forces (Special Powers) Act, 1958

- The **Act was enacted in 1958** to bring under control the 'disturbed areas' where the use of armed forces in aid of civil power is necessary..
- **Jammu & Kashmir has a similar but separate act** Armed Forces (Jammu & Kashmir) Special Powers Act, 1990.
- It is effective in the whole of **Nagaland, Assam, Manipur** (excluding seven assembly constituencies of Imphal) and **parts of Arunachal Pradesh**. The Centre revoked it in Meghalaya on April 1, 2018.
- The Act **empowers the Governor/Administrator of state/UT to declare an area as 'disturbed'**. Once declared, the region has to maintain the status quo for a minimum of three months (according to Disturbed Areas (Special Courts) Act, 1976).
- The Act empowers the Army and Central forces deployed in "disturbed areas" **to search premises and arrest without warrant, to use force even to the extent of causing death**.
- It also gives **immunity to security forces** in carrying out various operations and provides cover to forces from prosecution and legal suits without the Centre's sanction.
- To check arbitrariness there should be a **periodic review of 'disturbed area' every six months**.

### Debate Around AFSPA

- AFSPA has become a controversial legislation due to the **wide-ranging power** it gives to armed forces and **alleged human rights violation** by them.
- The **constitutionality of AFSPA** has been questioned, given that **law and order is a state subject**.
- Supreme Court's Judgement: The Supreme Court has upheld the constitutionality of AFSPA in a 1998 judgment (Naga People's Movement of Human Rights v. Union of India). In this judgment, the Supreme Court held that
  - a suo-motu declaration can be made by the Central government, however, it is desirable that the state government should be consulted by the central government before making the declaration;
  - the declaration has to be for a limited duration and there should be a periodic review of the declaration after 6 months have expired;
  - while exercising the powers conferred upon him by AFSPA, the authorized officer should use minimal force necessary for effective action,
- **Jeevan Reddy Committee:** In November 2004, the Central government appointed a five-member committee headed by Justice B P Jeevan Reddy to review the provisions of the act in the northeastern states. The committee recommended that:
  - **AFSPA should be repealed** and appropriate provisions should be inserted in the Unlawful Activities (Prevention) Act, 1967
  - The **Unlawful Activities Act should be modified** to clearly specify the powers of the armed forces and paramilitary forces and
  - **Grievance cells** should be set up in **each district** where the armed forces are deployed.
- **Second ARC Recommendation:** The **5th report of the Second Administrative Reforms Commission (ARC)** on public order has also recommended the **repeal of the AFSPA**. However, these recommendations have not been implemented.

■■■

# Art & Culture

## Highlights

- Monuments of National Importance (41)
- Jallikattu Event Held in Tamil Nadu (41)
- Andhra Pradesh's Second Largest Petroglyph Site (42)
- Savitribai Phule (43)

## Monuments of National Importance

Archaeological Survey of India has declared following monuments as the monuments of national importance:

- The ancient **Neemrana Baori** in Rajasthan's Alwar district;
- The **Group of Temples at Ranipur Jharail** in Odisha's Bolangir district;
- The **Vishnu Temple in Pithoragarh district**, Uttarakhand;
- **High Court Building in Nagpur**, Maharashtra,
- Two Mughal-era monuments in Agra — **Haveli of Agha Khan and Hathi Khana**.

### High Court Building Nagpur

- The Nagpur High Court building is called a **Poem in Stone because of its beautiful structure**.
- It was designed by **Architect H.A.N. Medd**.
- **Greek influence can be seen prominently in the columns**. The predominant Roman features can be seen in the ornamentation of both square and arched alcoves.
- The Renaissance drum is cylindrical and elongated. Over it are Rajasthani Chhatris. The dome has the resonance of the soprano.



### Neemrana Baori – Rajasthan

- The **Neemrana Stepwell** was built in 18th century by **Thakur Janak Singh**.
- It is also known as **Rani Ki Baoli in the local language**.
- The primary cause of the creation of this step well was to create employment during the famine that hit the area during that period.

### Ranipur – Jharial – Odisha

- Ranipur Jharial is known as **“Soma Tirth” in scriptures**.
- It is a combination of religious faiths of **Shaivism, Buddhism, Vaishnavism, and Tantrism**.
- The site is famous for **Chausath (64) Yogini temples** or the temples without roofs—known as the hypaethral temples.

### Archaeological Survey of India (ASI)

- ASI is the premier organization for archaeological research, scientific analysis, excavation of archaeological sites, conservation and preservation of protected monuments.
- It is an attached office under the **Department of Culture (Ministry of Culture)**.
- **ASI was founded in 1861** by Alexander Cunningham who became its first Director-General.

## Jallikattu Event Held in Tamil Nadu

Recently, events of Jallikattu were organized in many parts of Tamil Nadu.

- **Jallikattu is referred to as bull taming event** typically practiced in Tamil Nadu as a part of Pongal celebrations.

Note:

- The person participating in the event has to **pluck bundles of money or gold tied to the animal's horns**.
- The term 'jallikattu' is derived from the **Tamil words 'jalli' and 'kattu'**. **Jalli refers to gold or silver coins. Kattu means 'tied'**.
- It is an **ancient 'sport'**, believed to have been practiced some 2500 years ago. It also **found mentioned in the Sangam literature**.
- It is controversial because the sport often results in **major injuries and even deaths of both bulls and humans**.
- Supreme Court in 2014 banned Jallikattu and bullock-cart races and such events like the Rekla (race-bulls lugging makeshift carts, TN), Kambala (buffalo race in Karnataka), Dhirio (bullfight in Goa), buffalo fight (Assam) in response to Animal Welfare Board of India (AWBI) and People for Ethical Treatment of Animals (PETA) petitions citing cruelty to animals.

### Arguments in Favor

- **Culture:** Tamils consider it symbolic of Tamilian pride as it is an ancient tradition. Organizers of bullock cart races have argued that extreme care and precaution is exercised.
  - However, the court had noted that even the ancient culture and tradition do not support Jallikattu in the form they are conducted today; Tamil culture and tradition is about worshipping the bull considered the vehicle of Lord Shiva.
- **Saving Native Bulls:** Proponents of Jallikattu argue that only native bulls are allowed to participate in Jallikattu and these bulls will become extinct if Jallikattu is not allowed to happen.

### Arguments Against

- **Violation of constitution and law:** The practice of jallikattu violates the Prevention of Cruelty to Animals act, 1960.
  - Also, the article 51A of the constitution which includes our fundamental duties and states that citizens should safeguard the wildlife and forests and have compassion for living creatures.
- **Animal rights issues:** The animal welfare body through its studies and reports had highlighted that bulls were physically and mentally tortured for human pleasure.

## Andhra Pradesh's Second Largest Petroglyph Site

Andhra Pradesh's **second largest petroglyph site**, containing about 80 petroglyphs, has been discovered at Mekala Benchi in **Kurnool district**.

- **Kandanathi**, with 200 petroglyphs, the **biggest petroglyph site in Andhra Pradesh** is also in **Kurnool district**.



- Petroglyphs are **rock carvings (rock paintings are called pictographs) made by pricking directly on the rock surface using a stone chisel and a hammerstone**.
  - These Petroglyphs mostly have images of **bulls or bull-riding, in addition to human figures, an elephant, tiger-like animals and cupules**.
  - While Mekala Benchi has petroglyphs dating back from the **Neolithic to the Megalithic period**, Kandanathi carvings range from the **prehistoric to the historic period**.
  - The petroglyphs at Kandanathi reveal the presence of the Boya community divided into many exogamous groups such as Mandla (herdsmen) and Yenubothula (buffalomen).

### Stone Ages

#### ➤ Palaeolithic (Old Stone) Age

- Basically a **hunting and food gathering** culture.
- Palaeolithic tools include sharpened stone, chopper, hand axe, scraper, spear, bow and arrow, etc. and were generally made up of hard rock quartzite.
- Rock paintings and carvings found at **Bhimbetka, Madhya Pradesh** reflect upon hunting as the main subsistence activity.
- Palaeolithic age in India is divided into **three phases**: Early or Lower Palaeolithic (50,000 – 100,000 BC), Middle Palaeolithic (100,000 – 40,000 BC) and Upper Palaeolithic (40,000 – 10,000 BC).
- Homo sapiens mark their **presence in upper palaeolithic age**.



### ➤ Mesolithic (Middle Stone) Age

- The age is marked by transition from Pleistocene period to Holocene period and favorable changes in the climate.
- The early period of Mesolithic age marks the **hunting, fishing and food gathering**.
- **Domestication of the animals** began in this age.
- The tools called **Microliths** were smaller and had improved geometry than the Palaeolithic age.

### ➤ Neolithic (New Stone) Age

- Referred to as the concluding phase of the Stone Age, the age heralded the beginning of food production.
- **Sedentism (living in one place for a long time)** use of pottery, and invention of crafts are characteristics feature of neolithic age.
- The neolithic tools composed of heavy ground tools like pestles, grinders, pounders and also axes and sickles.

### ➤ Megalithic Culture

- Megaliths refer to **large stone structures** that were constructed either as burial sites or as commemorative sites.
- In India, archaeologists trace the majority of the megaliths to the Iron Age (1500 BC to 500 BC), though some sites precede the Iron Age, extending up to 2000 BC.
- Megaliths are **spread across the Indian subcontinent**. Majority of them are found in peninsular India, concentrated in the states of Maharashtra (mainly in Vidarbha), Karnataka, Tamil Nadu, Kerala, Andhra Pradesh and Telangana.

## Savitribai Phule

Recently **187th birth anniversary of Savitribai Phule** was celebrated in the country.

- Savitribai Phule was a 19th century social reformer who worked in the field of women education.



### Personal Life

- Savitribai Phule was born on **3<sup>rd</sup> January 1831** at Naigaon in Maharashtra's Satara district.
- She was the eldest daughter of Lakshmi and Khandoji Neveshe Patil, both of whom belonged to the Mali community, now an Other Backward Caste (OBC).
- **At the age of 9, she was married to 13-year-old Jyotirao Phule.**
- Jyotirao Phule, better known as Jyotiba, was also a social reformer who worked in the field of women education. **Jyotirao educated Savitribai at home after their marriage.**
- Savitribai Phule died on **10 March 1897**, while caring for a patient in the clinic she had opened for the treatment of those affected by the bubonic plague.

### Social Endeavors and Its Impact

- In the 19th century, public education was limited and there were only a few missionary schools which were "open to all". In this period, Jyotiba, at the age of 21, and Savitri, 17, **opened a school for women in 1848.**
  - It was the country's **first school for women started by Indians.**
- She also took teacher's training course at an institute run by an American missionary in Ahmednagar and in Pune's Normal School.
- She then started teaching girls in Pune's Maharwada.
- **By the end of 1851, the Phules were running three schools in Pune with around 150 girl students.** The teaching methods at their schools were believed to be better than government schools and soon the number of girls enrolled in Phule's schools outnumbered that of the boys in government schools.
- In 1849, Jyotiba and Savitri Bai left their family home as their acts were considered against the society by their family.
  - They stayed with the family of a friend, Usman Sheikh, where Savitribai met Fatima Begum Sheikh.
  - Fatima Sheikh along with Savitribai went to the Normal School and they both graduated together. She was the first Muslim woman teacher of India.
- **In the 1850s, the Phule couple initiated two educational trusts—the Native Female School, Pune and the Society for Promoting the Education of Mahars, Mangs and Etceteras—which came to have many schools under them.**

Note:



- She published **Kavya Phule in 1854 and Bavan Kashi Subodh Ratnakar in 1892**. In her poem, ***Go, Get Education***, she urges the oppressed communities to get an education and break free from the chains of oppression.
- In **1852**, Savitribai started the **Mahila Seva Mandal** to raise awareness about women's rights. She simultaneously **campaigned against child marriage, while supporting widow remarriage**.
- In **1863**, they started a **home for the prevention of infanticide in their own house, for the safety of pregnant, exploited Brahman widows and to nurture their children**.
- In **1890**, **Jyotirao passed away**. Defying all social norms, she lit his funeral pyre.
- After Jyotiba's death in 1890, Savitribai carried forward the work of the organization Satya Shodhak Samaj and also chaired the annual session held at Saswad in 1893.
- She initiated the first **Satyashodhak marriage—a marriage without a dowry, Brahmin priests or Brahminical rituals in 1873**.

**Satya Shodhak Samaj (Truth Seekers Society)**

- It was founded by **Jyotirao Phule in 1873 in Pune**.
- Satya Shodhak Samaj was founded with a purpose to **give education to the lower castes**, scheduled caste, scheduled tribes and make them aware of the exploiting tradition of society.



# Social Issues

## Highlights

- Umbrella Scheme for Family Welfare and Other Health Interventions (45)
- Government Removes Price Cap on Innovative Drugs (46)
- Rajya Sabha Passes the Bill to Abolish the No Detention Policy (47)
- Survey of Child Care Institutions (48)
- National Health Authority (49)
- Deendayal Disabled Rehabilitation Scheme (49)
- Astana Declaration (50)

## Umbrella Scheme for Family Welfare and Other Health Interventions

Cabinet has approved the continuation of umbrella scheme for "Family Welfare and Other Health Interventions" during 2017-18 to 2019-20.

- The scheme is **funded 100% by Central Government**. The government has allocated an overall outlay of around Rs. 2300 crore for the scheme.

### Its sub schemes are as follows

- **Swastha Nagrik Abhiyan (SNA)**: It aims to create a social movement for health, create awareness among citizens of India and to encourage healthy lifestyles and empower the citizens.
  - SNA was **proposed in National Health Policy, 2017**.
  - According to NHP, 2017 'Swastha Nagrik Abhiyan' is based on coordinated action in seven core areas:
    - The **Swachh Bharat Abhiyan**
    - A balanced, **healthy diet and regular exercise**
    - Addressing **tobacco, alcohol and substance abuse**
    - **Yatri Suraksha** - preventing deaths due to rail and road traffic accidents
    - **Nirbhaya Nari** - action against gender violence
    - Reduced stress and improved **safety at the workplace**
    - **Reducing indoor and outdoor air pollution**
- **Population Research Centres (PRC)**: Third-party evaluation will be done only for those centers which are considered for continuation.

- The **Ministry of Health and Family Welfare (MoHFW)** has established a network of **Population Research Centres (PRC)** with the mandate to **provide research-based inputs related to the Health and Family Welfare Programs and Policies** at the national and state levels.
- **Health Surveys and Health Research (HSR)**: For **sourcing of data on population, health and nutrition for India and its States** including through periodically conducted National Family Health Survey (NFHS). The NFHS provides valuable data for policy and programmes right up to the district level.
- **Social Marketing of Contraceptives**: For branding, attractive packaging, marketing and selling of products and services related to Family Planning for low-income groups at affordable prices.
- **Free Supply of Contraceptives**: For providing a free supply of contraceptives including condoms, Oral Contraceptive Pills, Pregnancy Test Kits, other contraceptives, etc. to States.

### Benefits

- The five schemes listed in the proposal are crucial to **attaining the goals and objectives of National Health Policy (NHP) 2017, Sustainable Development Goals (SDGs)**.
- The SNA scheme has a very **ambitious target of improving health-seeking behavior** of the population through increased awareness and enhanced uptake of health services.
- The **HSR would assist in keeping a tab on the progress of the entire set of health programmes/schemes** run by the government of India and assisting in timely course corrections.
- The free and social marketing of contraceptives will **enable better child and mother health, besides population stabilization**.

## Government Removes Price Cap on Innovative Drugs

The government has removed price restrictions on new and innovative drugs developed by foreign pharmaceutical companies under the **Indian Patent Act, 1970**.

- These restrictions have been removed for the **first five years** from the date of first commercial marketing undertaken by the manufacturer in the country.
- This will give Indian patients access to drugs that are currently only available abroad. These also include **orphan drugs** that are used for treating rare medical conditions.

### Orphan drugs

- Orphan drugs are medicinal products intended for diagnosis, prevention or treatment of life-threatening or very serious diseases or disorders **that are rare**.
- These drugs are called “orphan” because under normal market conditions the pharmaceutical **industry has little interest in developing and marketing products** intended for only a small number of patients.

### Patent

- Patents provide the **patent owner with the legal means** to prevent others from making, using, or selling the new invention for a limited period of time, subject to a number of exceptions.
- A patent only gives an inventor the right to prevent others from using the patented invention. It says nothing about whether the product is safe for consumers and whether it can be supplied.
- Patented pharmaceuticals still have to go through rigorous testing and approval before they can be put on the market.

### Section 3(d) of Indian Patent Act, 1970

- Section 3(d) of Indian Patent Act **prevents the “ever-greening” of patents**.
- It means that the following inventions are **not patentable**:
  - mere discovery of a new form of a known substance and which **does not result in increased efficacy** of that substance.
  - mere **discovery of any new property**.

- **new use** for a known substance.
- mere use of a **known process**, machine or apparatus unless such process results in a new product.
- This, in other words meant that India did not support inventions which were **minor modifications** and thus prevented undue monopoly during the extended period of patent protection by the inventor/company.

### Compulsory Licensing (CL)

- **CL** allows governments to **license third parties** (that is, parties other than the patent holders) to produce and market a patented product or process without the consent of patent owners.
- Any time after three years from date of sealing of a patent, application for compulsory license can be made, provided:
  - reasonable requirements of public have not been satisfied;
  - patented invention is not available to public at a reasonably affordable price;
  - Patented invention is not worked in India.
- The Union government issued this Order under **section 3 of the Essential Commodities Act, 1955**, to provide essential and life-saving medicines at a reasonable price to the general public.
- **Drug Price Control Orders (DPCO) (Ministry of Chemicals and Fertilizers)** lays down the rules for regulating the prices of medicines through a National List of Essential Medicines, known as **Schedule-I of DPCO** which is amended by the government from time to time.

### National List of Essential Medicines (NLEM)

- The first National List of Essential Medicines (NLEM) of India was **prepared and released in 1996**. This list was subsequently **revised in 2003 and 2011**.
- The list is prepared by the **Union Ministry of Health and Family Welfare**.
- Essential medicines are those that satisfy the priority health care needs of the population. These are selected with due regard to disease prevalence, evidence on efficacy and safety, and comparative cost-effectiveness.

### Background

- Earlier the US raised concerns about the Indian price controls on **coronary stents and knee replacement implants**, prices of which had been slashed by as much as 85% and 70%, respectively.

- The US announced that it was reviewing the **Generalized System of Preferences (GSP)** eligibility of India after the US dairy industry and the US medical device industry requested a review of India's GSP benefits, complaining that Indian trade barriers affected US exports in these sectors.

## Rajya Sabha Passes the Bill to Abolish the No Detention Policy

The Parliament has passed the **Right of Children to Free & Compulsory Education (Amendment) Bill, 2018**.

- The Bill seeks to amend the Right to Education Act, 2009 to abolish the no-detention policy in schools.

### Provisions of the Bill

- There shall be a **regular examination in the fifth class and in the eighth class** at the end of every academic year.
- If a child fails in the examination he shall be **given an opportunity for re-examination within a period of two months** from the date of declaration of the result.
- The **State Government may allow schools to hold back a child** in the fifth class or in the eighth class or in both classes if he fails in the re-examination.
- The **State Government may also decide not to hold back a child** in any class until the completion of elementary education.
- **No child shall be expelled from a school** till the completion of elementary Education.

### What is No Detention Policy?

- No Detention Policy states that no child admitted in a school shall be held back in any class or expelled till s/he completes elementary education, which is upto Class VIII.
- It is provided under Section 16 of Right of Children to Free and Compulsory Education Act, 2009 or Right to Education Act (RTE).

### Why was No Detention Policy introduced?

- The provision was made in the original Act because examinations were often used to hold back children who obtained poor marks.

- To reduce the higher dropout rate especially among economically marginalized communities - it was felt that compelling children to repeat a class was demotivating, often forcing them to abandon school.
- The No Detention Policy was supposed to be part of the larger continuous and comprehensive evaluation (CCE) effort which replaced the annual examination system.
- CCE mandates the assessment and evaluation of students' academic, social and personality development on a continuous basis.

### Challenges with No Detention Policy

- In 2016, Central Advisory Board of Education (CABE) had advised Human Resource Development Ministry for the scrapping of 'No Detention policy' on the ground that it was leading to lower learning outcomes.
- **Teachers were ill-equipped** to facilitate the implementation of the new methods of evaluation and in most cases the policy was interpreted as one that required no assessment at all. Less than 10% of the schools in the country are fully compliant with the RTE's requirements on infrastructure and teacher availability.
- The policy focused more on increasing the enrollment in elementary education and **compromised on the quality of basic education**.
- It led to **lackadaisical attitude among students towards their studies**, as they did not fear detention.
- **TSR Subramanian Committee on Education and the Vasudev Devnani Committee** formed under CABE had recommended the revocation of No Detention Policy.

### Way Forward

- Bringing back year-end examinations for Classes V and VIII and detaining students who fail will not improve learning outcomes on their own unless supported by other necessary changes in the educational ecosystem.
- The real solution to poor learning outcomes is improving quality of and access to education.
- Making teachers do their job better as well as fixing shortcomings in educational infrastructure and administration is the need of the hour.
- Raising the quality of classroom teaching, continuous monitoring of teacher attendance and introduction of free vocational and industrial skills training for all those with such an aptitude after elementary schooling should be the priority.



## Survey of Child Care Institutions

Recently, Ministry of Women and Child Development released a report, **Mapping of Child Care Institutions under the Juvenile Justice Act, 2015**.

- The report consists of findings of the survey conducted by **Childline India Foundation** and the **National Commission for Protection of Child Rights (NCPCR)** of 9,589 shelters homes/child care institutions.
- The study of the Mapping Exercise of the Child Care Institutions (CCIs)/Homes throws light on a critical component of the Juvenile Justice System i.e. functioning of CCIs/Homes across the country, in the context of the Juvenile Justice (Care and Protection of Children) Act, 2015 (JJ Act).

### Findings of the survey

- **Profile of CCIs/Homes**
  - Among the total Homes surveyed, there are mostly Children Homes and rest are Shelter Homes, Specialised Adoption Agency, Observation Homes, Special Homes, Swadhar Homes, Ujjawala, Place of Safety and Combination Homes nationwide.
  - Out of a total number of CCIs/Homes studied, 91% of the total CCIs/Homes, are run and managed by Non-Government Organisations, whereas, only 9% are Government supported Homes.
- **Profile of Children in CCIs/Homes**
  - The different categories of children residing in the CCIs/Homes included Children who are Orphan, Abandoned, Surrendered, Sexually Abused, Victim of Child Pornography, Trafficked for domestic work, Trafficked for labour/Rescued from Labour, Trafficked for Commercial Sexual Exploitation, Victims of Child Marriage, Children affected and infected by HIV/AIDS, Children affected by natural disasters as well as manmade disasters and conflict, and Homeless, Runaway/ Missing, Mentally and Physically Challenged Children.
- **Standard of Child Care Facilities**
  - Facilities for children like individual bedding, proper nutrition and diet, toys, hygiene and maintenance of the CCI/Homes, sufficient water, health check-ups, educational facilities based on the age and special needs of the child were not being adequately and satisfactorily addressed in many CCIs/Homes resulting in a failure to provide even the basic services to the children residing there.

### ➤ Lack of Grievance Redressal Mechanism

- The absence of various mechanisms for grievance redressal including management and children committees, thereby limiting and/or eliminating options available for children to express their views and concerns to the appropriate authorities.

### ➤ Human Resource

- With respect to the adequacy of staff, as per the norm, the highest percentage of CCIs/ Homes following the norms was found in Delhi and lowest in Sikkim.
- There is also a shortage of adequate staff both as per the norm and as per sanction across all the CCIs/Homes in India.

### ➤ Physical Infrastructure

- There is lack of security measures, such as a boundary wall, fencing, and a strong structure to ensure the safety of children and staff within the premises of many CCIs/Homes, including privacy in toilets and bathing areas.

### ➤ Lack of adherence to Juvenile Justice (Act and Rules) Procedure

### ➤ Financial Transparency

- Serious limitations were found with respect to financial transparency.
- Many CCIs/Homes do not have the necessary system for maintaining and documenting financial records.

## Recommendations

- There must be an **adequate representation** of the different categories of CCIs/ Homes under the ambit of the JJ Act.
- **Registration** must be made compulsory for all CCIs/ Homes to register under the JJ Act.
  - Record Keeping and Documentation must be carried out as a matter of practice in all Homes/ CCIs/Agencies.
- **Child Protection Policy** must be adopted in every CCI/Home, must be explained to and signed by each and every staff, management or adult dealing in any capacity with the CCI.
- **Human Resources:** The staff in the CCIs/Homes need to be properly trained to sensitively and efficiently deal with children and their issues, needs, problems, concerns, and safety.

- **Regular Monitoring and Action Taken Reports:** Regular inspections by the relevant authorities and appropriate action must be taken against CCIs/Homes not following norms.
- Intervention by the respective governments with the help of external agencies must be carried out to **regularize finances to bring about transparency** in the system.

## National Health Authority

The Union Cabinet has approved the restructuring of existing National Health Agency as “National Health Authority” with an aim to efficiently **implement Pradhan Mantri – Jan Arogya Yojana (PM-JAY)**.

- The National Health Authority will be an attached office to the Ministry of Health & Family Welfare and shall have full autonomy, accountability and the mandate to implement PM-JAY through an efficient, effective and transparent decision-making process.
- The NHA will be responsible for its operational guidelines, fixing the ceiling of premium amounts, and developing mechanisms for strategic purchase of healthcare from the private sector. It is also tasked with building a health information technology platform, and working with the Insurance Regulatory and Development Authority.
- The post of the National Health Agency, CEO will be upgraded to that of a Secretary to the Government of India with full financial powers.

### Pradhan Mantri Jan Arogya Yojana (PMJAY)

- PMJAY offers a sum insured of Rs. 5 lakh per family for secondary care (which doesn't involve a super specialist) as well as tertiary care (which does). For the beneficiaries, this is a free scheme.
- It is an entitlement-based scheme that targets the beneficiaries as identified by latest Socio-Economic Caste Census (SECC) data.
- Individuals can walk into any empanelled hospital that can process cashless payments.
- Once identified by the database, the beneficiary is considered insured.
- The insurance cost is shared by the centre and the state mostly in the ratio of 60:40.

- Empanelled hospitals agree to the packaged rates under PMJAY—there are about 1,400 packaged rates for various medical procedures under the scheme.
  - These packaged rates also mention the number of average days of hospitalization for a medical procedure and supporting documents that are needed.
  - These rates are flexible, but once fixed hospitals can't change it and under no circumstances can they charge the beneficiary. The scheme also has prescribed a daily limit for medical management.

## Deendayal Disabled Rehabilitation Scheme

Recently, the Department of Empowerment of persons with Disabilities, Ministry of Social Justice and Empowerment organised a regional conference on “**Deendayal Disabled Rehabilitation Scheme (DDRS)**” in Mumbai.

- It was the second of a series of Regional Conferences to be held across the country wherein Programme Implementing Agencies (PIAs) from the western region namely, Maharashtra, Madhya Pradesh, Gujarat and Goa participated.
- Since this scheme was **revised in 2018**, the Regional Conference was organized in order to **disseminate the provisions of the revised scheme and bring the Department closer to implementing agencies**.

### Deendayal Disabled Rehabilitation Scheme

- DDRS is a **Central Sector Scheme** of Government of India which is being implemented **since 1999** for providing financial assistance to **NGOs working** for education and rehabilitation of persons with disabilities.
- The objectives of the scheme are:
  - To create an enabling environment to ensure equal opportunities, equity, social justice and empowerment of persons with disabilities.
  - To encourage voluntary action for ensuring effective implementation of the **Right of Persons with Disabilities Act 2016**.
- NGOs are being **given assistance under DDRS** for providing a wide range of services to children/persons with disability, e.g.

- programmes for pre-school and early intervention
  - special education,
  - vocational training and placement
  - community based rehabilitation
  - manpower development
  - psychosocial rehabilitation of persons with mental illness
  - rehabilitation of leprosy-cured persons, etc.
- The "Scheme to Promote Voluntary Action for Persons with Disabilities" was **revised and was renamed** as the "Deendayal Disabled Rehabilitation Scheme (DDRS) from **April 2003**.

## Astana Declaration

In October 2018, the **World Health Organization (WHO)** organized **Global Conference on Primary Health Care: From Alma-Ata towards universal health coverage and the Sustainable Development Goals**, meeting at Astana, Kazakhstan.

- The Astana Declaration which was signed at the conference aims to meet all people's health needs across the life course through comprehensive preventive, promotive, curative, rehabilitative services and palliative care.
- The declaration has been **signed by all 194 WHO member states including India**.
- At the conference, countries declared their commitment to 'Primary Care' and reaffirmed their commitment to Alma Ata Declaration on Primary Health care signed in 1978.
- The Astana Declaration marks the **40th anniversary of the historical Alma Alta Declaration** that declared **health a human right for all** and not just a privileged few and urged the world to make **primary health care the mainstay of universal health coverage** in 1978.
- **India was a signatory to the Alma Ata Declaration in 1978 that assured 'health for all' by the year 2000.**

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# Miscellaneous

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## PARIVESH Portal

- **Gujarat government and other states** have operationalised '**PARIVESH**' (**Pro-Active and Responsive Facilitation by Interactive, Virtuous and Environmental Single-window Hub**) portal from January 15.
- PARIVESH is a **web-based, application** which has been developed for online submission and monitoring of the proposals submitted by the proponents for seeking Environment, Forest, Wildlife and Coastal Regulation Zones (CRZ) Clearances from Central, State and district level authorities.
- It automates the entire tracking of proposals which includes online submission of a new proposal, editing/ updating the details of proposals and displays status of the proposals at each stage of the workflow.
- This portal is developed under '**Digital India**' initiative by the **Ministry of Environment, Forest and Climate Change (MoEFCC)**.

## Rashtriya Yuva Sashaktikaran Karyakram

The Cabinet has approved the continuation of **Rashtriya Yuva Sashaktikaran Karyakram** Scheme for the Period 2017-18 to 2019-2020.

- The umbrella scheme of Rashtriya Yuva Sashaktikaran Karyakram has subsumed the following **eight sub-schemes**:
  - Nehru Yuva Kendra Sangathan (NYKS);
  - National Youth Corps (NYC);

- National Programme for Youth & Adolescent Development (NPYAD);
- International Cooperation;
- Youth Hostels (YH);
- Assistance to Scouting & Guiding Organizations;
- National Discipline Scheme (NDS); and
- National Young Leaders Programme (NYLP).
- The Rashtriya Yuva Sashaktikaran Karyakram Scheme is a **Central Sector Scheme of the Ministry of Youth Affairs & Sports** and has been continuing since the **12th Five Year Plan (2012-17)**.
- It aims to **develop the personality and leadership qualities of the youth and to engage them in nation building activities**.
- The Scheme beneficiaries are the youth in the age group of 15-29 years, in line with the definition of 'youth' in the National Youth Policy, 2014. In the case of programme components specifically meant for the adolescents, the age group is 10-19 years.

## National Museum of Indian Cinema (NMIC)

India's first National Museum of Indian Cinema (NMIC) was inaugurated in **Mumbai**.

- The National Museum of Indian Cinema is a storehouse of information to laymen and it **also helps filmmakers, film students, enthusiasts and critics** to know and **evaluate the development of cinema** as a medium of artistic expression, not only in the country but also in all parts of the world.



- The museum is **housed in a 19th-century heritage bungalow, Gulshan Mahal**, along with another newly built state-of-the-art NMIC building.
- The new museum building has **four exhibition halls**, whose themes are:
  - Gandhi and Cinema;
  - Technology, Creativity and Indian cinema;
  - Cinema across India;
  - Children's Film Studio.
- **Raja Harishchandra made by Dadasaheb Phalke in 1913** was the **first silent feature film in India** and **Ardeshir Irani's Alam Ara in 1931** was the first feature film with sound.

## Kadaknath Chicken

Recently the Krishi Vigyan Kendra in Jhabua, Madhya Pradesh has urged the Board of Control for Cricket in India (BCCI) to include Kadaknath chicken in players' regular diet.

- Kadaknath or "**Kali Masi**" is one of the rarest poultry breeds of India which is **native to Jhabua district of Madhya Pradesh, India**.
- Kadaknath chicken from Madhya Pradesh was granted a **Geographical Indication (GI) tag by the government registry in 2017**.
- It is **popular for its black meat** which is famous for its meat quality, texture, taste, and excellent medicinal values.
- Kadaknath chicken **contains 25-27% of the protein** in comparison with other breeds of chickens that contain 18% protein. It is also known for its **high iron content**.
- It has **lower levels of fat and cholesterol content compared with other chicken breeds**.
- Kadaknath chickens are mainly **reared by tribal communities in the districts Jhabua and Dhar** in the state of Madhya Pradesh.

### What is GI tag?

- The GI tag is an indication which is definite to a geographical territory.
- It is used for agricultural, natural and manufactured goods.
- For a product to get a GI tag, the goods need to be produced or processed or prepared in that region. It is also essential that the product has a special quality or reputation.
- The Geographical Indications of Goods (Registration and Protection) Act, 1999 provides registration and also protection of GI goods in India.

## Renewables 2018 Global Status Report

- **Renewable Energy Network for the 21st Century (REN21)** has released the **Renewables 2018 Global Status Report**.
- As of 2016, renewable energy accounted for an **estimated 18.2% of global total final energy consumption**, with modern renewables representing 10.4%.
- India **ranked fifth in renewable power (including hydropower) and fourth (not including hydropower) as of end 2017**.
- According to the Ministry of New and Renewable Energy, a total of around 73.35 GW of renewable energy capacity has been installed in the country up till October 2018.
- This includes around 35 GW from Wind, 24 GW from solar, 4.5 GW from Small Hydro Power and 9.5 GW from Bio-power.

## 106th Indian Science Congress

- The **106th edition of the Indian Science Congress (ISC)** was inaugurated at **Lovely Professional University (LPU) in Phagwara, Jalandhar Punjab**.
- The theme for ISC-2019 was '**Future India - Science and Technology**'.
- In his inaugural speech, the Prime Minister added '**Jai Anusandhan**' to former prime minister Lal Bahadur Shastri's famous slogan of Jai Jawan, Jai Kisan and Atal Bihari Vajpayee's Jai Vigyan to give a **new slogan – Jai Jawan, Jai Kisan, Jai Vigyan and Jai Anusandhan**.
- A **time capsule containing 100** items representing India's scientific prowess and the range of technology available in the modern world was lowered down to the ground to preserve a glimpse of present day India for future generations.
- The previous (2018), i.e. **105th edition was held in Imphal (Manipur University)**.

### Indian Science Congress (ISC)

- The Indian Science Congress Association (ISCA) owes its origin to the foresight and initiative of **two British Chemists, namely, Professor J.L. Simonsen and Professor P.S. MacMahon**.
- The first meeting of the Congress was held from **January 15-17, 1914 at the premises of the Asiatic Society, Calcutta**.

## #WebWonderWomen

**Twitter India and Ministry of Women and Child Development**, in partnership with human rights organization Breakthrough, has launched the campaign **#WebWonderWomen** to **celebrate Indian women achievers**.

- Under the campaign, **people can nominate their favourite Indian woman achiever** with her Twitter handle, anywhere in the world.
- The women can be nominated under the following categories: **health, media, literature, art, sports, tech, travel, business, legal/policy, governmental, entertainment, fashion/beauty, finance, food and environment**.

## Know India Programmes (KIP)

The 51st edition of **Know India Programmes (KIP)** was conducted from January 5th to 29th 2019 in partnership with Gujarat.

- The KIP is a **25-day orientation programme** organized by the **Ministry of External Affairs** in partnership with the states of India.
- It's objectives are:
  - **Engage the students and young professionals of the Indian diaspora** in the age group of 18 to 30 to connect with India.
  - To **motivate and inspire young minds and to give them an exposure to various aspects of India's art, heritage and culture** and to promote awareness about different facets of life in the country and the progress made by India in various fields.
- The **scheme was launched in 2004**, and since then the Ministry of External Affairs has conducted 49 editions of KIP in which more than 1600 Indian youth have participated from overseas.

## Raisina Dialogue 2019

Recently, **Raisina Dialogue conference was concluded in New Delhi**.

- The theme of the Dialogue was **"A World Reorder: New Geometries; Fluid Partnerships; Uncertain Outcomes"**.
- The Raisina Dialogue is a multilateral conference committed to addressing the most challenging issues facing the global community.
- The Dialogue is structured as a multi-stakeholder, cross-sectoral discussion, involving heads of state, cabinet ministers and local government officials, as well as major private sector executives, members of the media and academics.
- The conference is hosted by the **Observer Research Foundation** in collaboration with the **Government of India, Ministry of External Affairs**.

## Farm to Port Project

The **United Arab Emirates (UAE) and Saudi Arabia** had decided to use India as a base to address their food security concerns. To implement this, India has announced a **Farm-To-Port Project**.

- The farm-to-port project is similar to a special economic zone but in the style of a corporatized farm, where crops would be grown keeping in mind the requirements of UAE and Saudi Arabia's market.
- For the first time, India's export policy identifies the potential of agriculture along with horticulture, dairy, plantation and fisheries.
- Exporting the produce will give a boost to farm income. If successful, it would create a whole new sector for agro-industries.

## India's Largest Startup Ecosystem

One of country's largest startup ecosystems with 1.8 lakh sq ft. facility housing incubation infrastructure across a series of sectors in technology was **launched in Kerala**.

- The Integrated Startup Complex under the **Kerala Startup Mission (KSUM)** includes ultra modern facilities in fields such as biotechnology, computer-aided design, augmented/virtual reality and advanced communication.

## National Youth Day

- The National Youth Day is observed every year on **January 12**, to mark the birth anniversary of **Swami Vivekananda**.
- The **first edition** of National Youth Day was celebrated in the year **1985**.
- **International Youth Day** is celebrated on **12th August**.

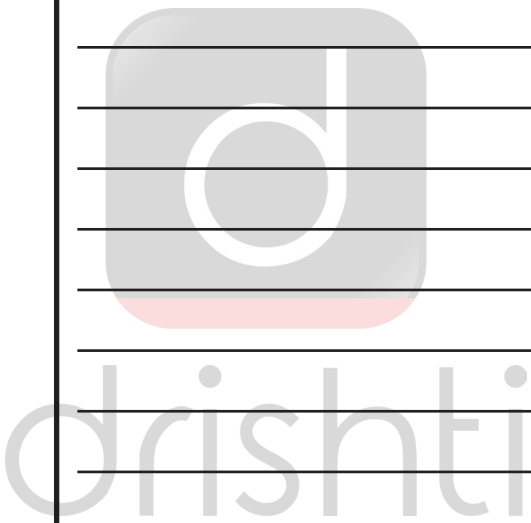
### Swami Vivekananda

- Swami Vivekananda was born Narendra Nath Datta, on January 12, 1863.
- He was a monk and chief disciple of Ramakrishna Paramhansa.
- He introduced Indian philosophies of Vedanta and Yoga to the Western world and is credited with raising interfaith awareness, bringing Hinduism to the world stage during the late 19th century.
- He established Ramakrishna Mission in 1987, named after his Guru Swami Ramakrishna Paramhansa. The institution did extensive educational and philanthropic work in India.
- He also represented India in the first Parliament of Religion held in Chicago (U.S.) in 1893.



**Key Points**

**Details**

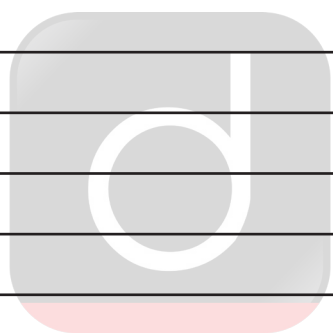


**Summary**



## Key Points

## Details



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## Summary



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# Current Affairs (CONSOLIDATION)

**16-31<sup>th</sup>  
JANUARY 2019**

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# Polity and Governance

## Highlights

- DGP Appointment (1)
- Cabinet Decides to Strengthen NE Autonomous Councils (2)
- Protests in Mizoram over Citizenship Bill (3)
- Making our Elections Inclusive and Accessible (4)

## DGP Appointment

The Supreme Court (SC) has **rejected the pleas** made by five States to implement their own local laws for selection and appointment of their Directors General of Police (DGP).

The court said its directions were issued in **larger public interest** and to protect **the police officials from political interference**.

- The petition was filed by Punjab, Kerala, West Bengal, Haryana and Bihar for modification of the apex court order in the procedure to be followed for appointment of Directors General of Police (DGP).
- The SC also asked the **Union Public Service Commission** whether it was preparing **panels of senior IPS officers** for each state to **pick its DGP in the last 10 years**, i.e. in sync with its 2006 guidelines given in Prakash Singh case.
- Most states **did not follow the SC judgment** and enacted laws doing away with the panel of names recommended by UPSC. The state laws instead provided for an **in-house committee to provide a panel of senior IPS officers** of the state cadre from whom the government could pick its choice.

### Background

- The judgement is the **follow up of December 12, 2018**, order wherein the SC agreed to hear the States' pleas seeking to **implement their local laws** regarding the **selection and appointment of the police chief**.
- Earlier In July 2018, the Supreme Court had **refrained State governments** from appointing DGPs without first consulting the Union Public Service Commission (UPSC). It came up with the following guidelines:
  - The State governments concerned have to **send UPSC the names of the probables three months before** the incumbent DGPs are to retire.

- The UPSC will prepare a **panel of three officers** fit to be DGP and send it back.
- The UPSC shall, as far as practicable, choose the people within the zone of consideration who have got a **clear two years of service** and must give **due weightage to merit and seniority**.
- The State, in turn, shall **"immediately" appoint one of the persons** shortlisted by the UPSC.
- On the practice of States appointing "Acting DGPs", the court **rejected the idea of acting or temporary DGPs**, i.e.. States shall appoint a person as **permanent DGP**.
- The court also ruled that **any rule or state law on the subject of appointment of police officers** will be kept in suspension. However, the States, which have made laws on police appointments, can move to court seeking modifications of its order.
- The court had passed the series of directions on an application made by the Centre for modification of its judgement in **Prakash Singh case of 2006 for reforms and transparency in the State police forces**.

### Prakash Singh Case

- In **Prakash Singh case of 2006**, the Supreme Court **gave 7 directives** with a view to bring in police reforms.
- While passing these directives the Court put on record the deep rooted problems of politicization, lack of accountability mechanisms and systemic weaknesses that have resulted in poor all round performance and fomented present public dissatisfaction with policing. The directives are:
  - **Constitute a State Security Commission (SSC) to:**
    - Ensure that the State government does not exercise unwarranted influence or pressure on the police,

- Lay down broad policy guideline and
- Evaluate the performance of the state police.
- Ensure that the **DGP** is appointed through **merit based transparent process** and secure a **minimum tenure of two years**.
- Ensure that other police officers on operational duties (including **Superintendents of Police** in-charge of a district and **Station House Officers** in-charge of a police station) are **also provided a minimum tenure of two years**.
- Separate the **investigation and law & order functions of the police**.
- Set up a **Police Establishment Board (PEB)** to decide transfers, postings, promotions and other service related matters of police officers of and below the rank of Deputy Superintendent of Police and make recommendations on postings and transfers above the rank of Deputy Superintendent of Police.
- Set up a **Police Complaints Authority (PCA) at state level** to inquire into public complaints against police officers of and above the rank of Deputy Superintendent of Police in cases of serious misconduct, including custodial death, grievous hurt, or rape in police custody and at district levels to inquire into public complaints against the police personnel below the rank of Deputy Superintendent of Police in cases of serious misconduct.
- Set up a **National Security Commission (NSC)** at the union level to prepare a panel for selection and placement of Chiefs of the Central Police Organisations (CPO) with a minimum tenure of two years.

### Way Forward

- The Judgment limits significantly the discretion enjoyed by the political executive in the matter of transfers.
- The police force should be **insulated from political encroachment** into its hierarchy.
- Arbitrary appointment and posting challenges the ethics of public services from political class on one hand and creates instability in the administration. Moreover, this also makes officers in services vulnerable to **political interference, pressure and favoritism leading to corruption in long run in pursuit of power, praise and money**.

## Cabinet Decides to Strengthen NE Autonomous Councils

Cabinet has approved the **amendment to Article 280 and the sixth schedule to the Constitution** in order to increase powers of Autonomous Councils in Sixth Schedule areas of North East (NE).

- The sixth schedule to the Constitution includes **10 autonomous district councils of Assam, Meghalaya, Mizoram and Tripura**.

The 10 autonomous councils **among the 4 states** under schedule six to the Constitution are:

### Assam

- Bodoland Territorial Council
- Karbi Anglong Autonomous Council
- Dima Hasao Autonomous District Council

### Meghalaya

- Garo Hills Autonomous District Council
- Jaintia Hills Autonomous District Council
- Khasi Hills Autonomous District Council

### Tripura

- Tripura Tribal Areas Autonomous District Council

### Mizoram

- Chakma Autonomous District Council
- Lai Autonomous District Council
- Mara Autonomous District Council

### Sixth Schedule

- The Sixth Schedule of the Constitution deals with the **administration of the tribal areas in the four northeastern states** of Assam, Meghalaya, Tripura and Mizoram as **per article 244**.
- The **Governor is empowered** to increase or decrease the areas or change the names of the autonomous districts. While executive powers of the Union extend to Scheduled Areas with respect to their administration in 5th schedule, the 6th schedule areas remain within executive authority of the state.
- The acts of Parliament or the state legislature do **not apply to autonomous districts** and autonomous regions or apply with specified modifications and exceptions.
- The Councils have also been endowed with wide **civil and criminal judicial powers**, for example establishing village courts etc. However, jurisdiction of these councils is subject to **jurisdiction of the concerned High Court**.

Note:

### Approved Amendments

- Amendment of Article 280 **mandates the Finance Commission to recommend devolution of financial resources**. This will significantly improve the financial resources and powers of the autonomous district councils.
- Transfer of **additional 30 subjects**, including departments of Public Works, Forests, Public Health Engineering, Health and Family Welfare, Urban Development and Food and Civil Supply to Karbi Anglong Autonomous Territorial Council and Dima Hasao Autonomous Territorial Council in Assam.
- **Renaming of few existing autonomous councils** as the present jurisdiction of these councils extend to more than one districts.
- **Increase in seats** in Karbi Anglong Autonomous Council (from 30 to 50 seats), Dima Hasao Autonomous District Council (30 to 40 seats), Garo Hills Autonomous District Council (30 to 42), Khasi Hills Autonomous District Council (30 to 40) and Jaintia Hills Autonomous District Council (30 to 34).
- Provide for **elected village municipal councils** which will be empowered to prepare plans for economic development and social justice, including those related to agriculture, land improvement, implementation of land reforms, minor irrigation, water management, animal husbandry, rural electrification, small scale industries and social forestry.
- Elections to these **village and municipal councils** will be conducted by the State Election Commission. There will be a provision for anti-defection too.
- Reservation of at least **one-third of seats for women** in the village and municipal councils in the sixth schedule areas of Assam, Mizoram and Tripura.
- At least **two nominated members** in all autonomous councils will be women.
- **Meghalaya** has for the time being **kept out of the purview** of the provision for elected village and municipal councils and one-third reservations for women.

### Protests in Mizoram over Citizenship Bill

Apart from the other Northeastern states recently, **Mizoram has also witnessed massive demonstrations** over the **Citizenship (Amendment) Bill 2016**.

- This protest was organised by the influential Mizo Zirlai Pawl (MZIP) which is a **Mizo multinational student organization** and apex students body in Mizoram state.

#### Citizenship (Amendment) Bill 2016

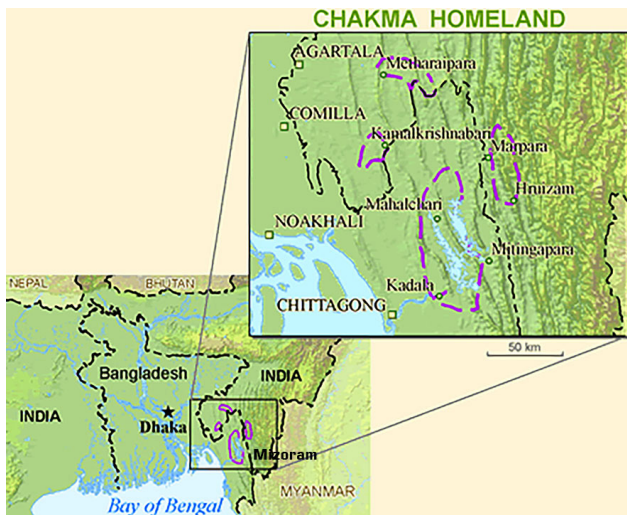
- The Bill amends the Citizenship Act, 1955 to make illegal migrants who belong to certain religious minorities (Hindus, Sikhs, Buddhists, Jains, Parsis and Christians) from Afghanistan, Bangladesh and Pakistan, eligible for citizenship.
- The Bill seeks to reduce the requirement of 11 years of continuous stay in the country to six years to obtain citizenship by naturalization for these communities belonging to these 3 nations.
- The Bill provides that the registration of Overseas Citizen of India (OCI) cardholders may be cancelled if they violate any law.

#### Reasons for Protest

- In Mizoram, the **concern is not about Hindu immigrants from Bangladesh** like in Assam, Meghalaya and Tripura but about **Chakmas, a tribal and largely Buddhist group**.
- The Chakmas are present in parts of the Northeast, and the **Chittagong Hill Tracts of Bangladesh**, with which **Mizoram shares an international border**.
- The state has seen **ethnic violence**, with instances of arson, names of Chakmas being struck off voters' lists, and denial of admission to Chakma students in college.
- MZIP which is leading the current agitation, have often cited figures they attribute to the Census. In 1901, there were only 198 Chakmas in Mizoram and by 1991 it was over 80,000.
- **According to MZIP the growth rate is far more than normally possible** which proves that there has been **influx from Bangladesh**.
- At the same time Chakma activists cite a **2015 report** submitted by the government of Mizoram to the **National Human Rights Commission (NHRC)** according to which the **legitimacy of the Census figures between 1901 and 1941 cannot be ascertained** as the same are not available with the Census Directorate, Mizoram.
- The report cites Census data that puts the Chakma population at 15,297 in 1951 and 96,972 in 2011.

Note:

### Who are Chakmas?



- The Chakmas are **ethnic people who lived in the Chittagong Hill Tracts, most of which are located in Bangladesh.**
- Chakmas are predominantly Buddhists. They are found in northeast India, West Bengal, Bangladesh, and Myanmar.
- The **Chakmas living in India are Indian citizens.** Some of them, mostly from Mizoram, live in relief camps in southern Tripura due to tribal conflict with Mizos. These Indian Chakmas living in Tripura take part in Mizoram elections too. The Election Commission sets up polling booths in relief camps.
- The Chakmas living in the Chittagong Hill Tracts fled erstwhile East Pakistan in 1964-65, since they lost their land to the development of the **Kaptai Dam** on the **Karnaphuli River.**
- They also faced religious persecution as they were non-Muslims and did not speak Bengali. They eventually sought asylum in India. The Indian government set up relief camps in Arunachal Pradesh and a majority of them continue to live there even after five decades. (According to the 2011 census, 47,471 Chakmas live in Arunachal Pradesh alone).

### Problem With Chakmas in Arunachal Pradesh

- In the 1960s, the **Chakma refugees were accommodated** in the relief camps constructed in the "vacant lands" of **Tirap, Lohit and Subansiri districts** of the erstwhile **North-East Frontier Agency (NEFA)**, a political division governed by the Union government.
- In **1972, NEFA was renamed Arunachal Pradesh** and made a Union Territory, and subsequently, it attained statehood.

- The **locals and regional political parties have opposed resettling refugees** in their land fearing that it may change the demography of the State and that they may have to share the limited resources available for them.

### Inclusion of Chakmas in Bangladesh

- The **Chakmas opposed their inclusion in undivided Pakistan during Partition.** They later **opposed their inclusion in Bangladesh** when East Pakistan was fighting the Liberation War with West Pakistan, on grounds that they are an ethnic and religious minority group.
- A group of Chakmas resorted to armed conflict with Bangladeshi forces under the name 'Shanti Bahini'. The conflict increased the inflow of refugees to India.
- In **1997, the Bangladeshi government headed by Sheikh Hasina signed a peace accord with the Shanti Bahini,** which resulted in the **end of the insurgency.**
- According to the accord, the Chakma, Marma, Tripura, Murang and Tanchangya were acknowledged as tribes of Bangladesh entitled for benefits and a Regional Council was set up to govern the Hill Tracts. The agreement also laid out plans for the return of land to displaced natives and an elaborate land survey to be held in the Hill Tracts.
- **Bangladesh was willing to take back a section of Chakma refugees living in India,** but most of them were **unwilling, fearing the return of religious persecution.**

### Granting Citizenship to Chakmas

- In **2015, the Supreme Court directed the Centre to grant citizenship to Chakmas** who had migrated from Bangladesh in 1964-69.
- Following this, the Centre introduced amendments to the Citizenship Act, 1955.
- The Bill is criticized for making illegal immigrants eligible for citizenship on the basis of religion, which is a violation of Article 14 of the Constitution.

## Making our Elections Inclusive and Accessible

The Election Commission of India (ECI) organised the **International Conference on 'Making our Elections Inclusive and Accessible'** on the occasion of **9<sup>th</sup> National Voters Day** which is observed on **25<sup>th</sup> January every year.**



- The **National Voters' Day** is celebrated all over the country every year **since 2011** to mark the **Foundation day of Election Commission of India, which was established on 25<sup>th</sup> January 1950**.
  - The main purpose of the celebration is to encourage, facilitate and maximize the enrollment, especially for the new voters.
  - The **theme** of National Voters' day 2019 was **"No Voter to be Left Behind"**.
- To mark the occasion, ECI also released the January 2019 issue of its **Quarterly Magazine 'VOICE International'**. The magazine carries rich experiences for knowledge sharing on 'Inclusive and Accessible Elections' across the democracies around the world.
- On the sidelines of the Conference ECI also renewed the Memorandum of Understanding (MOU) for cooperation in the field of election management with the **Election Commission of Bhutan**.

- ECI also highlighted its flagship programme, **Systematic Voters' Education and Electoral Participation (SVEEP)** for enhancing inclusion among various categories of voters and to encourage their electoral participation.

#### **Systematic Voters' Education and Electoral Participation (SVEEP)**

- SVEEP, **started in 2009** is the flagship programme of the Election Commission of India for voter education, **spreading voter awareness and promoting voter literacy in India**.
- SVEEP is designed according to the socio-economic, cultural and demographic profile of the state as well as the history of electoral participation in previous rounds of elections and learning there of.



# Economic Scenario

## Highlights

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## World Economic Forum Annual Meeting 2019

Recently, the five-day World Economic Forum Annual Meeting 2019 ended with discussions on imminent challenges faced by the global economy, including climate change, growing inequality, and US-China trade tensions.

- This year's theme was **Globalisation 4.0**, which includes a strong cultural dimension.
  - Globalisation is a phenomenon driven by technology and the movement of ideas, people, and goods. While Globalism is an ideology that prioritizes the neoliberal global order over national interests.
- A '**Digital Declaration**', which calls on businesses to respect the privacy of digital citizens; handle personal data securely and transparently; take meaningful steps to mitigate cyber threats, and ensure everyone can participate in the digital economy as it develops whilst combating online harassment, was also signed.

### Waves of Globalisation

- **Globalisation 1.0** was pre-World War 1 globalisation, which was launched by a historic drop in trade costs when steam and other forms of mechanical power made it economical to consume goods made far away.
  - This globalization came with almost no government support.
  - There was no global governance.

- **Globalisation 2.0** is the post-World War II phase where trade in goods was combined with complimentary domestic policies.

- The market was in charge of efficiency while the government was in charge of justice.
- Internationally, Globalisation 2.0 saw the establishment of institute-based, rule-based international governance, specifically the UN, IMF, World Bank, GATT/WTO and many specialized agencies like the Food and Agricultural Organisation and International Labour Organisation.

- **Globalisation 3.0 or hyperglobalization, as termed by Arvind Subramanian** created a new world of manufacturing in which high-tech was combined with low wages. This meant factories crossing borders.

- **Globalisation 4.0** is a new stage of globalization which involves cutting-edge new technologies like artificial intelligence that powers forward with the explosion of Information Technology (IT).

### World Economic Forum (WEF)

- The World Economic Forum (WEF) is a **Swiss nonprofit foundation established in 1971**, based in Geneva, Switzerland.
- Recognised by the Swiss authorities as the international institution for **public-private cooperation**, its mission is cited as, "committed to improving the state of the world by engaging business, political, academic, and other leaders of society to shape global, regional, and industry agendas".

Note:

- Founder and Executive Chairman – **Klaus Schwab**.
- Some major reports published by WEF are:
  - **Global Competitiveness Report**
    - This monitors the performance of countries based on a set of 12 categories called '**pillars of competitiveness**', namely institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market development, technological readiness, market size, business application and innovation.
  - **Global IT Report**
    - WEF along with INSEAD, and Cornell University publishes this report which examines the increasing proliferation of technology and its effects on advancing global prosperity.
  - **Global Gender Gap Report**
  - **Global Risk Report**
    - It enlists the threats which the world will face in future ranging from geopolitical and geo-economic tensions to environmental degradation and disruptions of the Fourth Industrial Revolution.
  - **Global Travel and Tourism Report**
    - It measures set of factors and policies that enable sustainable development of travel and tourism sector.

## Declining Pepper Price

A steep **fall in the price of pepper** in the harvest season and low production owing to climate vagaries are the major concerns of **pepper growers (Kerala and Karnataka)** in South India.

### Reasons for Decline in Price

- **Torrential rain** a few months ago in pepper-growing areas of Kerala and Karnataka caused a sharp decline in crop production.
- **High moisture content** owing to the rains has **triggered fungal diseases like quick wilt and soft wilt** and has massively destroyed the pepper crop.

- **Cheaper pepper from Vietnam** continues to flood the market through Sri Lanka, and **aided by a low-duty structure** under the ASEAN (Association of Southeast Nations) trade agreement, **SAFTA** (South Asian Free Trade Agreement) and **ISFTA** (Indo-Sri Lanka Free Trade Agreement) are the major reasons for the declining price.
  - Major pepper consuming markets such as Patna, Ranchi, Lucknow, Varanasi, Indore, Delhi etc have been flooded with cheap Vietnamese pepper imported illegally as Sri Lankan produce through the borders of Nepal, Myanmar and Bangladesh.

### Remedial Measures

- The Ministry of Commerce and Industry had imposed a **minimum import price** (*minimum price per tonne that Indian firms have to pay while importing products into India*) on pepper in 2018 to protect domestic pepper farmers but it is yet to make any positive impact.
- The **Indian Pepper and Spice Traders, Farmers, Producers and Planters Consortium (IPSTPC)** had urged the Commerce Ministry to **remove black pepper from SAFTA and ISFTA import list** in order to save domestic growers but it is yet to be considered.

### South Asia Free Trade Agreement (SAFTA)

- The South Asia Free Trade Agreement (SAFTA) was agreed to among the seven South Asian countries that form the South Asian Association for Regional Cooperation (SAARC): Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.
- It was formed at 12<sup>th</sup> SAARC summit in Islamabad, Pakistan in 2004.
- SAFTA replaces the earlier South Asia Preferential Trade Agreement (SAPTA) and aims to reduce tariffs in order to promote intraregional trade among the SAARC members.

## RBI Eases External Commercial Borrowing Framework

The Reserve Bank of India (RBI) has drawn up a **new External Commercial Borrowing (ECB) framework** in order to further **improve the ease of doing business in India**.

- The new framework came into effect immediately (From January, 2019).

**External Commercial Borrowings (ECB)**

- External Commercial Borrowings is a **loan availed by an Indian entity** from a nonresident lender with a **minimum average maturity**.
- Most of these loans are provided by foreign commercial banks buyers' credit, suppliers' credit, securitized instruments such as Floating Rate Notes and Fixed Rate Bonds etc.
- **Advantages of ECBs:**
  - ECBs provide opportunity to **borrow large volume of funds**.
  - The funds are available for **relatively long term**.
  - Interest rate are also **lower compared to domestic funds**.
  - ECBs are in the form of foreign currencies. Hence, they enable the corporate to have foreign currency to meet the import of machineries etc.
  - Corporate can raise ECBs from internationally recognized sources such as banks, export credit agencies, international capital markets etc.

**New Framework**

- The **RBI kept the borrowing limit under the automatic route** unchanged at \$750 million per financial year but replaced the sector-wise limits.
- RBI has **expanded the definition of beneficiaries eligible** for ECBs to include all entities that can receive foreign direct investment. Among those now eligible are: port trusts, units in special economic zones, microlenders, not-for-profit companies, registered societies/trusts/cooperatives and non-government organisations.
- The Export-Import Bank (EXIM) and the Small Industries Development Bank of India (SIDBI) has been allowed to borrow overseas from recognised lenders.
- The previous four-tier structure has been replaced by **two specific channels: dollar and rupee-denominated ECBs**.
  - Earlier, there was a distinction between foreign currency ECBs based on maturity. One was maturity period of three to five years and the other of 10 years. Both have been subsumed into foreign currency-denominated ECBs.
  - Indian rupee-denominated overseas borrowings with similar sets of maturities have also been combined into a single rupee- denominated ECBs.

- To curb volatility in the forex market arising out of dollar demand for crude oil purchases, the framework provides a **special dispensation to public sector oil marketing companies**.
  - It allows them to raise ECB, with an overall ceiling of \$10 billion, for working capital purposes with a **Minimum Average Maturity Period (MAMP) of three years** under the automatic route without mandatory hedging and individual limit requirements.
- The RBI has decided to keep the **minimum average maturity period at 3 years** for all ECBs, irrespective of the amount of borrowing, except for borrowers **specifically permitted to borrow for a shorter period**, like manufacturing companies.
  - Earlier, the minimum average maturity period was five years.
  - Further, if the ECB is raised from a foreign equity holder and **utilised for working capital, general corporate purposes or repayment of rupee loans, the maturity period will be five years**.
- Any entity who is a resident of a country which is Financial Action Task Force (FATF) compliant, will be treated as a recognised lender.
  - This change increases lending options and allows various new lenders in ECB space while strengthening the anti money laundering/combating the financing of terrorism framework.
- The **negative list**, for which the ECB proceeds cannot be utilised, would include **real estate activities, investment in capital market, equity investment, working capital purposes (except from foreign equity holder), repayment of Rupee loans (except from foreign equity holder)**.
- Earlier in November, 2018 RBI also eased **Hedging Norms for External Commercial Borrowings** to make the ECB route attractive to firms.

## UK Sinha Panel on "Group Insolvency"

The Insolvency and Bankruptcy Board of India (IBBI) has set up a **11-member working group under the Chairmanship of former SEBI chief UK Sinha** to go into the concept of 'Group Insolvency' and suggest a suitable framework.



- At present, the **Insolvency and Bankruptcy Code (IBC)** provides for the resolution or liquidation of only individual stressed companies. So a framework within the IBC is sought to be created for the resolution/liquidation of an entire stressed corporate group having several entities in **multiple National Company Law Tribunal (NCLT) jurisdictions**.
- 'Group Insolvency' process may be useful where two or more applications are pending in the same court against debtors in the same Group, such debtor group or creditors of such debtor group can seek joint proceedings.
- The Insolvency and Bankruptcy Code, 2016 has been the **most successful mechanism to recover debt**.
  - According to a recent RBI report, the average recovery by banks, based on the **amount filed through the IBC, was 41.3% in FY18**, against just 12.4% through other mechanisms such as the SARFAESI Act, Debt Recovery Tribunals and Lok Adalats.

### **Insolvency and Bankruptcy Board of India (IBBI)**

- The Insolvency and Bankruptcy Board of India was **established in 2016** under the Insolvency and Bankruptcy Code, 2016.
- It is responsible for implementation of the Code that consolidates and amends the laws relating to reorganization and insolvency resolution of corporate persons, partnership firms and individuals in a time bound manner for maximization of the value of assets of such persons, to promote entrepreneurship, availability of credit and balance the interests of all the stakeholders.
- It regulates a profession as well as processes.
- It has **regulatory oversight** over the Insolvency Professionals, Insolvency Professional Agencies, Insolvency Professional Entities and Information Utilities.

### **Existing Laws for Recovering Debts**

- **Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 (SARFAESI):** Lender can take possession of the assets kept as security over non-repayment of loans.
- **Prevention of Money Laundering Act (PMLA), 2002:** Proceeds of the crime are attached by the Enforcement Directorate.

- **Recovery of Debts due to Banks and Financial Institutions Act, 1993:** A debt recovery tribunal can pass orders for the attachment of assets that were given as security on nonpayment of dues/loans.

#### **Note:**

Earlier in January 2019, the Reserve Bank of India (RBI) had set up an eight-member expert committee under former **SEBI chairman U.K. Sinha** to understand the structural bottlenecks and factors affecting the performance of the Micro, Small and Medium Enterprises (MSME).

## **Odisha Government's KALIA Scheme**

KALIA or "**Krushak Assistance for Livelihood and Income Augmentation**" scheme was launched by the Odisha Government for farmers welfare.

- The aim of the scheme is to **accelerate agricultural prosperity and reduce poverty** for encouraging cultivation and associated activities.
- The scheme is being seen as a viable **alternative to farm loan waivers**.
- Under the scheme, around ₹ 10,180 crores will be spent over three years until 2020-21 in providing financial assistance to cultivators and landless agricultural laborers.

### **Eligibility**

- **Small and marginal farmers, landless agricultural household, vulnerable agricultural household, landless agricultural laborers and sharecroppers** (actual cultivators) are eligible under different components of the scheme.

### **Provision of the Scheme**

- **For Cultivators:** All farmers will be provided ₹ 25,000 per family as assistance for cultivation over five seasons. Each family will get ₹ 5,000 separately in the Kharif and Rabi, seasons, for five cropping seasons between 2018-19 and 2021-22. Crop loans up to ₹ 50,000 are interest-free.
- **For Landless Agricultural Households:** Financial Assistance of ₹ 12,500 will be provided to each landless Agricultural Household for Agricultural allied activities like for small goat rearing unit, mini-layer unit, duckery units, fishery kits for fisherman, mushroom cultivation and bee-keeping, etc.

- **For Elderly:** The elderly, sick and differently-abled population who are unable to take up cultivation, will be provided ₹ 10,000 per household per year.
- **Insurance for cultivators and landless agricultural household:** The KALIA scheme also includes a life insurance cover of ₹ 2 lakh and additional personal accident coverage of the same amount for 57 lakh households.

### Advantages of KALIA scheme

- KALIA **targets a whole** bunch of rural activities.
- KALIA scheme **supports farmers farming on a small scale, sharecropping, fishing, animal herding, which are not covered under bank loans**, but are caught in debt traps set up by local moneylenders.
- KALIA is considered as a **better alternative to farm loan waiver as loan waivers can be disadvantageous to honest farmers** who repay on time and can discourage them from doing so.

## Future of Work: ILO

Recently **International Labour Organization (ILO)**'s Global Commission on the **Future of Work** has published Future of work report 2019 titled "**Work for a brighter future**".

- The report calls on governments to take steps to address the challenges caused by unprecedented transformations going on in the world of work.

### Key Findings

- According to ILO, Globally **190 million people are unemployed**, while **300 million workers live in extreme poverty**. At the same time wage gaps are growing at a time of declining wage growth.
- Technological advances – **artificial intelligence, automation and robotics** – will create new jobs, but those who lose their jobs in this transition may be the least equipped to seize the new opportunities.
- **Adopting sustainable practices with clean technologies** will create millions of jobs but other jobs will disappear as countries scale back their carbon- and resource-intensive industries. For example:
  - **Implementing the Paris Climate Agenda** could create 24 million new jobs, but it could still be brutal to the 6 million workers expected to lose their jobs in the transition to a greener economy.

- **Changes in demographics** are significant as expanding youth populations in some parts of the world and ageing populations in others may place pressure on labour markets and social security systems, yet in these shifts lie new possibilities to afford care and inclusive, active societies.
- The future of work requires a **strong and responsive social protection system** based on the principles of solidarity and risk sharing, which supports people's needs over the life cycle
- There is an urgent need to seize the opportunities presented by these transformative changes to create a brighter future and deliver economic security, equal opportunity and social justice – and ultimately reinforce the fabric of our societies.

### Recommendations

- A **universal labour guarantee** that protects fundamental workers' rights, an adequate living wage, limits on hours of work and safe and healthy workplaces.
- **Guaranteed social protection** from birth to old age that supports people's needs over the life cycle.
- A **universal entitlement to lifelong learning** that enables people to skill, reskill and upskill.
- **Managing technological change to boost decent work**, including an international governance system for digital labour platforms.
- Greater investments in the care, green and rural economies.
- A transformative and measurable agenda for **gender equality**.
- Reshaping business incentives to **encourage long-term investments**.
- Place people at the centre of economic and social policy.
- **International governance system** be set up to **police the gig economy, and ensure that 'digital labour platforms'** such as Uber and Swiggy respect certain minimum rights and protections.

### International Labour Organization

- The **International Labour Organization (ILO)** was **founded in 1919** to promote social justice and thereby contribute to universal and lasting peace.
- The ILO is responsible for drawing up and overseeing international labour standards.
- It is the **only tripartite United Nations agency that brings together representatives of governments, employers and workers** to jointly shape policies and programmes promoting decent work for all.

**Gig Economy**

- A gig economy is a free market system in which temporary positions are common and organizations contract with independent workers for short-term engagements.

## Mechanism to Prevent Insider Trading

The Securities and Exchange Board of India (SEBI) has prescribed internal controls on sharing of information.

- It has decided to **hold company promoters**, irrespective of their shareholding status, **responsible for violation of insider trading norms** if they possess **Unpublished Price-Sensitive Information (UPSI)** regarding the company without any 'legitimate' purpose.
- SEBI has specified that the term **"legitimate purpose"** will include **sharing of the UPSI** in the ordinary course of business by an insider with partners, collaborators, lenders, customers, suppliers, merchant bankers, legal advisors, auditors, insolvency professionals or other advisors or consultants, provided that such sharing has not been carried out to evade or circumvent the prohibitions of these regulations.
- Simply put, a promoter who is not an advisor in official capacity or does not hold any position on the board will not be considered a person having **"legitimate purpose"** to hold the UPSI.
- It has recommended that the board of directors shall **ensure that a structured digital database** is maintained containing the names of such persons or entities, as the case may be, with whom the information is shared.
- SEBI's decision is based on the recommendations of the **TK Viswanathan Committee on fair market conduct**.

**Insider Trading**

- Insider trading refers to the **practice of purchasing or selling** a publicly-traded company's securities while in possession of **material information that is not yet public information**.
- Material information refers to any and all information that may **result in a substantial impact on the decision of an investor** regarding whether to buy or sell the security. E.g.:
  - A government employee acts upon his knowledge about a new regulation to be passed which will benefit a sugar-exporting firm and buys its shares before the regulation becomes public knowledge.

**Corporate Governance**

- Corporate governance is the system by which **companies are managed and controlled**. It involves a set of systems, processes and principles which ensures that a company is governed in the **best interest of its stakeholders**.
- **'Good corporate governance'** ensures:
  - Adequate **disclosures** and effective **decision making** to achieve corporate objectives.
  - **Transparency** in business transaction.
  - Statutory and legal **compliances**.
  - **Protection** of shareholder interests.
  - Commitment to **values** and **ethical conduct** of business.
- The **Global Financial Stability report** recently published by the **International Monetary Fund (IMF)** suggests that while corporate governance norms have improved across emerging markets, it **fell in India between 2006 and 2014**.

## Kotak Panel Report

The panel constituted by **Securities and Exchange Board of India (SEBI)** under the chairmanship of **Uday Kotak** has suggested a host of changes for improving corporate governance standards of firms.

- **Chairman of the board cannot be the Managing Director/CEO of the company.**
- Boards should have minimum of **six directors**. Of these 50% **should be independent directors** including at least one woman independent director.
- Mandate minimum qualification for independent directors and disclose their relevant skills.
- Create a formal channel for sharing of information between the company and its promoters.
- Public sector companies should be governed by listing regulations, not by the nodal ministries.
- Auditors should be penalized if lapses are found.
- SEBI should have powers to **grant immunity** to whistle blowers. Companies should disclose medium-to-long term business strategy in annual reports.

The **TK Viswanathan committee on fair market conduct** submitted its report in August, 2018. Its recommendations are:

- Among a number of recommendations on **insider trading**, is the creation of **two separate codes of conduct**.

- Minimum standards on dealing with insider information by listed companies.
- Standards for market intermediaries and others who are handling price-sensitive information.
- Companies should maintain details of immediate relatives of designated persons who might deal with sensitive information and of people with whom the designated person might share a material financial relationship or who share the same address for a year.
- **Such information** may be maintained by the company in a searchable **electronic format**. It may also be shared with the SEBI when sought on a case-to-case basis.
- The committee has recommended **direct power for SEBI to tap telephones** and other electronic communication devices. This is to **check insider trading** and other frauds.
- Currently, SEBI has the **power to only ask for call records** including numbers and durations.

## World Economic Situation and Prospects (WESP) 2019: UN

According to the UN's World Economic Situation and Prospects (WESP) 2019, India will continue to **remain the world's fastest-growing economy** in 2019 as well as in 2020.

### Key Findings

- **India**
  - India's economy is expected to grow at **7.4% during 2018-19, 7.6% in 2019-20 and 7.4% in 2020-21**.
    - The reasons for high growth projections are **robust private consumption, a more expansionary fiscal stance and benefits from previous reforms**.
    - However, for a sustained and a more robust growth, **sustained recovery of private investment** remains a crucial challenge.
  - Other major challenge is the **job creation rates in the formal sector**, leaving **many workers underemployed or in low-salary jobs**. **Strengthening labour market** indicators is a crucial aspect to forge a more inclusive development trajectory.
  - **Female labour force participation** remains **low and is declining**.

- Earlier, **International Monetary Fund (IMF) too had projected** India's GDP to expand 7.5% in FY20 and 7.7% in FY21.

### ➤ Global

- Global growth is expected to remain at 3% in 2019 and 2020.
- The global economy is facing number of risks, which include an escalation of trade disputes, an abrupt tightening of global financial conditions, and intensifying climate risks.

### World Economic Situation and Prospects

WESP is a joint product of the United Nations Department of Economic and Social Affairs (UN/DESA), the United Nations Conference on Trade and Development (UNCTAD) and the five United Nations regional commissions (Africa, Europe, Latin America and the Caribbean, Asia and the Pacific, and Western Asia).

## National Bench of the Goods and Services Tax Appellate Tribunal (GSTAT)

The Union Cabinet has approved the creation of **National Bench of the Goods and Services Tax Appellate Tribunal (GSTAT)**.

- The National Bench of the Appellate Tribunal will be situated at New Delhi.
- GSTAT will be presided over by its President and will consist of one Technical Member (Centre) and one Technical Member (State).
- Goods and Services Tax Appellate Tribunal is the **form of the second appeal** in GST laws and the first common forum of dispute resolution between Centre and States.
- The appeals against the orders in first appeals issued by the Appellate Authorities under the Central GST (CGST) and State GST (SGST) Acts lie before the GST Appellate Tribunal.
- CGST Act provides for the Appeal and Review Mechanism for dispute resolution under the GST Regime.
- The Act empowers the Central Government to constitute, by notification, an Appellate Tribunal known as the Goods and Services Tax Appellate Tribunal for hearing appeals against the orders passed by the Appellate Authority.



### Benefits

- A unified GST Appellate Tribunal will decide on cases where there are divergent orders at the state level to ensure that there is uniformity in redressal of disputes arising under GST, and therefore, in the implementation of GST across the country.
- The dispute resolution forum is extremely crucial as conflicts arise between several states among themselves and with the Central Government over indirect tax revenues.

## Status Paper on Government Debt

Recently, the Ministry of Finance has released the Status Paper on Government debt 2017-18.

### Key Findings

- Central Government's total debt as a percentage of GDP fell to 46.5% in 2017-18 from 47.5% as of March 2014. But the debt of State Government rose to 24% in 2017-18 and is estimated to be 24.3% in 2018-19.
  - The data show that the Central Government is moving in the right direction in terms of meeting the **N.K. Singh Committee recommendations** on public debt but the States are not keeping up with Committee recommendations.
- External debt constituted 2.9% of GDP at end-March 2018, implying low currency risk to the Government of India's debt portfolio and its impact on the balance of payments remains insignificant.
- The general government liabilities, which include State Government liabilities, rose to 68.2% of GDP in 2017-18 from 67.5% of GDP in 2016-17.

### Reasons for Debt

- **Bank Recapitalisation:** Infusing capital in state-run banks using recapitalization bonds in 2017-18 increased the total Central Government debt in both absolute terms and as a percentage of GDP that fiscal.
  - In 2017-18, ₹ 80,000 crore of recapitalization bonds were used to fund state-run banks.
- **UDAY bonds:** The liabilities of States have increased during 2015-16 and 2016-17, following the issuance of **Ujwal Discom Assurance Yojana (UDAY) bonds**.
  - UDAY was launched in November 2015 to help loss-making state power distribution utilities turn around financially, with support from their respective State Governments.

### N.K. Singh Committee

- A panel under former Revenue Secretary, N.K. Singh was constituted by the Government in May 2016 for reviewing the **Fiscal Responsibility and Budget Management (FRBM) Act, 2003**.
- This was in view of the new school of thought which believes that **instead of fixed numbers as fiscal deficit targets, it may be better to have a fiscal deficit range as the target**, which would give necessary policy space to the Government to deal with dynamic situations.
- **FRBM Act provides a legal institutional framework for fiscal consolidation.** It is now mandatory for the Central Government to take measures to reduce fiscal deficit, to eliminate revenue deficit and to generate revenue surplus in the subsequent years.
  - **The Act binds not only the present Government but also the future Government to adhere to the path of fiscal consolidation.**
  - The Government can move away from the path of fiscal consolidation only in case of natural calamity, national security and other exceptional grounds which Central Government may specify.

### Recommendations

- The Committee suggested using debt as the primary target for fiscal policy.
- **Debt to GDP ratio of 60% should be targeted with a 40% limit for the Center and 20% limit for the States. The targeted debt to GDP ratio should be achieved by 2023.**
- **It said that the 60% consolidated Central and State debt limit was consistent with international best practices, and was an essential parameter to attract a better rating from the credit rating agencies.**
- To achieve the targeted debt to GDP ratio, it proposed yearly targets to progressively reduce the fiscal and revenue deficits till 2023.
- The Committee suggested that grounds on which the government can deviate from the targets should be clearly specified, and the government should not be allowed to notify other circumstances.
- Further, the Government may be allowed to deviate from the specified targets upon the advice of the Fiscal Council in the following circumstances:

Note:



- considerations of national security, war, national calamities and collapse of agriculture affecting output and incomes,
- structural reforms in the economy resulting in fiscal implications, or
- a decline in real output growth of at least 3% below the average of the previous four quarters.

#### Government Debt

- Government liabilities are classified as debt contracted against the Consolidated Fund of India (defined as Public Debt) and liabilities in the Public Account, called Other Liabilities.
- Public debt is further classified into internal and external debt.
- Internal debt consists of marketable debt and non-marketable debt. Government dated securities and treasury bills, issued through auctions, together comprise marketable debt.
- Treasury Bills issued to state governments and select central banks, special securities issued to National Small Savings Fund (NSSF), securities issued to international financial institutions, etc. are part of the non-marketable internal debt.
- External Debt refers to money borrowed from a source outside the country. External debt has to be paid back in the currency in which it is borrowed.
- Other Liabilities include liabilities on account of Provident Funds, Reserve Funds and Deposits, Other Accounts, etc.

## World Energy Outlook 2018

The **World Energy Outlook 2018** report released by **International Energy Agency (IEA)** highlights the crucial considerations for the global energy industry in 2040, including the rise in demand for renewables and major fossil fuel concerns.

- **Electricity is the special focus of the 2018 edition.** The share of electricity in global energy use is growing while the rise of low-carbon technologies is prompting a major transformation in the way electricity is generated.
- It examines future patterns of a **changing global energy system** at a time of increasing uncertainties and finds that major transformations are underway for the global energy sector, from growing electrification to the expansion of renewables, upheavals in oil production and globalisation of natural gas markets.

## Findings

### ➤ Special Focus: Electricity

- Electricity is increasingly the “fuel” of choice in economies that are relying more on lighter industrial sectors, services and digital technologies.
- Policy support and technology cost reductions are not only increasing its share in global consumption but also putting the power sector in the vanguard of emissions reduction efforts.
- On the demand side, **efficiency gains** from more **stringent energy performance standards** have played a pivotal role in holding back demand. E.g.: 18 out of 30 IEA member economies have seen declines in their electricity use since 2010.

### ➤ Energy Scenario

#### ○ Demand

- Rising incomes and an extra 1.7 billion people, mostly added to urban areas in developing economies will push up global energy demand by more than a quarter to 2040.
- In 2000, Europe and North America accounted for more than 40% of global energy demand and developing economies in Asia for around 20%. By 2040, this situation will be **completely reversed**.
- All the growth comes from **developing economies, led by India**.

#### ○ Production

- Fifteen years ago, European companies dominated the list of the world’s top power companies, measured by installed capacity; now six of the top-ten are Chinese utilities, i.e **domination of Asia by 2040**.

#### ○ Shale Gas

- By 2025, the United States will account for more than half of **global oil and gas production growth** (nearly 75% for oil and 40% for gas).
- This will exert the **pressure on traditional oil and gas exporters** that rely heavily on export revenues to support national development.

#### ○ Energy Trade

- International energy trade flows are **increasingly drawn to Asia** from across the Middle East, Russia, Canada, Brazil and the United States.

- However, new ways of sourcing energy are also visible at local level, as digitalization and increasingly cost-effective renewable energy technologies enable distributed and **community-based models of energy provision**.

#### ○ Flexibility

- The rise of solar Photo Voltaic (PV) and wind power gives unprecedented importance to the flexible operation of power systems. Renewables and coal switch places in the power mix: the **share of generation from renewables** rises from 25% today to around 40% in 2040.
- By 2040 many countries in Europe, as well as Mexico, India and China, are set to acquire a degree of flexibility.
- However, conventional power plants remain the main source of system flexibility, supported by new interconnections, storage and demand-side response. E.g.: The European Union's "Energy Union" illustrates the role that regional integration can play in facilitating the integration of renewables.

#### ➤ Fossil Fuels

- Coal use rebounded in 2017 after two years of decline, but **final investment decisions** in new coal-fired power plants were well **below the level** seen in recent years.
- **Natural gas** will overtake coal in 2030 to become the **second-largest fuel** in the global energy mix.

#### ➤ Emissions and Access

- Countries are set to **meet the national pledges made as part of the Paris Agreement**. But these are **insufficient** to reach an early peak in global emissions.
- The projected emissions trend represents a **major collective failure** to tackle the environmental consequences of energy use.
- Around 93% of the world's carbon capacity is already in use up to 2040. Carbon capacity refers to the level of CO<sub>2</sub> emissions that can be released without causing significant global warming effects. This means that there is very little space for future fossil fuel projects to be developed over this period without contradicting international objectives around climate change.
- In **2017, for the first time**, the number of people **without access to electricity dipped below 1 billion**.

### Challenges

- **Affordability:** The costs of solar Photo Voltaic and wind continue to fall, but oil prices climbed above \$80/barrel in 2018 for the first time in four years; and hard-earned reforms to fossil fuel consumption subsidies are under threat in some countries.
- **Reliability:** One-in-eight of the world's population has no access to electricity and new challenges are coming into focus in the power sector, from system flexibility to cyber security.
- **Sustainability:** After three flat years, global energy-related carbon dioxide (CO<sub>2</sub>) emissions rose by 1.6% in 2017. Energy-related air pollution continues to result in millions of premature deaths each year.

#### International Energy Agency

- The International Energy Agency (IEA), an **autonomous organisation**, works to ensure reliable, affordable and clean energy to its **30 member countries, 8 association countries and beyond**.
- It was established in the **wake of the 1973 oil crisis** after the OPEC cartel had shocked the world with a steep increase in oil prices. **The IEA has four main areas of focus, i.e. 4Es:**
  - Energy **security**,
  - Economic **development**,
  - **Environmental awareness** and
  - **Engagement** worldwide.
- India became an **associate member of International Energy Agency in 2017**.
- Mexico officially became the **International Energy Agency's 30<sup>th</sup> member** country in February 2018, and its first member in Latin America.
- It is **headquartered in Paris, France**.

### Conclusion

- Rapid, least-cost energy transitions require an acceleration of investment in cleaner, smarter and more efficient energy technologies. Policy makers need to ensure that all key elements of energy supply, including electricity networks, remain reliable and robust.
- Frameworks put in place by the public authorities also shape the pace of energy efficiency improvement and of technology innovation. Therefore, the National governments will have a significant role to play in the direction of the future global energy mix.

## National Statistical Commission (NSC)

- NSC was set up by the Government through a **resolution in 2005**.
- The setting up of the NSC followed the decision of the Cabinet to **accept the recommendations of the Rangarajan Commission**, which reviewed the **Indian Statistical System in 2001**.
- NSC is the **apex advisory body** on statistical matters as it was constituted to evolve policies, priorities, and standards in statistical matters.
- The NSC has **four Members besides a Chairperson**, each having specialization and experience in specified statistical fields.

## Domestic Council for Gems & Jewellery

**Ministry of Commerce and Industry** has announced the formation of a **Domestic Council for Gems & Jewellery** to bring the industry's domestic business stakeholders under one umbrella so that they could evolve a unified approach to promote growth in the sector.

- This Council will help in tapping new opportunities in the already existing large domestic market.
- The basic objective of the government is making this unorganized sector, organized and structured so that additional jobs can be created.

## India Becomes 2<sup>nd</sup> Top Steel Producer

- **India has replaced Japan as world's second largest steel producing country**, while **China is the largest producer of crude steel** accounting for more than 51% of production, according to World Steel Association (worldsteel).
- Others in the top 10 steel producing countries include the United States (4<sup>th</sup>), South Korea (5<sup>th</sup>), Russia (6<sup>th</sup>), Germany (7<sup>th</sup>), Turkey (8<sup>th</sup>), Brazil (9<sup>th</sup>) and Iran (10<sup>th</sup>).

### World Steel Association

- The World Steel Association (worldsteel) is a **non-profit organisation** with headquarters in **Brussels, Belgium**. It has another office in **Beijing, China**, (since April 2006).
- Worldsteel represents over 160 steel producers (including 9 of the world's 10 largest steel companies), national and regional steel industry associations, and steel research institutes. worldsteel members **cover around 85% of world steel production**.
- It was founded as the International Iron and Steel Institute on July 10, 1967 and changed its name to the World Steel Association in October 2008. The association celebrated its 50th year anniversary in 2017.

## Pradhan Mantri Rojgar Protsahan Yojana

Pradhan Mantri Rojgar Protsahan Yojana (PMRPY), the flagship scheme of the Central Government for employment generation has crossed the milestone of one crore beneficiaries as on January 14, 2019.

### Pradhan Mantri Rojgar Protsahan Yojana (PMRPY)

- Under the scheme, the **government incentivizes employers for generation of new employment**.
- The Government of **India pays the full employer's contribution of 12% (towards Employees' Provident Fund and Employees' Pension Scheme)**, for the new employment generated with salary up to ₹. 15,000 per month.
- PMRPY was announced on August 7, 2016 and is being implemented by the **Ministry of Labour and Employment through the Employees' Provident Fund Organization (EPFO)**.
  - Under the scheme employers would be provided an incentive for enhancing employment by reimbursement of the 8.33% EPS contribution made by the employer in respect of new employment.
- The entire system of PMRPY is online and AADHAAR based with no human interface in the implementation of the scheme.
- A direct benefit of this scheme is that workers have access to social security benefit through Provident Fund, Pension and Death Linked Insurance.



# International Relations

## Highlights

- South Africa's President Visit to India (17)

- Venezuela Crisis (18)

## South Africa's President Visit to India

Recently, President of South Africa Cyril Ramaphosa arrived in India for a two-day visit.

- President Ramaphosa was the chief guest at 70th Republic Day Celebrations in New Delhi.
- He is the second president of South Africa after Nelson Mandela to be the chief guest at the Republic Day celebrations.

### Outcome of Visit

- During the visit, a **Three-Year Strategic Programme of Cooperation (2019-2021)** was signed which is aimed at further enhancing the strategic partnership between the two countries.
- Strategic Programme of cooperation covers overall relations with South Africa in **defense, security, economic, trade & investment relations, development partnership, and capacity building** etc.
- Both countries recalled the Strategic Partnership established between India and South Africa through the **Red Fort Declaration of March 1997** in New Delhi and the **Tshwane Declaration of October 2006** in Pretoria, South Africa which reaffirmed the Red Fort Declaration of 1997.
  - **During the visit of President Mandela to India in March 1997, the two countries signed the historic Red Fort Declaration for Strategic Partnership between India and South Africa.**
- Both countries emphasized the need to further deepen relations in the political, economic, defense, scientific, consular and socio-cultural spheres.
- **International Cooperation**
  - India and South Africa share a common vision on a range of global issues and closely cooperate in multilateral forums like the **UN, BRICS, G-20, Commonwealth, Indian Ocean Rim Association (IORA) and IBSA.**

- Both India and South Africa are **supportive of reforms in UN Security Council (UNSC)** to achieve a more representative and equitable UNSC and **reform in the global governance architecture such as World Trade Organization (WTO).**
- India and South Africa also cooperate in the **International Solar Alliance (ISA)** as a common platform for cooperation among solar resource-rich countries.

### ➤ Diaspora

- There are **1.5 million Persons of Indian Origin in South Africa** and constitute **3% of South Africa's total population.**
- Both countries agreed to **work on the simplification of the visa agreement** to broaden people-to-people interactions and to increase two-way tourism.

### History of Indian Diaspora in South Africa

- The **major part of the Indian origin community** came to South Africa from 1860 onwards as farm labor to serve as field hands and mill operatives in the **sugar and other agricultural plantations of Natal (which was then a British colony).**
- Most of these initial migrants were from Tamil Nadu and Andhra Pradesh with some from eastern UP and Bihar.
- The **second wave of Indians came after 1880.** These were the **"passenger Indians"**— called so because they paid their fares as passengers on board a steamship bound for South Africa. This was the community of traders who mainly hailed from Gujarat.

### ➤ Defense Relation

- **South Africa has a robust defense industry.** India and South Africa have cooperation in the defense sector encompassing a wide range of engagements including defense production, joint collaboration, manufacturing, research and development, training and joint exercises.



- South-Africa will participate in India-Africa Field Training Exercise (IAFTX) in March 2019 at Pune, India.
- India and South Africa also have close naval cooperation through the Indian Ocean Naval Symposium (IONS).

#### ➤ Trade Relation

- **Trade between India and South Africa has also increased to \$10.7 billion in 2017-18 with an increase of about 13% over the previous year.**
- Both countries agreed to further enhance bilateral investments.
- Both nations have agreed to enhance cooperation in the field of the Blue Economy including in the framework of Indian Ocean Rim Association (IORA).

#### ➤ On terrorism

- Both countries agreed on early agreement and adoption of the **UN Comprehensive Convention on International Terrorism (CCIT)** and condemned terrorism in all its forms. They share common concerns in the area of terrorism, FATF, cyber-security etc.

#### ➤ India For Humanity

- India has launched the "India for Humanity" initiative in South Africa in the context of Gandhi's 150th birth anniversary to provide artificial limbs "Jaipur Foot".
- "India For Humanity" initiative was launched by **Ministry of External Affairs**.
- It features a year-long series of artificial limb fitment camps in a number of countries spanning the globe.

#### History of India-Africa Relations

- India's relations with South Africa go back to centuries and have a powerful emotional component. It is here that **Mahatma Gandhi began his political career**.
- **India was the first country to sever trade relations with the apartheid Government (in 1946)** and it subsequently imposed a complete – diplomatic, commercial, cultural and sports – embargo on South Africa.
- India worked consistently to put the issue of apartheid on the agenda and worked with African National Congress (ANC) in its struggle against apartheid.
- ANC has maintained a representative office in New Delhi from the 1960s onwards.
- **India's relations with South Africa were restored after a gap of over four decades with the opening of a Cultural Centre in Johannesburg in May 1993.**

## Venezuela Crisis

The leader of Venezuela's National Assembly, Juan Guaido has declared himself as president of Venezuela on January 23, challenging the power of current President Nicolas Maduro, who was recently sworn in as president of Venezuela for a second consecutive term.

- The United States has officially recognized Juan Guaido as the legitimate president of Venezuela. Several EU nations, including France, Britain, Germany, and Spain have said they would recognize Guaido if President Maduro doesn't announce new elections.
- However, Russia, Turkey, Iran, and China have supported President Nicolas Maduro and called him as the legitimate president of Venezuela.
- The US has also imposed sanctions on Venezuela's state-run oil company, Petróleos de Venezuela, S.A (PVDSA).



### Reasons for the crisis in Venezuela

#### ➤ Economic Reason

- Venezuela has the highest proven oil reserves in the world. The economy of Venezuela is mainly oil-based.



- During the early 2000s, when oil prices were high, the Venezuelan government had used oil profits to reduce inequality and poverty, providing food subsidies.
- When oil prices dropped in 2014, the government suddenly had to make lots of cutbacks, causing a rise in inflation.
- Currently, the annual inflation rate in Venezuela has reached 1.3 million%. This has led to the scarcity of basic items such as food and medicines and demonstrations against the government.

➤ **Political Crisis and Corruption**

- Current president Nicolas Maduro who took charge after former president Hugo Chávez died in 2013, also faced the charges of corruption and mismanagement of the economy.
- Mr. Maduro was sworn in for a second term recently. But, his main opponents were either boycotted or were banned from running in the election.
- After the result of the election was announced, massive protests erupted in Venezuela.

**Impact**



➤ **Global**

- Crisis in Venezuela may lead to a rise in global oil prices as Venezuela is a major oil exporter and a member of OPEC.

➤ **India**

- Venezuela is India's fourth-biggest crude oil supplier after Iraq, Saudi Arabia, and Iran and accounts for about 12% of India's total oil imports. So sanctions against Venezuela along with US sanctions on Iran will impact oil availability in the country.
- Sanctions on Venezuela will also impact the payment of roughly \$520 million of backlog dividends that Venezuela's state-run oil firm PDVSA owes to ONGC Videsh Limited (OVL).

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# Science and Technology

## Highlights

- UK to Support Nitrogen Research in India (20)
- ISRO Launches Military Satellite and KalamSat (21)
- Shift in Earth's Magnetic North Pole (21)
- UNNATI by ISRO (22)
- Saturn Rings (23)
- Yellow Fever Vaccine (23)
- DAMaN Initiative: Odisha (24)
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- Human Space Flight Center (24)
- New Delhi Superbug Gene (25)

## UK to Support Nitrogen Research in India

The **United Kingdom** will fund the **South Asian Nitrogen Hub (SANH)**, a group of **50 institutions** to assess and study the quantum and impact of “**nitrogen pollution**” in South Asia.

- **Eighteen research institutions in India** are the part of SANH which will study the impacts of the different forms of pollution to form a “coherent picture” of the nitrogen cycle.
  - In particular, it will look at nitrogen in agriculture in **eight countries** — India, Pakistan, Bangladesh, Nepal, Afghanistan, Sri Lanka, Bhutan and Maldives.
- This is a five-year programme established with funds from the UK Research and Innovation (UKRI) under its **Global Challenges Research Fund (GCRF)**.

### Global Challenges Research Fund

- The Global Challenges Research Fund (GCRF) is a £1.5 billion fund announced by the **UK Government in late 2015** to support cutting-edge research that addresses the challenges faced by **developing countries**.
- GCRF forms part of the UK's Official Development Assistance (ODA) commitment, which is monitored by the **Organisation for Economic Cooperation and Development (OECD)**.

### Nitrogen Pollution

- Nitrogen **constitutes 78% of Earth's air**. It is a colourless and odourless **inert gas**.
- Nitrogen makes plants grow and is an **essential component for life**.

- Nitrogen is **potent greenhouse gas**. Nitrous oxide ( $N_2O$ ) is **300 times more potent** greenhouse gas than carbon dioxide.
- **Nitrogen pollution is caused by emission of excess of Nitrogen from the use of chemical fertilisers, livestock manure and burning fossil fuels.**
  - Nitrate from chemical fertilisers, manure and industry pollutes the rivers and seas, posing a health risk for humans, fish, coral and plant life.
- Gases such as ammonia ( $NH_3$ ) and nitrogen dioxide ( $NO_2$ ) contribute to poor air quality and can aggravate respiratory and heart conditions, leading to millions of premature deaths across the world.
- Nitrogen pollution is also linked to the loss of biodiversity and ozone depletion.

### Need of the Study

- According to a study, **nitrogen emissions in India grew** at 52% from 1991 to 2001 and 69% from 2001 to 2011.
- The **planetary boundary** of Nitrogen is set at 44 Tg (Tera-grams) per year globally and current application of Nitrogen (primarily through fertiliser usage), is about 150 Tg Nitrogen per year.
  - Planetary boundary is the limits of the earth within which humans can thrive.
- The **high doses of fertiliser input** of nitrogen to agriculture combined with **low nitrogen-use efficiency** creates the need for research on nitrogen pollution in South Asia.
- This is emphasised by the scale of **nitrogen subsidies** across South Asia at around **\$10 billion per year**.

Note:

## ISRO Launches Military Satellite and KalamSat

Recently, the Indian Space Research Organization (ISRO) has launched satellites **Microsat-R** and **KalamSat** onboard **Polar Satellite Launch Vehicle (PSLV) C-44**.

- This also marks a technology demonstration of PSLV-DL (D standing for demonstration) for the first time. PSLV-DL is a new variant of PSLV with two strap-on motors.
- It provided an alternative to its normal six strap-on motors (side rocket boosters) on PSLV. This will **enable it to carry a slightly higher payload** than its Core-Alone version (in which there is no strap on motors).

### Significance of the Mission

- **Microsat-R**
  - **Microsat-R is a military imaging satellite**, weighing 740 kilograms, which was made by Defence Research and Development Organization (DRDO).
  - This was launched in low orbit. **It is the first time an Indian satellite has been placed by ISRO in a low orbit at an altitude of 274 km.**
- **KalamSat**
  - It is a student satellite, **made by Space Kidz India**, weighing just 1.26 kg.
  - KalamSat is the **world's smallest and lightest communication satellite**.
  - It is an experimental satellite for studying the communication system of nano satellites, which can be useful in many fields, predominantly disaster management.
- **Fourth Stage (PS4) Usability**
  - ISRO also used this launch as an opportunity to demonstrate the **usability of the fourth stage of the rocket after the satellites are ejected into orbit**.
  - The fourth and final stage of the rocket normally turns into debris after ejecting a satellite.
  - Any agency that wants to conduct experiments in space can use the fourth stage until it disintegrates naturally. The fourth stage of the rocket orbits in space for six months to a year. **ISRO is aiming to use this time-frame to enable agencies to run short time experiments.**
  - **KalamSat will be the first to use the fourth stage as an orbital platform.**

## Shift in Earth's Magnetic North Pole

British Geological Survey has reported that the **earth's magnetic north pole is moving from its current position in Canada to Siberia**.

### MAGNETIC MOTION

The north magnetic pole is heading from Canada into Siberia, and recently crossed the International Date Line. Its rapid motion, plus other shifts in Earth's magnetic field, have forced scientists to revise the magnetic models that guide navigation.



- Since 1831 when it was first measured in the Canadian Arctic it has moved about 2300 kilometers toward Siberia. Its speed jumped from about 15 km/h to 55 km/h since 2000.
- The reason is turbulence in Earth's liquid outer core. There is a hot liquid ocean of iron and nickel in the planet's core where the motion generates an electric field.
- The Magnetic model which is **updated at every five years** and was supposed to be updated in 2020, but due to the unexpected shift, it has been preponed to 2019.
- Scientists think that reason for such shift is **geomagnetic pulses beneath South America** and the **high-speed jet of liquid iron beneath Canada**.

### Impact of the Change

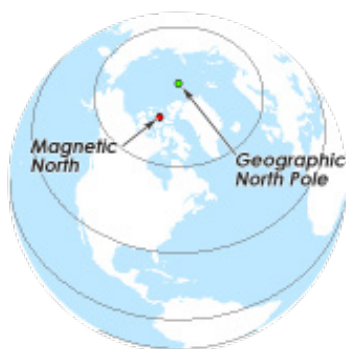
- The shift is causing geophysicists to **reconsider the world magnetic model** which is used for navigation purposes.
- The World Magnetic Model (WMM) is a **standard model of the core and large-scale crustal magnetic field**.
- It is used **extensively for navigation** by the United Kingdom and the US for Defence purposes, the **North Atlantic Treaty Organization (NATO)** and the **International Hydrographic Organization (IHO)**. It is also used widely in civilian navigation systems.

- The constant shift is a problem for compasses in smartphones and some consumer electronics. Airplanes and boats also rely on magnetic north, usually as backup navigation.

### Geographical Poles vs. Magnetic Poles

#### ➤ Geographic Poles

- The Earth rotates on the geographic north and south poles. The geographic north and south poles are where lines of longitude (meridians) converge in the north. The south and north pole are directly opposite to one another.



#### ➤ Magnetic North Pole

- The Earth acts as one big magnet.
- The Earth consists of a solid iron core. Surrounding the iron core is an ocean of hot, liquid metal.
- The liquid metal that flows in Earth's core creates electrical currents, which in turn creates our magnetic field.
- The Magnetic North Pole (also known as the North Dip Pole) is a point on Ellesmere Island in Northern Canada where the northern lines of attraction enter the Earth.
- This means that a compass needle point to the Magnetic North Pole – which is different from the geographic north.

### International Hydrographic Organization

- The International Hydrographic Organization is an **intergovernmental consultative and technical organization** that was **established in 1921** to support the safety of navigation and the protection of the marine environment.
- India is also a member of IHO.

- The objective of the Organization is to bring about:
  - The coordination of the activities of national hydrographic offices
  - The greatest possible uniformity in nautical charts and documents
  - The adoption of reliable and efficient methods of carrying out and exploiting hydrographic surveys
  - The development of the sciences in the field of hydrography and the techniques employed in descriptive oceanography

## UNNATI by ISRO

**Indian Space and Research Organization (ISRO)** has launched a training programme **UNNATI (UNISpace Nanosatellite Assembly & Training by ISRO)**.

- UNNATI is a capacity building programme on **nanosatellite development**.
- The programme provides opportunities to the **participants from developing countries** to strengthen their capabilities in assembling, integrating and testing of nanosatellites.
- The initiative **commemorates the 50<sup>th</sup> anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE+50)**.
- UNNATI programme is being conducted by **U.R. Rao Satellite Centre (URSC) of ISRO** for 3 years in 3 batches and has a target to benefit 90 officials from 45 countries.
- The training comprises of theoretical course work on nanosatellite definition, utility, laws governing their impact on space debris, design drivers, reliability & quality assurance and hands-on training on assembly, integration, and testing of nanosatellites.
- The first batch of this programme has started on January 17, 2019, with 30 participants from 17 countries (Algeria, Argentina, Azerbaijan, Bhutan, Brazil, Chile, Egypt, Indonesia, Kazakhstan, Malaysia, Mexico, Mongolia, Morocco, Myanmar, Oman, Panama, and Portugal).

### United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE)

- **UNISPACE I**, held from 14 to 27 August 1968, was the first in a series of three global UN conferences on outer space, which focused on raising awareness of the vast potential of space benefits for all humankind.



- **UNISPACE II** conference was held from 9 to 21 August 1982. UNISPACE II addressed the concerns of how to maintain the outer space for peaceful purposes and prevent an arms race in outer space.
- **UNISPACE III** conference held from 19 to 30 July 1999. UNISPACE III created a blueprint for the peaceful uses of outer space in the 21st century.

## Saturn Rings

- Scientists have found that the rings of Saturn are younger than previously thought.
- The rings are not more than 100 million years i.e. the period when dinosaurs used to walk on earth.
- Previously, it was predicted that the ring system formed along with the planet from icy debris remaining in orbit after the formation of the Solar System.
- NASA's **Cassini spacecraft to Saturn** after completing its mission fell into Saturn's gravity. The fall allowed the orbiter to act as a probe and it was able to take the close up data of the planet and the rings.

### Saturn

- It is the second largest planet after Jupiter in our Solar System.
- Saturn is a Jovian planet i.e. it is completely made up of gas.
- Four planets in the solar system have rings- Jupiter, Uranus, Neptune and Saturn.
- As of now, Saturn has 62 confirmed natural satellites or moons orbiting it.

### Cassini

- **Launched:** Oct. 15, 1997
- **End of Mission:** Sept. 15, 2017
- **Significance:** Cassini orbited and studied the Saturn and its moons in detail.
  - Mission also landed the Huygens probe on Saturn's largest moon, Titan, in January 2005.

## Yellow Fever Vaccine

Yellow fever, a fatal disease, **spreads through mosquitoes**. It is often associated with jaundice, hence the name yellow.

- It is usually compulsory to get vaccinated before traveling to any of the yellow fever-endemic countries in parts of Africa, and Central and South America.

- Yellow fever vaccine which is known as **17D** and according to the World Health Organization (WHO) is safe and affordable. However, there have been **reports of multisystem organ failure following vaccination**.
- Due to such reports, **vaccine hesitancy** is a growing problem the world over.

### Working of a Vaccine

- Many vaccines introduce a pathogen inside the body. For example, the yellow fever vaccine is a live, weakened yellow fever virus. Because it is live, the body responds to it the same way as in a full-blown infection.
- This ensures that the body knows the vulnerabilities of that virus for the rest of the person's life.
- Thus, whenever an invasion happens, blood cells that retain the memory of that virus immediately work towards defeating the nascent invasion much before it can go on to become a full-blown infection.

### Vaccine Hesitancy in India

- Vaccine hesitancy refers to delay in acceptance or refusal of vaccines despite the availability of vaccination services.
- Recently **Delhi High Court underlined the importance of parental consent** in vaccines given to children in school.
- The **Health Ministry has commissioned a study on vaccine hesitancy**, to be conducted by its Immunisation Technical Support Unit in association with GAVI, an international organization supported by the Bill and Melinda Gates Foundation.

### Kyasanur Forest Disease

Kyasanur Forest Disease (KFD) is a viral haemorrhagic disease endemic to South India.

- Better known as 'Monkey Fever', KFD is primarily transmitted through ticks. Doctors treat only the symptoms, for KFD has no known cure.
- Infected areas have been reported in villages across four districts of Karnataka (Shivamogga, Udupi, Dakshina Kannada, and Uttara Kannada) – and in Kerala (Wayanad) and Maharashtra (four cases).
- KFD virus was first reported in Kyasanur village (in Shivamogga), back in 1957.
- The virus belongs to the Flaviviridae family, whose other members are responsible for causing Yellow Fever, Zika and Dengue.
- Multiple species of ticks of the genus Haemaphysalis are the principal vectors.



### Swine Flu in Delhi

Recently fresh cases of swine flu have emerged in Delhi with symptoms being very **similar to normal influenza**.

- Swine flu is caused by the “swine flu virus”, the H1N1.
- Swine Flu is an infection of the respiratory tract characterized by the usual symptoms of flu — cough, nasal secretions, fever, loss of appetite, fatigue, and headache.
- It is called swine flu because it was known in the past to occur in people who had been in the vicinity of pigs.
- The virus is transmitted by short-distance airborne transmission, particularly in crowded enclosed spaces. Hand contamination and direct contact are other possible sources of transmission.

#### Zoonotic Influenzas

- Humans can be infected with avian, swine and other zoonotic influenza viruses, such as avian influenza (or Bird Flu) virus subtypes A (H5N1), A (H7N9), and A (H9N2) and swine influenza virus subtypes A (H1N1), A (H1N2) and A (H3N2).
- Viruses are classified into subtypes according to the combinations of different virus surface proteins hemagglutinin (HA) and neuraminidase (NA). So far there are 18 different hemagglutinin subtypes and 11 different neuraminidase subtypes.

### DAMaN Initiative: Odisha

- Odisha Government had launched a malaria control programme – “**Durgama Anchalare Malaria Nirakaran (DAMaN)**” initiative.
- This programme involves mass screening for malaria with treatment of positive cases along with intensified surveillance, mosquito control measures and regular health education activities throughout the year.
- For mass screening and treatment of patients in inaccessible areas, District Health Information System 2 (DHIS2), an open-source web-based surveillance for malaria is used.
- Odisha, which accounts for over 40% per cent malaria burden of the entire country, has reported about 85% decline in average monthly malaria cases in the State.

### Malaria

- Malaria, is caused by protozoan parasite plasmodium.
- The parasite is released into the bloodstream, after the female anopheles mosquito bites. The parasites continue to infect red blood cells.
- Malaria is typically found in tropical and subtropical climates where the parasites can live.
- According to the World Health Organization’s **World Malaria Report of 2018**; India is the only country among the 11 highest-burden countries that saw substantial progress in reducing disease burden.
- India had pledged to eliminate the disease by 2030 at the East Asia Summit, 2015.
- India has launched the five-year **National Strategic Plan for Malaria Elimination (NSPME) (2017-2022)**.
- This has marked a shift in focus from malaria “control” to “elimination”.
- **NSPME** includes the target of ending malaria in 571 districts out of India’s 678 districts by 2022.

### TRAIN 18

Indian Railways’ fastest train, **Train 18** has been named, **Vande Bharat Express**.

- India’s first engineless semi-high speed train – “Train 18” – was rolled out by the Integral Coach Factory (ICF) in Chennai, Tamil Nadu.
- **Features:** CCTV cameras, diffused lighting, automatic doors and footsteps, GPS-based passenger information system.
- Train 18 was the only new train announced in Budget-2018. It is manufactured under the ‘Make in India’ initiative at half the cost of import.
- The railways will now focus on another project – Train 20 - the next generation aluminium-bodied sleeper class trains that will replace the Rajdhani Express trains and is expected to be rolled out by 2020.

### Human Space Flight Center

- Indian Space Research Organization (ISRO) has inaugurated Human Space Flight Center in **Bengaluru**.

Note:

- The center, a new management structure within the organization, will be in charge of all human-related programme at the ISRO, including the **Gaganyaan project**, that will send three astronauts to orbit the earth.
- Two unmanned flights are scheduled for December 2020 and July 2021, while manned flight is expected to take place by December 2021.

## New Delhi Superbug Gene

Soil samples taken in Svalbard (a Norwegian archipelago between mainland Norway and the North Pole) have confirmed the presence of **blaNDM-1** (called as New Delhi Metallo-beta-lactamase-1) into the **High Arctic**.

- blaNDM-1 is an **Antibiotic-Resistant Gene (ARG)** which causes **Multi-Drug Resistance (MDR)** in microorganisms.
- It got **New Delhi** in its name because it was first detected in a **Swedish patient of Indian origin** who travelled to **India in 2008**.

- British scientists later found the "**superbug**" in New Delhi's public water supply. Since then, the resistant gene including new variants found in over 100 countries, including new variants.
- According to researchers blaNDM-1 and other ARGs found in Arctic soils were likely spread through the faecal matter of birds, other wildlife and human visitors to the area.
- Encroachment into areas like the Arctic, reinforces the spread of antibiotic resistance.

### Multidrug-resistant organisms

- Multidrug-resistant organisms are bacteria that have become resistant to certain antibiotics, and these antibiotics can no longer be used to control or kill the bacteria.
- Antibiotics are important medicines. They help fight infections that are caused by bacteria. Bacteria that resist treatment with more than one antibiotic are called Multidrug-Resistant Organisms.

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# Environment and Ecology

## Highlights

- *Himalayan Glaciers Impacted by Climate Change* (26)
- *Bio-fuel Standard for Aviation* (26)
- *International Stocktaking Conference on Tiger Conservation* (27)
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- *Two Rhinos Translocated from Kaziranga to Manas* (27)
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- *Pulicat Lake* (28)
- *Golden Langur* (28)

## Himalayan Glaciers Impacted by Climate Change

Recently, a study has concluded that the **Chaturangi Glacier**, an inactive tributary of Gangotri glaciers, is receding.

- The study was done by scientists from GB Pant National Institute of Himalayan Environment and Sustainable Development and the Centre for Earth Sciences at the Indian Institute of Science (IISc) using the **satellite data from 1989 to 2016 and kinematic GPS**.
- The retreating glacier is an example of the impact of climate change.

### Kinematic GPS

Kinematic Global Positioning System (GPS) is a satellite navigation technique used to enhance the precision of data from satellite-based positioning systems.

### Findings of the Study

- Chaturangi glacier is **retreating at a “considerable rate”** and may vanish in the future.
- The Chaturangi glacier **was connected with the Gangotri glacier till 1989 but is now detached** and retreating at the rate of about 22.84 m/year.
  - The variability in retreating rate is not only controlled by climate change but is also governed by glacier size, type, topographic setting and debris cover.
- The retreating rate of the Chaturangi glacier is higher than the Gangotri glacier because of its smaller size and fast response time to climatic variability.

### Impact of Glacier Retreat

- **The flow of Ganga:** Since Ganga originates from Gangotri glacier, which is fed by its tributary glaciers, the rapid retreat of glaciers like Chaturangi and Raktavaran will **impact flow and water level in the Ganga**.

- **Impact on Human Life:** NASA's 'Land Cover and Land-Use programme' has predicted that **glacial melt will impact water supplies in the Himalayan region**.

- There will also be an **impact on agriculture, including soil loss due to soil erosion, landslides, and floods**.

- **Glacial Lake Outburst Floods (GLOF):** Glacial lakes may also form due to the accumulation of melted ice, which may result in Glacial Lake Outburst Floods (GLOF).

### Gangotri Glacier

- Gangotri Glacier is situated in the **Uttarkashi District of Uttarakhand**.
- The Gangotri glacier originates at the **northern slope of Chaukhamba range of peaks in Garhwal Himalayas**.
- Gangotri is not a single valley glacier, but a combination of several glaciers. The glacier comprises of three main tributaries, namely **Raktavaran, Chaturangi and Kirti and more than 18 other tributary glaciers**.
- The **Bhagirathi**, one of the **main tributaries of the Ganga**, originates from the gangotri glacier. The Ganges has five headstreams—the **Bhagirathi, the Alaknanda, the Mandakini, the Dhauliganga, and the Pindar**—all rise in the mountainous region of northern Uttarakhand.

## Bio-fuel Standard for Aviation

To use bio-jet fuel on all military and civilian aircraft, Bureau of Indian Standards (BIS), in collaboration with IAF and the oil industry, has brought out a new standard for Aviation Turbine Fuels (ATF).

### Benefits

- Would enable the oil companies to **manufacture bio-jet fuel for the Indian aviation industry**.

- Will align Indian standards with **current international standards**.
- Will help in **reducing the carbon emissions** and also help India in becoming a **green fuel production hub**.
- Will help in generating **ancillary income**, increasing remuneration for **tribal and marginal farmers**, and will promote cultivation/collection of oilseeds.
- Will help in achieving global emission target under **Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)** by the **International Civil Aviation Organisation (ICAO)**.
  - CORSIA addresses the increase in total CO<sub>2</sub> emissions from international aviation above 2020 levels.

#### International Civil Aviation Organization (ICAO)

The International Civil Aviation Organization (ICAO) is a **UN specialized agency**, established in 1944 to manage the administration and governance of the **Convention on International Civil Aviation (Chicago Convention)**.

## International Stocktaking Conference on Tiger Conservation

Recently the **3<sup>rd</sup> Stocktaking Conference on Tiger Conservation** relating to Global Tiger Recovery Program (GTRP) implementation was **held in New Delhi**.

- This is the second edition to be held in India after 2012 wherein progress against **St. Petersburg Declaration on Tiger Conservation** was measured.
- The conference was hosted by the **National Tiger Conservation Authority**, Ministry of Environment, Forest and Climate Change in close collaboration with the **Global Tiger Forum** which is an international, intergovernmental organization for conserving tigers in the world.

#### St. Petersburg Declaration on Tiger Conservation

- The declaration was adopted in **November 2010**, by the leaders of **13 Tiger Range Countries (TRCs)** at an International Tiger Forum in **St. Petersburg, Russia**.
- The declaration's **implementation mechanism** is called the **Global Tiger Recovery Program** whose overarching goal is to double the number of wild tigers from about 3,200 to more than 7,000 by 2022.
- 13 Tiger range countries are: **Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Russia, Thailand and Vietnam**.

## National Chilika Bird Festival

- The second **National Chilika Bird Festival** was held at Mangalajodi in Odisha.
- The festival is organised to promote eco-tourism and preservation of birds in Odisha.
- **National Chilika Bird Festival Award** was given to Mangalajodi Eco-tourism Group for their active involvement in bird protection.
- Mangalajodi, situated in the North Eastern Part of Chilika, is known as the **"Birds Paradise of Asia"** as the place witnesses the highest gathering of more than 10 Lakh species of birds.
- Chilika Lake lies in the Central Asian Flyway stopover site for migratory birds from the Arctic and Sub-Arctic regions during their onward and return migration along the east coast.
- It is located in the coastal Odisha and is **Asia's largest brackish water lagoon**.
- With its rich bio-diversity and socio-economic importance, it has been a designated **Ramsar site** (a wetland of international importance) since 1981.
- Another major attraction at Chilika is Irrawaddy dolphins which are often spotted off **Satapada Island** in Chilika Lake.

## Two Rhinos Translocated from Kaziranga to Manas

- Recently, two rhinos have been translocated to **Manas National Park** from **Kaziranga**.
- The augmentation of Rhinos is part of the initiative **"Bring Back Manas"**. Manas National Park (MNP) is a UNESCO World Heritage. It is spread across 850-sq km on the Indo-Bhutan border in Assam.
- Rescued calves were raised at Centre for Wildlife Rehabilitation and Conservation (CWRC) at Kaziranga.
- Until now more than 50 calves stranded in the wild at Kaziranga National Park for various reasons, in most cases due to floods, have been rescued.

**Rhinos in Asia**

- Two species of rhino in Asia—**Javan** and **Sumatran**—are **critically endangered**. A **subspecies of the Javan rhino** was declared **extinct in Vietnam in 2011**.
- Successful conservation efforts have helped **the third Asian species, the greater one-horned (or Indian) rhino**, to increase in number. Their status was **changed from Endangered to Vulnerable**, but the species is still poached for its horn.
- Kaziranga National Park has over 2,200 one horned Rhinos. Along the terai arc, Manas National Park, Jaldapara National Park has about 50 rhinos and Dudhwa Tiger Reserve has over 30 Rhinos.

**Indian Ocean****Humpback Dolphin**

A pod of Humpback Dolphins was spotted near the Bandra-Worli sea link in Mumbai.

**Habitat**

- The Indian Ocean Humpback Dolphin occurs within the Indian Ocean from South Africa to India.
- These dolphins usually live in shallow, coastal waters.
- The habitat preference of the dolphins for shallow waters places them in some of the world's most intensively utilized, fished, shipped, modified and polluted waters.

**Conservation Status**

- The International Union for Conservation of Nature (IUCN) categorizes the Indian Ocean Humpback Dolphin as Endangered.
- In India, Dolphins are endangered cetacean species, protected under Schedule I of the Wildlife Protection Act, 1972.
- Indian Humpback Dolphin is listed in Appendix I of The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

**Pulicat Lake**

A three-day Flamingo Festival has begun at Pulicat lake.

- It is the second largest brackish water ecosystem in the country after the Chilika lake in Odisha.
- The arrival of birds, which usually starts in the month of September, was delayed this year till December because of 47% deficit rainfall in the wake of climate change.
- It is located on the border of Andhra Pradesh and Tamil Nadu with over 96% of it in Andhra Pradesh and 4% in Tamil Nadu.

**Golden Langur**

Recently, a baby **Golden Langur** was born at langur breeding facility in the **Assam State Zoo, Guwahati**.

- The **Central Zoo Authority, New Delhi** entrusted the state zoo with the project for the conservation breeding of **golden langur in Assam in 2011**.
- **Gee's golden langur (Trachypithecus geei)**, or simply the golden langur, is an **Old World Monkey** found in a small region of **western Assam, India** and in the neighboring foothills of the **Black Mountains of Bhutan**.
- It is one of the **most endangered primate species** in India.
- It is listed in **Appendix I of CITES**, as **Endangered on the IUCN Red List of Threatened Species**, and in **Schedule I of the Indian Wildlife (Protection) Act, 1972**.

**Central Zoo Authority**

- Central Zoo Authority is a **statutory body** whose main objective is to enforce minimum standards and norms for upkeep and health care of animals in Indian zoos.
- Zoos are regulated as per the provisions of **Wildlife (Protection) Act, 1972** and are guided by the **National Zoo Policy, 1992**. The **Wildlife Protection was amended in 1991 to establish the Central Zoo Authority**.





# Security

## Highlights

- Exercise Sea Vigil (29)

### Exercise Sea Vigil

- The Indian Navy has coordinated **Exercise SEA VIGIL**, the **largest coastal defence exercise** off the Indian coast on January 22-23.
- The exercise, a first of its kind, is being undertaken along the **entire 7516.6 km coastline** and **Exclusive Economic Zone** of India and involves all the 13 coastal States and Union Territories along with all maritime stakeholders, including the fishing and coastal communities.
- The exercise is a part of the major **theatre level tri-service exercise TROPEX [Theatre-level Readiness Operational Exercise]** which Indian Navy conducts every **two years**.
  - 'Tropex' is the country's **biggest inter-service exercise held along the western coast**.
  - It provides opportunity to test combat capability of the **Indian Navy, Indian Army, Indian Air Force (IAF) and Indian Coast Guard (ICG)**.
- The conduct of the exercise SEA VIGIL has been facilitated by the Ministries of Defence, Home Affairs, Shipping, Petroleum and Natural Gas, Fisheries, Customs, State Governments and other agencies of Centre/ State.
- **Post '26/11', operational responsibilities** for coastal security were **entrusted to the Indian Navy and Indian Coast Guard**. Exercise 'SEA VIGIL' was planned by the Indian Navy in the discharge of these very responsibilities.
- Exercise SEA VIGIL aims to comprehensively and holistically validate the efficacy of the measures taken since '26/11'. The exercise will entail both seaward and shore-based monitoring.
- The exercise will in addition to **covering the entire coastline, will also go deeper into the hinterland**.
- Exercise SEA VIGIL will provide a realistic assessment of the country's strengths and weakness and this will certainly help further strengthening of maritime security and in turn national security.



# Art & Culture

## Highlights

- Subhash Chandra Bose (30)
- Lothal : India's Oldest Port City (30)
- Gandhi Peace Prize: 2015-18 (31)
- BHARAT PARV (32)
- Ladakh's Dard Aryan Tribes (32)
- Sangrai dance (32)

## Subhash Chandra Bose

The Prime Minister inaugurated the **Subhash Chandra Bose** museum at Red Fort, Delhi to mark his **122<sup>nd</sup> birth anniversary on January 23**.



### A Brief History

- Subhash Chandra Bose (1897-1945) was **twice elected as President of the Indian National Congress, (1938-Haripur and 1939-Tripuri)**.
- Owing to political differences, he resigned from the Congress Presidentship in 1939 and organised the **All India Forward Bloc** a faction within the Congress in Bengal.
- In Calcutta, Bose organised mass protests and was arrested. He was later put under house arrest from where he escaped. He went to Germany via Afghanistan.
- However, in 1943 Bose lost hope that Germany could be of any help in gaining India's independence. He then turned to Asia where he set up the **Indian National Army (INA)**.
- INA found support among expatriate Indians and under its aegis Bose formed the **Azad Hind government** which came to **produce its own currency, postage stamps, court and civil code**. It was **recognised by Axis states**.

- During the final two years of the war, **Bose with considerable Japanese backing- led the forces of the Indian National Army into battle against the British**.

### Contribution to India's Freedom Struggle

- In July 1943, Bose reached Japanese-controlled Singapore from Germany and issued from there his famous call, '**Delhi Chalo**', and announced the formation of the Azad Hind Government and the Indian National Army.
- The INA was essentially non-communal, with Muslims quite prominent among its officers and ranks, and it also introduced the innovation of a **women's detachment named after the Rani of Jhansi**.
- In November, 1945, a British move to put the **INA men on trial immediately sparked off massive protests all over the country**.
- The **INA experience and the wave of disaffection in the British Indian army, gave way to the Bombay naval strike of February 1946**.

## Lothal : India's Oldest Port City

The word Lothal, like Mohenjo-daro, means the mound of the dead. Lothal is located between the **Bhogavo** and **Sabarmati rivers** near the Gulf of Khambhat in **Gujarat**.

### Town Planning of Lothal

- The 4,500-year-old city was **mathematically planned**. It had a grid pattern with proper **streets crossing at right angles** and **drainage systems**.

- The **emphasis on cleanliness** can be judged from the **discovery of toilets and lota-like jars** which shows our fixation with washing up goes back all the way to the Harappan Civilisation.
- The city was divided into two parts: the upper town and the lower town. The remains of the brick walls there suggest wide streets, drains and bathing platforms.



### Lothal : City of Trade

- **Rectangular basin** bound on all sides by **baked bricks** has been found at Lothal that was said to be the **dockyard**.
- The discovery of Lothal seals in other ancient cities points to its importance in trade that was conducted with other ancient civilisations. The **dockyard proves the maritime activity of the Harappans**.
- Lothal was in the thick of Harappan maritime trade, and beads made from semi-precious stones, terracotta, gold, etc. were popular in areas as far as **Sumer (modern-day Iraq)**, Bahrain and Iran.
- The Lothal bead-makers were highly skilled as hundreds of carnelian beads in various stages of production and tools and raw materials were recovered.

### Indus Valley Civilisation (IVC)

- The Indus Valley Civilisation, which is now more popularly referred to as the Harappan civilisation after Harappa, the first of its sites to be excavated in the 1920s by British archaeologist **Sir Mortimer Wheeler**.
- Harappan civilisation emerged on the **banks of the river Indus in the second half of the third millennium BCE** and spread across large parts of western India.
- A marked feature of this ancient civilization was the vivid imagination and artistic sensibilities exuded by the numerous sculptures, seals, potteries, jewellery found at the excavation sites.

- **Harappa and Mohenjo-daro – the two major sites of this civilization** – are among the earliest and finest examples of urban civic planning. The planned network of roads, houses and drainage systems indicate the planning and engineering skills that developed during those times.
- The Harappan Civilisation was widespread as it covered parts of **India, Pakistan and Afghanistan**.
- It was a **trade based civilization** which had overseas trade links with Mesopotamia attested by the discovery of Harappan seals there and Mesopotamian carnelian beads here.

### Important Sites of IVC

- **Harappa in present Pakistan** – granaries with big platform, stone symbol of lingam and yoni, mother goddess figure, wheat and barley in wooden mortar, dice, copper scale and mirror.
- **Mohenjo-daro in present Pakistan** – bronze dancing girl, the sculpture of bearded priest, the great bath, the great granary.
- **Dholavira in Gujarat** – giant water reservoir, unique water harnessing system, stadium, dams and embankments, inscription comprising 10 large sized signs like an advertisement board.
- **Lothal (Manchester of Indus Valley Civilisation) in Gujarat** – dockyard, double burial, risk husk, fire altars, painted jar, modern day chess, terracotta figure of ship, instruments for measuring 45, 90 and 180-degree angles.
- **Ropar in Punjab** – dog buried with human oval pit burials.
- **Balathal and Kalibangan in Rajasthan** – bangle factory, toy carts, bones of camel, decorated bricks, citadel and lower town.
- **Banawali in Haryana** – toy plough, barley grains, oval-shaped settlement, the only city with radial streets.
- **Alamgirpur in Uttar Pradesh** – impression of a cloth on a trough.

### Gandhi Peace Prize: 2015-18

- The government has announced the **Gandhi Peace Prize for the years 2015, 2016, 2017 and 2018**.
- The following have been honored with the award:
  - **Vivekananda Kendra, Kanyakumari** for the year **2015** for their contribution in Rural Development, Education, Development of natural resources.

- For 2016 jointly to **Akshaya Patra Foundation** for its contribution in providing **mid-day meals** to millions of children across India and **Sulabh International** for its contribution in **improving the condition of sanitation in India** and emancipation of manual scavengers.
- **Ekal Abhiyan Trust** for the year **2017** for their contribution in providing **Education for Rural and Tribal Children** in remote areas pan India, Rural Empowerment, Gender, and Social Equality.
- **Shri Yohei Sasakawa** for the year 2018 for his contribution in **Leprosy Eradication in India and across the world**.

#### ➤ The Jury of Award

- The jury includes the **Prime Minister** as Chairman and comprises of the **Chief Justice of India, Leader of the single largest Opposition Party in Lok Sabha and two other eminent personalities**.

#### **Gandhi Peace Prize**

- The annual award was instituted by the Government of India in 1995 during the commemoration of the 125<sup>th</sup> Birth anniversary of Mahatma Gandhi.
- The award carries an amount of ₹ 1 crore, a citation in a scroll, a plaque as well as an exquisite traditional handicraft/handloom item.
- Gandhi Peace Prize is not awarded posthumously.
- The award is open to all persons regardless of nationality, creed, race or sex.

### **BHARAT PARV**

- The 4<sup>th</sup> edition of the Bharat Parv is being organized by **Ministry of Tourism** in collaboration with other central Ministries and State Governments from January 26-31, 2019.
- The prime **objective** is to generate a patriotic mood, promote the rich cultural diversity of the country, to promote the idea of '**Ek Bharat Shreshtha Bharat**'.
- It includes highlights of the Republic Day Parade Tableaux, performances by the Armed Forces Bands (static and moving), a multi-cuisine food court, Crafts Mela, Cultural Performances from different regions of the country.

#### **Ek Bharat Shreshtha Bharat**

Ek Bharat Shreshtha Bharat (EBSB), a central government's initiative aims to foster national integration by a co-ordinated mutual engagement process between States, Union Territories, central ministries, educational institutions and general public through linguistic, literary, cultural, sports, tourism and other forms of people-to-people exchanges.

### **Ladakh's Dard Aryan Tribes**

Dard Aryan tribe of Ladakh has requested the central government intervention to protect their culture and legacy.

- Dard Aryans are believed to be the original descendants of 'pure Aryan race'. The tribe is known for its liberal customs and ornate costumes. Many researchers believe that the 'Aryans of Ladakh' or the 'Brokpas' were a part of Alexander's army and had come to the region over 2,000 years ago.
- They live in the villages of Dha and Hanu (commonly called as Dhahanu), Darchik, and Gahanu - situated 163 kms southwest of Leh, the administrative capital of Ladakh.
- The rich heritage of the Dard Aryans is under threat due to rapid modernization, migration and religious conversion.
- The 'Dard' is derived from a Sanskrit word, 'Daradas', which refers to people who live on hillsides.
- According to the **Article 46** of the Constitution of India, the State shall promote with special care the educational and economic interests of the weaker sections of the people, and, in particular, of the Scheduled Castes and the Scheduled Tribes, and shall protect them from social injustice and all forms of exploitation.

### **Sangrai Dance**

Sangrai dance is performed by the **Mog tribal community** on the occasion of Sangrai festival during the month of Chaitra (in April) of the Bengali calendar year.

- The Mogs are one of the 19 tribes in **Tripura**.
- The Mogs are Arakanese descendants who migrated to Tripura through Chittagong Hill Tracts.





# Social Issues

## Highlights

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## ASER Report 2018

The NGO **Pratham** has released its **13<sup>th</sup> Annual Status of Education Report (ASER) – 2018**.

- ASER 2018 is a nation-wide household survey that provides a snapshot of children's schooling and learning for a representative sample of children across rural India.
- The survey covered almost 5.5 lakh children between the ages of 3 and 16 in 596 rural districts across the country.
- Children in the age group **3 to 16 are surveyed** to find out their enrollment status in school or pre-school. Children in the age group **5 to 16 are assessed one-on-one** to understand their basic reading and arithmetic abilities.
- ASER continues to be the only national source of information about children's foundational skills across the country.

### Key Findings

- The enrollment of children for the age group 6 to 14 has been above 95%, since 2017.
- In 2018, the overall proportion of girls in the 11 to 14 age group out of school has significantly fallen from the percentage in 2006. The number of out-of-school girls in India has gone down from 10.3% in 2006 to 4.1% in 2019.

- The gender gap is shrinking, even within the older cohort of 15- and 16-year-olds. Only 13.6% of girls of that age are out of school — the first time the figure has dropped below the 15% mark.
- While 53.1% of students in Class V in rural government schools could read a text meant for Class II in 2008, the corresponding figure for 2018 stood at 44.2%; for comparison, private schools scored 67.9% and 65.1% for the same test in those years.
- More than half of Class VIII students cannot correctly solve a numerical division problem and more than a quarter of them cannot read a primary-level text.
- There has been a gradual improvement at the Class III level, since 2014. However, even in 2018, only less than 30% of students in Class III are able to read a Class II text and do double-digit subtraction.
- A significant percentage of students were not even able to recognise letters appropriate for their class, highlighting a severe barrier to learning.
- Nationally, substantial improvements are visible in 2018 in the availability of many school **facilities** mandated by **Right To Education (RTE)**.
- ASER also introduced a series of questions on the availability of **sports infrastructure in schools**. In 2018, **about 8 out of 10 schools** had a playground available for students, either within the school premises or close by.

Note:



### The Right To Education (RTE) Act

- The Constitution (**Eighty-sixth Amendment**) Act, **2002** inserted **Article 21-A** in the Constitution of India to provide free and compulsory education of all children in the age group of **6 to 14 years as a Fundamental Right**.
- Subsequently, the **Right of Children to Free and Compulsory Education (RTE) Act, 2009** was enacted as envisaged under Article 21-A. It came into **effect on April 1, 2010**.
- There is no separate budget for RTE, rather it is subsumed in Sarva Shiksha Abhiyan (SSA) through which it is effected.
- Section 3(1) of the RTE Act provides that every child in the age group of 6-14 years shall have a right to free and compulsory education in a neighborhood school till completion of Elementary Education.
- The RTE Act provides for constitutionally created independent bodies like the National and State Commissions for Protection of Child Rights.
- Recently, the Rajya Sabha has passed the **Right of Children to Free & Compulsory Education (Amendment) Bill, 2018** which seeks to amend the Right to Education Act, 2009 to **abolish the no-detention policy in schools**.

### Annual Status of Education Report (ASER)

- ASER surveys use **Census 2011** as the sampling frame.
- **ASER 2016 followed the 'basic' model**, sampling for children in the age group **3 to 16**. It conducted tests for reading, arithmetic, and English for children in the age group **5 to 16**.
- In **2017**, ASER conducted the first alternate-year design known as **ASER 'Beyond Basics'**, focusing on **youth in the 14 to 18 age** group in 28 districts across India.
- ASER 2017 inquired about what youth are currently doing and aspiring to, in addition to assessing their foundational skills and ability to apply these to everyday tasks.

### Way Forward

- The Centre should institute a review mechanism involving all States for both government and private institutions, covering elementary education and middle school.

- **A public consultation on activity-based learning outcomes**, deficits in early childhood education, and innovations in better performing States can help.
- At present, children start learning in a variety of environments: from poorly equipped anganwadi centres to private nurseries. The enactment of the **Right to Education Act** was followed by a welcome rise in enrolment, which now touches 96%.
  - Empowering as it is, **the law needs a supportive framework** to cater to learners from different backgrounds who often cannot rely on parental support or coaching.
- It is worth looking at innovation in schools and incentivising good outcomes; one study in Andhra Pradesh indicated that bonus pay offered to teachers led to better student scores in independently administered tests in mathematics and language.

## Mohan Reddy Committee Recommendations Accepted

All India Council for Technical Education (AICTE) has accepted the recommendations of the committee headed by **BVR Mohan Reddy**.

- The committee was set up to provide **Short and Medium Term Perspectives for Engineering Education**.

### Key Recommendations

- No **new engineering institutes** should be allowed to set up from **2020**.
- Concessions should be made for applications already in the pipeline.
- Only requests from existing engineering institutes to either **start programmes in new technologies or convert current capacity in traditional engineering disciplines to emerging new technologies like artificial intelligence or robotics** should be entertained.
- Creation of **new capacity in colleges** should be **reviewed** every two years.
- Committee found that the **current capacity utilization in traditional disciplines is just 40% as opposed to 60% seat occupancy in branches such as computer science and engineering, aerospace engineering and mechatronics**.

- The committee had urged the AICTE to **introduce undergraduate engineering programmes** in emerging technologies like **artificial intelligence, the blockchain, robotics, quantum computing, data sciences, cybersecurity, 3D printing and design.**
- The committee found that the **innovation, incubation, and start-up ecosystem is lacking in educational Institutions.** Thus, every education institution should be mandated for the following:
  - **Entrepreneurship should be a minor elective for Undergraduates.**
  - Tinkering Laboratories similar to **Atal Innovation Laboratories** to be set up in every educational institution.
  - Educational Institutions need to set up **incubation centers, mentoring clubs** and accelerator programs.
- For approving additional seats in existing institutions, the committee has suggested that the AICTE should only give **approvals based on the capacity utilization of concerned institute.**

### Background

- Over the last couple of decades primarily in the post-liberalization phase, **India faced the challenge of meeting the fast-growing demand of skilled workforce** emanating from various key sectors of the economy.
- Since the requirement could have been met only through **widening the infrastructural base of the education sector by increasing the number of specialized technical institutions**, the country went into institution overdrive.
- The **government took the lead by setting up several technical institutions.** The policy continued unabated for about two decades, without any meaningful appraisal or evaluation of institutions being established, **resulting in mushrooming of engineering institutions.**
- In 2003, the **UR Rao committee** had warned of the rise in the number of engineering colleges and **suggested that a five-year moratorium on approving undergraduate technical institutions** be put in force in states where the annual student intake exceeded the national average of 150 per million population.
- A 2017 study by **Aspiring Minds** found that **95% of engineering graduates were unemployable for the software industry, which accounts for the bulk of engineering jobs.**

- In December 2017, an **investigation by The Indian Express** has found there were **no takers for 51% of the 15.5 lakh B.E/B.Tech seats in almost 3,200 engineering colleges in 2016-17.**
- The investigation found glaring **gaps in regulation**, including alleged **corruption**; a vicious circle of **poor infrastructure**, labs, and faculty; **non-existent linkages with industry** and the **absence of a technology ecosystem** to nurture the classroom. All this led to **low employability of graduates.**

## India Ends PISA Boycott

India and **Organisation for Economic Co-operation and Development (OECD)** have signed an agreement to enable India's participation in **Programme for International Students Assessment (PISA)** to be held in 2021.

- India stayed away from PISA in 2012 and 2015 on account of its dismal performance in 2009, when it was placed 72<sup>nd</sup> among the 74 participating countries.
- India criticized the method saying that questions were "out of context". Thus, India chose not to participate in the 2012 and 2015 cycle of PISA.

### What is PISA?

- PISA is an international survey **held every three years**, coordinated by the Organization for Economic Cooperation and Development (OECD).
- **First conducted in 2000**, the major domain of study rotates between **reading, mathematics and science** in each cycle.
- It is a competency-based test designed to **assess the ability of the 15-year-old candidates** that measures their reading, mathematics, and science literacy every three years to apply their knowledge in real-life situations.

### Important features of India's participation in PISA

- Schools run by **Kendriya Vidyalaya Sangathan (KVS), Navodaya Vidyalaya Samiti (NVS)** and schools in the **UT of Chandigarh will participate.**
- PISA uses test items aligned with international benchmarks. OECD has agreed to contextualize the questions for Indian students.

- Learnings from participation in PISA will help to introduce competency-based examination reforms in the school system and help move away from rote learning. The CBSE and NCERT will be part of the process and activities leading to the actual test.
- It would lead to **recognition and acceptability of Indian students** and prepare them for the global economy in the 21st century.

### A Glance at Indian Education System

- **Education in schools is one dimensional**, with an obsessive focus on marks. Further, there is lack of availability of trained teachers at all levels. Quality teachers are the missing link in the Indian education system.
- A **majority of students in the university are unemployable because of their inability to apply their knowledge in real-life situations**. This is because of a poor foundation in schools, where the emphasis is more on rote learning, rather than testing a student's creative skills.
- **As per UNESCO data, India has one of the lowest public expenditure rates on education per student, especially compared to other Asian countries like China.**
- With a literacy rate of about 74%, India lags behind other BRICS nations, which have literacy rates above 90%.

### Benefits of PISA

- **PISA data reveals common patterns among high performing school systems.** Likewise, the data also shows that school systems with the greatest improvement have used common tactics at different points in the reform process.
- The data is also used for benchmarking. An International benchmark like PISA can be a healthy driver for reform efforts worldwide.

### Criticism of PISA

- Concerns have been raised about **PISA that it has contributed to an obsession with standardized testing relying heavily on quantitative measures** rather than qualitative aspects of education.
- It is criticized for **shifting focus from long-term and enduring solutions to temporary measures** which are being increasingly adopted by countries to improve their ranking.

## World Leprosy Day

World Leprosy Day is observed on the **last Sunday of January**. It seeks to increase public awareness about leprosy and focuses on the target of zero cases of leprosy-related disabilities in children.

- The theme for 2019 World Leprosy Day is '**ending discrimination, stigma, and prejudice**'.
- In **India, it is celebrated on the 30<sup>th</sup> January** each year to commemorate the **death of Mahatma Gandhi**. This day was chosen as a tribute to the life of Gandhi who had a lifelong compassion for people affected by leprosy.
- Recently, **Shri Yohei Sasakawa** has been awarded **Gandhi Peace Prize** for the year 2018 for his contribution in Leprosy Eradication in India and across the world.
- Even though India **achieved leprosy elimination** (<1 new leprosy case per 10,000 population) in 2005, 60% of the world's leprosy patients are still living in the country.
- Further, a sample survey for leprosy conducted by the Indian Council of Medical Research (ICMR) in 2008-2011 estimated that there may be 2,50,000 new cases every year.

### Steps Taken to Eliminate Leprosy

- In 2017, government launched nationwide **Sparsh Leprosy Awareness Campaign (SLAC)** which aims at communicating the importance of early detection and treatment of leprosy.
- **National Leprosy Eradication Programme (NLEP)**: It focuses on both prevention and cure, especially in endemic regions. A Leprosy Case Detection Campaign was launched in March 2016, involving house-to-house screening and referral of patients for diagnosis.
- Introduction of an **indigenously developed vaccine** for leprosy into the **National Leprosy Elimination Programme (NLEP)**. The vaccine, known as **Mycobacterium indicus pranii (MIP)**, has been developed by **National Institute of Immunology**. This vaccine will be administered as a preventive measure to those staying in close contact with leprosy patients.
- Indian research contributed to the development of **Multi-Drug Therapy or MDT**, now recommended by WHO, which led to the shortening of treatment and higher cure rates.
- **Removal of social stigma**: More than laws, people's attitude to leprosy has to change, doing away with discrimination.

### Leprosy

- **Leprosy (Hansen's disease)** is an infectious disease caused by **Mycobacterium leprae** that involves the **skin and peripheral nerves**. The disease mainly affects the skin, the peripheral nerves, mucosa of the upper respiratory tract and eyes.
- While the mode of transmission of leprosy is not known, the most widely held belief is that the disease was transmitted by contact between those with leprosy and healthy persons.
- More recently, the possibility of transmission by the respiratory route is gaining ground. There are also other possibilities such as transmission through insects which cannot be completely ruled out.
- Although leprosy affects both sexes, in most parts of the world males are affected more frequently than females, often in the ratio of 2:1, according to WHO's Global Leprosy Report.
- Leprosy is **curable with MDT (multi drug therapy)** and treatment in the early stages can prevent disability. The disease is not hereditary.

## Jallikattu Event Held in Tamil Nadu

Recently, events of Jallikattu were organized in many parts of Tamil Nadu.

- **Jallikattu is referred to as bull taming event** typically practiced in Tamil Nadu as a part of Pongal celebrations.
- The person participating in the event has to **pluck bundles of money or gold tied to the animal's horns**.
- The term 'jallikattu' is derived from the **Tamil words 'jalli' and 'kattu'**. **Jalli refers to gold or silver coins. Kattu means 'tied'**.
- It is an **ancient 'sport'**, believed to have been practiced some 2500 years ago. It is also **mentioned in the Sangam literature**.
- It is controversial because the sport often results in **major injuries and even deaths of both bulls and humans**.
- Supreme Court in 2014 banned Jallikattu and bullock-cart races and such events like the Rekla (race-bulls lugging makeshift carts, TN), Kambala (buffalo race in Karnataka), Dhirio (bullfight in Goa), buffalo fight (Assam) in response to Animal Welfare Board of India (AWBI) and People for Ethical Treatment of Animals (PETA) petitions citing cruelty to animals.

### Perpetuation and Banning of the Practice

- Jallikattu has been considered as the **cultural symbol** of Tamilian pride. However, the court had noted that even the ancient culture and tradition do not support Jallikattu in the form they are conducted today; Tamil culture and tradition is about worshipping the bull considered the vehicle of Lord Shiva.
- **Saving Native Bulls:** Proponents of Jallikattu argue that only native bulls are allowed to participate in Jallikattu and these bulls will become extinct if Jallikattu is not allowed to happen; there were more than one million Kangayam bulls in 1990 but now the number is just 15,000.
- The practice observes the participation of only native bulls and helps in maintaining their survival. However, the practice violates the Prevention of Cruelty to Animals Act, 1960.
  - It is also in **contradiction to Article 51A** of the constitution (Fundamental Duties) which states that citizens should safeguard the wildlife and forests and have compassion for living creatures.

## Corruption Perceptions Index 2018: Transparency International

India has been ranked at **78<sup>th</sup> place out of 180 countries** in '**Corruption Perceptions Index**' (CPI) released by **Transparency International** in 2018 against 2017's 81<sup>st</sup>, where it had come down from 79<sup>th</sup> in 2016.

- The index ranks the countries by their **perceived levels of public sector corruption** according to experts and business people.
- It uses a scale of 0 to 100, where 0 is highly corrupt and 100 is very clean.

### Key Findings

- Continued failure of most countries to significantly control corruption is contributing to a **crisis of democracy** around the world.
- A **general lack of political will, weak institutions** and few political rights create an environment where corruption flourishes with little opposition.
- More than **two-thirds of countries score below 50**, with an average score of only **43**.
- **Denmark and New Zealand** top the Index with 88 and 87 points, respectively. **Somalia, South Sudan, and Syria** are at the bottom of the index, with 10, 13 and 13 points, respectively.

Note:



- The **highest scoring region is Western Europe** and the European Union, with an average score of 66, while the lowest scoring regions are Sub-Saharan Africa (average score: 32) and Eastern Europe and Central Asia (average score: 35).
- With score of 71, the **United States** lost four points since last year, **dropping out of the top 20 countries** on the CPI for the first time since 2011. The low score comes at a time when the US is experiencing threats to its system of checks and balances as well as an erosion of ethical norms at the highest levels of power.

### Indian Scenario

- India marginally **improved its score** to 41 (from 40 in 2017).
- Massive public mobilisation against corruption and voter turnout resulted in new governments and anti-corruption reforms in India, Malaysia, the Maldives, and Pakistan.
- Despite these encouraging developments, these are yet to translate into solid action against corruption.

### Way Forward

- To make real progress against corruption and strengthen democracy around the world, **Transparency International calls on all governments to:**
  - **strengthen the institutions** responsible for maintaining checks and balances over political power, and ensure their ability to operate without intimidation;
  - **close the implementation gap** between anti-corruption legislation, practice and enforcement;
  - **support civil society organisations** which enhance political engagement and public oversight over government spending, particularly at the local level;
  - **support a free and independent media**, and ensure the safety of journalists and their ability to work without intimidation or harassment.

#### Transparency International

- Transparency International, an **international non-governmental organization** which is based in Berlin, Germany was founded in 1993.
- Its nonprofit purpose is to take action to combat corruption and prevent criminal activities arising from corruption.
- It publishes other reports such as the **Global Corruption Barometer**.

## Global Risk Report 2019: World Economic Forum

**World Economic Forum** has recently released the Global Risk Report 2019.

- It **enlists the threats which the world will face in future** ranging from geopolitical and geo-economic tensions to environmental degradation and disruptions of the Fourth Industrial Revolution.
- The report presents the results of the Global Risks Perception Survey conducted by the World Economic Forum.

### Findings of the Report

- The report has predicted the following major risks under five categories:
  - **Economic**
    - Asset bubbles in a major economy
  - **Environmental**
    - Extreme weather events
    - Failure of climate change mitigation and adaptation
    - Natural disasters
    - Man-made environmental disasters
    - Biodiversity loss and ecosystem collapse
    - Failure of climate change mitigation and adaptation
  - **Geo-Political**
    - Weapons of mass destruction
  - **Societal**
    - Large-scale involuntary migration
    - Water crises
    - A spread of infectious diseases
  - **Technological**
    - Data fraud or theft
    - Cyber-attacks
    - Critical information infrastructure breakdown

## Pradhan Mantri Awas Yojana (Grameen)

The Pradhan Mantri Awas Yojana (Grameen), the scheme to provide housing for the rural poor has achieved only 66% of its target to complete one crore houses by 2019.



- According to data provided, some of the most laggard States as of July 2018 were Maharashtra, which had provided land for only 890 of 1.39 lakh landless beneficiaries and Assam, which had provided land for 574 of 48,283 landless beneficiaries.

### ***Pradhan Mantri Awas Yojana – Gramin (Ministry of Rural Development)***

- **Objective:** To help rural people below the poverty line (BPL) in construction of dwelling units and upgradation of existing unserviceable kutch houses by providing assistance in the form of a full grant.
- **Beneficiaries:** People belonging to SCs/STs, freed bonded labourers and non-SC/ST categories, including widows or next-of-kin of defence personnel killed in action, ex servicemen and retired members of the paramilitary forces, disabled persons and minorities.
  - Beneficiaries are chosen according to data taken from the Socio-Economic Caste Census (SECC) of 2011.
- **Timeline:** The project will be implemented in a span of three years and expected to boost job creation in rural areas.

### ***Pradhan Mantri Awas Yojana – Urban (Ministry of Urban Affairs)***

- The Mission is being implemented during 2015-2022 and will provide central assistance to Urban Local Bodies (ULBs) and other implementing agencies through States/UTs.
- All statutory towns as per Census 2011 and towns notified subsequently would be eligible for coverage under the Mission.
- It has the following provisions:
  - In-situ Rehabilitation of existing slum dwellers using land as a resource through private participation
  - Credit Linked Subsidy
  - Affordable Housing in Partnership
  - Subsidy for Beneficiary-led individual house construction/enhancement
- In the spirit of cooperative federalism, the mission provides flexibility to the States for choosing the best options amongst the above four verticals to meet the demand of housing in their states.
- Process of project formulation and approval in accordance with the mission Guidelines has been left to the States so that projects can be formulated, approved and implemented faster.

## **Regional Conference on Deendayal Disabled Rehabilitation Scheme (DDRS)**

Recently the Department of Empowerment of persons with Disabilities, Ministry of Social Justice and Empowerment organised Regional Conference on “Deendayal Disabled Rehabilitation Scheme (DDRS)” in Mumbai.

- It was the second of a series of Regional Conferences to be held across the country wherein Programme Implementing Agencies (PIAs) from the western region namely, Maharashtra, Madhya Pradesh, Gujarat and Goa participated.
- Since this scheme was **revised in 2018**, the Regional Conference was organized in order to **disseminate the provisions of the revised scheme and bring the Department closer to implementing agencies**.

### ***Deendayal Disabled Rehabilitation Scheme***

- **DDRS is a Central Sector Scheme** of Government of India which is being implemented **since 1999** for providing **financial assistance to NGOs working for education and rehabilitation of persons with disabilities**.
- The objectives of the scheme are:
  - To create an **enabling environment** to ensure equal opportunities, equity, social justice and empowerment of persons with disabilities.
  - To encourage voluntary action for ensuring effective implementation of the **Rights of Persons with Disabilities Act, 2016**.
- NGOs are being **given assistance under DDRS** for providing a wide range of services to children/persons with disability, e.g.
  - programmes for pre-school and early intervention
  - special education
  - vocational training and placement
  - community based rehabilitation
  - manpower development
  - psycho-social rehabilitation of persons with mental illness
  - rehabilitation of leprosy-cured persons, etc.
- The "Scheme to Promote Voluntary Action for Persons with Disabilities" was **revised and renamed** as the Deendayal Disabled Rehabilitation Scheme (DDRS) from **April 2003**.

## Ten Threats to Global Health in 2019: WHO

The World Health Organisation (WHO) has released a list of “Ten threats to global health in 2019”.

### Ten Threats and India

#### ➤ Air pollution, climate change

- Nine out of 10 people are breathing polluted air across the world.
- India, with 18% of the world's population, sees 26% of the global premature deaths and disease burden due to air pollution.

#### ➤ Noncommunicable diseases

- Noncommunicable diseases, such as diabetes, cancer, and heart disease, are collectively responsible for over 70% of all deaths worldwide.
- India has been named as the “diabetes capital of the world”. India's current estimated cancer burden — over 1.5 million new cases — is predicted to nearly double in coming 20 years.

#### ➤ Global influenza pandemic

- WHO has said that the world may face another influenza pandemic. But, the only thing we don't know is when it will hit and how severe it will be.

#### ➤ Fragile, vulnerable settings

- More than 1.6 billion people (22% of the global population) live in places where challenges such as drought, famine, conflict, and population displacement and weak health services have left them without access to basic care.
- The massive distress in India's farm sector has engendered waves of internal migration for work. This migrant population often live in unhygienic conditions with very little access to basic care.

#### ➤ Antimicrobial Resistance (AMR)

- The ability of bacteria, parasites, viruses, and fungi to resist antibiotics threatens our ability to fight with them.
- Drug resistance is driven by the overuse of antimicrobials in people and in animals, especially those used for food production, as well as in the environment.
- AMR is also a result of the rampant over-the-counter sale of medications without the prescription of a registered medical practitioner.

- India, China, and the Russian Federation accounted for 47% of the global incidence of MDR-TB (Multidrug-Resistant- Tuberculosis) in 2016. India has an AMR policy but the implementation is poor.

#### ➤ Weak primary healthcare

- Primary health care is usually the first point of contact for people having any health concerns. Ideally it should provide comprehensive, affordable, community-based care throughout life.
- Many countries do not have adequate primary health care facilities. This neglect may be due to a lack of resources in low- or middle-income countries and possibly also due to focus on single disease programmes in the past few decades.
- In India, the primary care arm of Ayushman Bharat, with a proposed 1,53,000 health and wellness centers, has received less attention than Pradhan Mantri Jan Arogya Yojana (i.e. The insurance aspect of Ayushman Bharat).
- Rural health statistics for 2017, in India, shows around 8,000 posts of doctors in primary health centers are vacant (against a requirement of almost 27,000), and almost 2000 of the total 25,000 Primary Health Centres have no doctors at all.

#### ➤ Vaccine hesitancy

- Vaccine hesitancy — the reluctance or refusal to vaccinate despite the availability of vaccines — threatens to reverse progress made in tackling vaccine-preventable diseases.
- Vaccination prevents 2-3 million deaths a year, and a further 1.5 million could be avoided if global coverage of vaccinations is improved.

#### ➤ Dengue

- Dengue, a mosquito-borne disease that causes flu-like symptoms is lethal and kills up to 20% of those with severe dengue.
- WHO estimates 40% of the world is at risk of dengue, with around 390 million infections annually.
- Dengue's season is lengthening significantly in India. Until November 25, 2018, India saw 89,974 dengue cases and 144 deaths.

#### ➤ HIV

- According to the WHO, nearly a million people every year die due to HIV/AIDS. Since the beginning of the epidemic, more than 70 million people have acquired the infection, and about 35 million people have died. Today, around 37 million people worldwide live with HIV.

- India has launched a “Test and Treat Policy”, made HIV treatment the right of every individual. India has also enacted the **HIV/AIDS Act, 2018** which makes anti-retroviral therapy a legal right for Indians with HIV/AIDS.
- **Ebola, other high threat pathogens**
  - WHO identifies diseases and pathogens that have the potential to cause a public health emergency but lack effective treatments and vaccines.
  - This list includes Ebola, Zika, Nipah, Middle East respiratory syndrome coronavirus (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS) and disease X, which represents the need to prepare for an unknown pathogen that could cause a serious epidemic.
  - While India saw no case of Ebola, but several Indian states battled Zika in October-November 2018, and at least 17 people died of Nipah infection in Kerala during April and May, 2018.

## Hike in Monthly Pensions under National Social Assistance Programme

The Ministry of Rural Development has proposed that the **monthly pensions** of the elderly poor, disabled and widows should be increased from the current **₹200 to ₹800 under the National Social Assistance Programme (NSAP)**.

- For those **above the age of 80**, the proposal is to increase the **pension from ₹500 to ₹1,200 per month**.
- This will have an additional annual cost implication of ₹18,000 crore on the Government.
- A study has also been launched to **consider doubling the number of people** covered by the scheme.
- In order to increase the coverage, discussions are also being held with the State governments on a proposal to **merge the Central and State pension schemes**.
- Currently, **Below Poverty Line (BPL) criteria** is used to determine the number of **people covered under NSAP**.
  - However, several States, including Rajasthan, Telangana, Bihar and Uttar Pradesh, have **already shifted to Socio Economic and Caste Census 2011 (SECC-2011) data** for their own pension schemes.

## Background

- In October, 2018 a **panel of National Human Rights Commission (NHRC)** on disability and elderly persons has recommended few measures for the welfare of senior citizens:
  - Centre should **increase its contribution** to the pension scheme for elderly persons from **₹ 200 to ₹ 2,000 per month**.
  - India should adopt the **“time bank”** scheme to take care of senior citizens who are living alone without any support from their family.
  - A **nodal police officer** to deal with issues of senior citizens living alone should be appointed at **district level**.
  - **Corporate Social Responsibility (CSR)** funds should be utilised for constructing **old age homes**.

## Time Bank Scheme

- Under the ‘time bank’ scheme, people save **time and volunteer** to take care of the elderly who need help.
- The **number of hours** they spend with of senior citizens are deposited into their **personal account of social security system**.
- When volunteers themselves get old and need someone for help, he/she could use the ‘time bank’ and a volunteer is assigned to take care of him/her.
- **Switzerland** and the **UK** are following the ‘time bank’ scheme while Singapore is considering to implement it.

➤ In its **December, 2018 order** the SC had urged the Government of India to **relook at these pension schemes** and overhaul them to bring about **convergence and avoid multiplicity**.

- It ordered the central and the state governments to make the grant of pension to the elderly more realistic, depending upon the availability of finances and the economic capacity of the governments.

## Constitutional Provisions

- **Article 41** of the Constitution of India directs the State to provide public assistance to its citizens in case of unemployment, old age, sickness and disablement and in other cases of undeserved want within the limit of its economic capacity and development.
- **Article 42** provides that the State shall make provision for securing just and humane conditions of work and for maternity relief.

### National Social Assistance Programme

- The **National Social Assistance Programme (NSAP)** is a welfare programme being administered by the **Ministry of Rural Development**.
- This programme is being implemented in **rural as well as urban areas**.
- The programme was first launched on **15<sup>th</sup> August 1995 as a Centrally Sponsored Scheme**. It was brought within the umbrella of '**Core of Core**' schemes of the Centrally Sponsored Schemes (CSS) in 2016.
- Currently, it has **five components namely**:
  - Indira Gandhi National Old Age Pension Scheme (**IGNOAPS**) - since inception of NSAP in **1995**
  - National Family Benefit Scheme (**NFBS**) - **1995**
  - **Annapurna Scheme** - launched in **2000**
  - Indira Gandhi National Widow Pension Scheme (**IGNWPS**) - launched in **2009**
  - **Indira Gandhi National Disability Pension Scheme** - launched in **2009**
- The National Maternity Benefit Scheme (NMBS) was part of NSAP and was subsequently transferred from the Ministry of Rural Development to the **Ministry of Health and Family Welfare**.

#### Central Schemes

- The central schemes are divided into **Central Sector Schemes** and **Centrally Sponsored Schemes (CSS)**.
- **Central sector schemes**:
  - These schemes are **100% funded by the Central government**.
  - Implemented by the **Central Government machinery**.
  - Formulated on **subjects mainly from the Union List**.
  - E.g.: **Bharatnet, Namami Gange, National Ganga Plan, etc.**
- Centrally Sponsored Schemes are the schemes by the centre where there is financial participation by both the centre and states.
  - Centrally Sponsored Schemes (CSS) are again divided into **Core of the Core Schemes, Core Schemes and Optional schemes**.
  - Currently, there are **6 core of the core schemes** while **22 core schemes**.
  - Most of these schemes **prescribes specific financial participation by states**. For example, in the case of MGNREGA, state governments have to incur 25% material expenditure.

- The **6 core of the core CSS** are:

- National Social Assistance Programme
- Mahatma Gandhi National Rural Employment Guarantee Program
- Umbrella Scheme for Development of Scheduled Castes
- Umbrella Programme for Development of Scheduled Tribes
- Umbrella Programme for Development of Minorities
- Umbrella Programme for Development of Other Vulnerable Groups

### Oxfam Report on Inequality

The international rights group, Oxfam released its annual study before the start of the five-day World Economic Forum (WEF) Annual Meeting in Davos, Switzerland.

#### Key Findings

- **GLOBAL**
  - Only **26 people on the earth** now own the same amount of resources as the 3.8 billion people own. This highlights the **intensity** of the **concentration of wealth**.
  - The governments are exacerbating inequality by **underfunding** public services, such as healthcare and education, on the one hand, while **under-taxing corporations and the wealthy**, and failing to clamp down on tax avoidance, on the other.
  - When public services are neglected, **poor women and girls suffer most**. E.g: Girls are pulled out of school first when the money is not available to pay fees, and women clock up hours of unpaid work looking after sick relatives when healthcare systems fail.
  - Also, cutting taxes on wealth **predominantly benefits men** who own 50% more wealth than women globally, and control over 86% of corporations.
  - **Unpaid work done by women** across the globe amounts to a **staggering \$10 trillion a year**, which is 43 times the annual turnover of the world's biggest company Apple.

Note:



## ➤ INDIA

- India's **top 10% of population holds 77.4%** of the total national wealth. The top 1% hold 51.53% of the national wealth, while the remaining 99% make do with almost 48%.
  - The **top 1% of India's wealthiest got richer by 39%** compared to 3% growth in the incomes of the bottom 50%.
  - The **poorest 10% (13.6 crores)** Indians have been living under the burden of debt since 2004.
- **Even in India women and girls are hardest hit** by rising economic inequality.
- In India, the **unpaid work done** by women looking after their homes and children is **worth 3.1% of the country's GDP**.
- The Oxfam study also referred to **India's poor 108<sup>th</sup> ranking on the WEF's Global Gender Gap Index of 2018**, stating that households that rely primarily on female earners tend to be poorer **because of gender pay gap**.
- The various intersections of caste, class, religion, age and sexual orientation have further implications on women inequality as a process. Although, India has many laws that deal with violence against women, but their implementation remains a challenge, mostly because of a **deeply patriarchal society**.
- Women's ability to undertake paid work is not merely determined by **economic considerations but also by social norms**. E.g.:
  - It is understood that a woman's primary role is to **take care of the house** and her family and any income generating work is secondary to this role.

## ➤ Recommendations

- All governments should set concrete, timebound targets and action plans to reduce inequality as part of their commitments under **Sustainable Development Goal (SDG-10: Reduce Inequalities)**. These plans should include action in the following three areas:
  - **Universal free** health care, education, pensions, child benefits and other public services that also work for women and girls should be delivered.
  - **Freeing up of women's time** should be a key objective of government spending. Investment must be made in public services including water, electricity and childcare that reduces the time needed to do this unpaid work.

- **End the under-taxation** of rich individuals and corporations. Tax avoidance and evasion by corporates and the super-rich should be eliminated. Tax system should be redesigned to make it fair, with developing countries having an equal seat at the table.

## ➤ Shortcomings

- Oxfam determines global inequality on the basis of one's net wealth—assets minus liabilities and excludes income altogether, ignoring purchasing power parity, standard of living, pension funds and future claims of investments which are **major parameters for measuring inequality**.
  - E.g.: A large section of Indian population **invests in the education and career building** of their children. That may be a liability today but is also an investment for tomorrow. Liabilities with income is not the same as liabilities without income.

## NITI Aayog-led Committee to Monitor Pricing of Drugs

The Union government has formed **Standing Committee on Affordable Medicines and Health Products (SCAMHP)** under NITI Aayog.

- The objective of the committee is to **recommend medicines for price control**. Thus, diluting the central role of the **National Pharmaceutical Pricing Authority (NPPA)** in setting drug prices.

### WATCHDOG ON A LEASH

■ Current ■ Change

Essential medicines automatically fall under price control  
**Essential medicines delinked from price control**

Health ministry prepares the list of essential medicines, DoP incorporates it into Schedule 1, NPPA fixes the prices  
**NITI Aayog panel to be recommending body to NPPA on pricing**

NPPA fixes prices for medicines on the non-scheduled list  
**The new panel to be recommending body on pricing**

NPPA exercises Para 19 powers in public interest  
**The new committee may encompass Para 19 powers**



- SCAMHP will be a **recommending body** to NPPA regarding prices of drugs and health products.

Note:



- At present, the health ministry prepares the list of drugs eligible for price regulation. The Department of Pharmaceuticals (DoP) then incorporates National List of Essential Medicines (NLEM) into Schedule 1 of the Drugs (Prices Control) Order (DPCO). Following this, NPPA fixes the prices of drugs in this schedule.
- The committee may take a matter related to pricing for examination, **suo motu or on the recommendations of Department of Pharmaceuticals (DoP), NPPA or the department of health and family welfare.**
- The new committee can also exercise powers **under Para 19 of Drugs (Prices Control) Order (DPCO).**
  - In 2013, the government had delegated these powers to NPPA, which it can exercise for setting the price cap of scheduled and non-scheduled drugs in public interest.

### Concerns

- The new committee has **broad discretionary powers** to intervene in any aspect including related to the functions of the NPPA which could be **used to dilute the pricing regime.**
- Earlier NPPA was taking strict action against those companies found to be overcharging. This will **weaken the functions of NPPA** as an enforcement body.

## National Girl Child Day

The Ministry of Women & Child Development celebrated National Girl Child Day (NGCD) on 24<sup>th</sup> January 2019 in Delhi.

- The theme of NGCD 2019 was **“Empowering Girls for a Brighter Tomorrow”** and was celebrated with objectives of generating **awareness** on the issue of declining **Child Sex Ratio (CSR)** and create a positive **environment around valuing the girl child.**
- The celebrations also marked the **4<sup>th</sup> anniversary of Beti Bachao Beti Padhao (BBBP)** Scheme which was launched in 2015.

### Beti Bachao Beti Padhao (BBBP) Scheme

- The trend of decline in the Child Sex Ratio (CSR), defined as the number of girls per 1000 of boys between 0-6 years of age, has been unabated since 1961.
- The decline from 945 in 1991 to 927 in 2001 and further to 919 in 2011 is alarming.
- The decline in the CSR is a major indicator of women disempowerment.
- CSR reflects both, pre-birth discrimination manifested through gender-biased sex selection, and post-birth discrimination against girls.
- Two most prominent reasons for the decline in child sex ratio are:
  - Social construct discriminating against girls
  - Easy availability, affordability and subsequent misuse of diagnostic tools
- The government has announced the **Beti Bachao Beti Padhao initiative to ensure survival, protection, and empowerment of the girl child.**
- This is a joint initiative of the **Ministry of Women and Child Development, Ministry of Health and Family Welfare and Ministry of Human Resource Development.**



# Miscellaneous

## Highlights

- *Bharat Ratna Award* (45)
- *Salt Satyagraha Memorial* (45)
- *Global Aviation Summit 2019* (45)
- *Education Institutions Ranking by Times Higher Education* (45)
- *National Museum of Indian Cinema (NMIC)* (46)
- *District Mineral Fund* (46)
- *ROSHNI* (46)
- *Indian Africa Field Training Exercise* (47)
- *Global Talent Competitive Index-2019* (47)
- *Pravasi Bharatiya Divas* (47)
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- *African Asian Rural Development Organisation (AARDO)* (47)
- *Super Blood Wolf Moon* (48)
- *RailWire* (48)

## Bharat Ratna Award

President Ramnath Kovind has conferred the Bharat Ratna, on former President **Pranab Mukherjee**, along with social activist **Nanaji Deshmukh (posthumous)**, and Assamese musician **Bhupen Hazarika (posthumous)**.

- The Bharat Ratna (Jewel of India), instituted in 1954 is the **highest civilian award** of the Republic of India.
- It is awarded in recognition of exceptional service/performance of the highest order in any field of human endeavour.
- The recommendations for the Bharat Ratna are made by the Prime Minister to the President with a maximum of three nominees being awarded per year.
- Recipients receive a **Sanad** (certificate) signed by the President and a medallion; there is no monetary grant associated with the award.
- Bharat Ratna recipients rank seventh in the Indian order of precedence.

## Salt Satyagraha Memorial

The Prime Minister inaugurated the National Salt Satyagraha Memorial at Dandi in Navsari district, Gujarat on January 30, to mark Mahatma Gandhi's 71st death anniversary.

- At the memorial site, he unveiled the statues of Mahatma Gandhi and Satyagrahis who had marched with him during the historic Dandi Salt March in 1930.
- The Dandi memorial encapsulates the ideals of Mahatma Gandhi- Agra for Swadeshi, Swatchagrah and Satyagraha.

- As a part of the civil disobedience movement against the British rule, 80 satyagrahis led by Gandhi marched 241 miles from Sabarmati Ashram in Ahmedabad to the coastal village of Dandi and made salt from sea water, breaking the Salt Law imposed by the British.

## Global Aviation Summit 2019

The **Ministry of Civil Aviation, Government of India, in collaboration with Federation of Indian Chambers of Commerce and Industry (FICCI)** has organized first of its kind Global Aviation Summit in Mumbai.

- The theme of Global Aviation Summit is **"Flying for all - especially the next 6 Billion"**.
- The Summit aims to provide a platform for the stakeholders to brainstorm over the future of the aviation industry and identify the growth areas.
- It also gives the opportunity to highlight the latest concepts like drones, air taxis, new jets, and ultra-light aerial electric vehicles etc.
- Vision 2040 for the aviation sector was also launched during the summit.
- The vision document highlights the growth potential in different sub-sectors of Indian aviation and the key action steps which are required to be taken to achieve the desired objective.

## Education Institutions Ranking by Times Higher Education

**London Based Times Higher Education** has released the ranking of institutions under its Times Higher Education Emerging Economies Ranking.

- The 2019 ranking comprises of **nearly 450 universities from 43 countries, across four continents.**
- **India has improved its performance with 49 institutions making it to the list.**
- Indian Institute of Science is at the 14<sup>th</sup> place, followed by the Indian Institute of Technology Bombay which is at 27<sup>th</sup>.
- India has 25 universities in the top 200, a rise from 17 in 2018.
- China remains the most represented nation in the annual 2019 listing, with four institutions among the top five and 72 institutions in total.

## National Museum of Indian Cinema (NMIC)

India's first National Museum of Indian Cinema (NMIC) has been inaugurated in Mumbai.

- The National Museum of Indian Cinema will provide a storehouse of information to the people.
- It will also **help filmmakers, film students, enthusiasts and critics** to know and **evaluate the development of cinema** as a medium of artistic expression, not only in the country but also in all parts of the world.
- The museum is **housed in a 19<sup>th</sup> century heritage bungalow, Gulshan Mahal**, along with another newly built state-of-the-art NMIC building.
- The new museum building has **four exhibition halls**, whose themes are:
  - Gandhi and Cinema;
  - Technology, Creativity and Indian cinema;
  - Cinema across India;
  - Children's Film Studio.
- **Raja Harishchandra made by Dadasaheb Phalke in 1913** was the **first silent feature film in India** and **Ardeshir Irani's Alam Ara in 1931** was the first feature film with sound.

## District Mineral Fund

The Ministry of Mines has requested State governments to complete the audit of District Mineral Fund (under Pradhan Mantri Khanij Kshetra Kalyan Yojana) expenditure for the financial year 2017-18.

### Pradhan Mantri Khanij

### Kshetra Kalyan Yojana (PMKKKY)

- **Objective:** To minimize/mitigate the adverse impacts, during and after mining, on the environment, health and socio-economic conditions of people in mining districts and also to ensure a sustainable livelihood for the affected people.
- It is implemented by the **District Mineral Foundations (DMFs)** of the respective districts that use the funds collected from the miners.
- District Mineral Foundation (DMF) is a **trust set up under Mines and Minerals (Development & Regulation) Amendment Act (MMDRA) 2015** as a non-profit body in those districts affected by the mining operations.
- **60% of the funds will be utilized for high priority areas such as drinking water supply, health care, sanitation, education, skill development, women and child care, the welfare of aged and disabled people and environment conservation.**
- **40% of the fund** will be utilized for physical infrastructure, irrigation, energy, and watershed development.

## ROSHNI

It is an **app to help visually impaired**, to differentiate between new post demonetization currencies of India.

- It has been developed by **IIT Ropar, Punjab.**
- Earlier the visually impaired persons differentiated the currencies based on the length and width of the note, but after demonetization it has become very difficult for them to identify the denomination, due to similarity in the sizes of new and old notes.
- The user has to bring the currency note in front of phone camera and the App would provide audio notification intimating the currency note denomination to the user.
- It is the first of its kind Android App and it works well in broad range of light conditions and holding angles.
- The **Seeing AI App by Microsoft** is the only **other App** that facilitates recognition of both old and new Indian currency notes, but it is an iOS (iPhone OS) App and not available for visually impaired.

## Indian Africa Field Training Exercise

- **Indian Africa Field Training Exercise (IAFTX)** is scheduled to be conducted in Pune from 18 March to 27 March 2019.
- It aims at synergising humanitarian mine action, joint peace operations and to boost strategic and military cooperation, **between African countries and India.**

## Global Talent Competitive Index-2019

India has secured **80<sup>th</sup>** rank on the **Global Talent Competitive Index.**

- It measures the ability of countries to compete for talent.
- It is released by **INSEAD business school** in partnership with **Tata Communications and Adecco Group.**
- Its theme is "**Entrepreneurial Talent and Global Competitiveness**".
- This Index takes into account variables such as ease of hiring, gender earnings gap, and prevalence of training in firms.
- India's biggest challenge is to improve its ability to attract and retain talent.
- India needs to address its poor level of Internal Openness particularly with respect to weak gender equality and low tolerance towards minorities and immigrant.

## Pravasi Bharatiya Divas

The **15<sup>th</sup> Pravasi Bharatiya Divas (PBD)** was held in **Varanasi (Uttar Pradesh)** from January 21 to January 23, 2019.

- Its theme was "**Role of Indian Diaspora in building a New India**".
- It was organized by the **Ministry of External Affairs (MEA)** in association with the government of **Uttar Pradesh.**
- PBD is normally celebrated on **9<sup>th</sup> January.** However, this time dates were shifted to allow the guests attending the event to get an opportunity to **participate in the 'Kumbh Mela' at Prayagraj** and to attend the **Republic Day parade.**

### Pravasi Bharatiya Divas

- Pravasi Bharatiya Divas (PBD) is celebrated once in **every two years** to strengthen the engagement of the overseas Indian community with the Government of India and reconnect them with their roots.
- January 9 commemorates **Mahatma Gandhi's return to India** from South Africa in 1915.
- It is celebrated on **January 9** to mark the contribution of the Overseas Indian community in the development of India.
- PBD conventions are being held every year **since 2003.**
- These conventions enable networking among the overseas Indian community and to share their experiences in various fields.
- During the event, individuals of exceptional merit are honored with the prestigious **Pravasi Bharatiya Samman Award** to appreciate their role in India's growth.

## World Economic Outlook Report

The International Monetary Fund (IMF) has released an update of its biennial **World Economic Outlook Report 2018.**

- India's GDP is forecasted to expand 7.5% in FY20 and 7.7% in FY21. China's growth is seen at 6.2% in both years.
- According to the report, India's economy will pick up growth in 2019, benefiting from lower oil prices and a slower pace of monetary tightening than previously expected, as inflationary pressures ease.
- The global economy is projected to grow by 3.5% in 2019 and 3.6% in 2020.

## African Asian Rural Development Organisation (AARDO)

An international workshop on fisheries and aquaculture has called for regional cooperation among member countries of the African Asian Rural Development Organisation (AARDO) to develop joint fisheries management plans.



- African - Asian Rural Development Organization (AARDO), **headquartered in New Delhi, was formed in 1962**, is an autonomous inter-governmental organization comprising 33 members from Africa and Asia.
- It was earlier known as Afro-Asian Rural Development Organization.
- AARDO is one of the **earliest examples of South-South cooperation** in rural development in the Afro-Asian region. The Organization was set up with a view to promote coordinated efforts, exchange of experiences and cooperative action for furthering the objectives of development of the **rural areas**.
- India is one of the **Founder Members of the Organization** and is the largest contributor in terms of membership contribution.
- The first Afro-Asian Conference on Rural Reconstruction was held in New Delhi in January 1961.

## Super Blood Wolf Moon

The Super Blood Wolf Moon, a total Lunar Eclipse, was visible in many parts of the world on January 20-21.

- It was visible in North America, Central America, and South America. But the total lunar eclipse was not visible in India.
- Super Blood Wolf Moon is a lunar eclipse in which the moon appears to be red in color as a result of scattered and refracted sunlight around Earth.
- This super blood moon is called as Super Blood Wolf Moon because in many cultures the first full moon of the year is named as Wolf Moon.

### Related Terms

- **Lunar Eclipse:** A lunar eclipse occurs whenever the moon passes through Earth's shadow, also known as its umbra.
- **Super Moon:** Super Moon occurs when the full moon is at the closest point of its orbit to the Earth, which is also called the perigee. The moon appears brighter and bigger than the usual full moon.
- **Blood Moon:** The moon turns into red color during the height of the eclipse as some light reaches it even though the moon is in the shadow of the Earth. Fine particles in the atmosphere like dust scatter the blue component of the solar spectrum.

- **Blue Moon:** When two full moons appear in the same calendar month, the second is termed a "blue moon".

## RailWire

RailWire WiFi at 746 railway stations across the country has emerged as one of the world's largest and fastest public WiFi networks.

- Within a month Rail Wire has around 2.6 crores logins and over 9,400 TeraBytes (TB) data consumption.
- Free WiFi services to commuters are being provided under 'RailWire', RailTel's retail Broadband initiative.
- RailTel is a 'Mini Ratna', a central public sector undertaking (PSU) under the Ministry of Railways.
- RailTel provides WiFi at rural railway stations which are small stations catering to rural populations that do not have access to state-of-the-art telecom infrastructure.
- RailTel is also playing a major role in developing Telecom Networks of national interests like National Knowledge Network, National Optical Fiber Network etc.
- WiFi has been provided to railway stations either through the Universal Service Obligation Fund (USOF) of the Union Government or through railway stations' own or other funding.

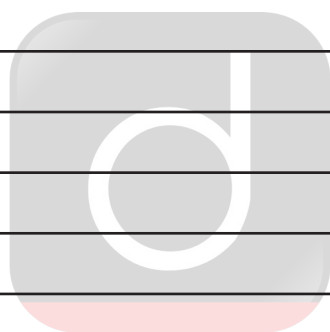
### Universal Service Obligation Fund (USOF)

- USOF was envisaged in the new telecom policy - 1999 (NTP'99).
- NTP provided that the resources for meeting the Universal Service Obligation (USO) would be raised through a 'Universal Access Levy (UAL)', which would be a percentage of the revenue earned by the telecom operators.
- USOF was given statutory status by the Indian Telegraph (Amendment) Act, 2003.
- The USOF has to be utilized exclusively for meeting the Universal Service Obligation.
- Universal Service Obligation is defined as access to telegraph services to people in rural and remote areas at an affordable and reasonable price.



## Key Points

## Details

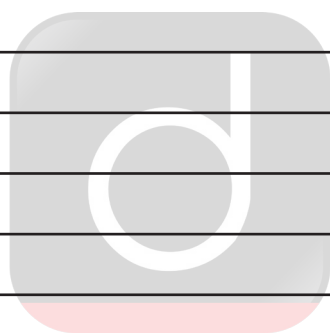


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## Summary

## Key Points

## Details



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## Summary



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# Current Affairs (CONSOLIDATION)

**1-15<sup>th</sup>  
FEBRUARY 2019**

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# Polity and Governance

## Highlights

- The President's Address to Parliament (1)
- Banning of Unregulated Deposit Schemes Bill, 2018 (1)
- Registration of Marriage of NRI Bill, 2019 (2)
- Ladakh Gets Divisional Status (2)
- Kerala Sets Up Drug Price Monitoring & Research Unit (3)
- Rajasthan to Scrap Education Criterion (4)
- EC Launches VVIP, cVIGIL and PwD Apps (5)
- Buddhist Tourism Circuit (5)

## The President's Address to Parliament

Recently, President of India addressed both the houses of parliament at the beginning of last Budget session of the 16<sup>th</sup> Lok Sabha.

- After the presidential address, Motion of Thanks was passed in both the houses.
- The President's speech essentially highlights the government's policy priorities and plans for the upcoming year. The address provides a broad framework of the government's agenda and direction.

### Constitutional Provision

- **Article 86(1)** of the Constitution provides that the President may address either House of Parliament or both Houses assembled together, and for that purpose require the attendance of members.
- **Article 87** of the constitution provides two instances when the President specially addresses both Houses of Parliament:
  - At the **beginning of the first Session after each general election** when the reconstituted lower house meets for the first time.
  - At **beginning of the first session of each year**.

### Motion of Thanks

- **Under article 87 (2) of the Constitution**, this address of the president is discussed in both the Houses of Parliament on a motion called the 'Motion of Thanks'.
- At the end of the discussion, the motion is put to vote. This motion must be passed in the House. Otherwise, it amounts to the defeat of the government.

### Sessions of Parliament

- The President from time to time summons each House of Parliament to meet. The maximum gap between two sessions of Parliament cannot be more than six months (**Article 85 (1)**).
- There are usually three sessions in a year:
  - the Budget Session (February to May);
  - the Monsoon Session (July to September); and
  - the Winter Session (November to December).

## Banning of Unregulated Deposit Schemes Bill, 2018

The union cabinet has approved amendments to the **Banning of Unregulated Deposit Schemes Bill, 2018**.

- It provides for a mechanism to ban unregulated deposit schemes and protect the interests of depositors.

### Background

- The Finance Minister in the **Budget Speech 2016-17** had announced that comprehensive central legislation would be brought in to deal with the illicit deposit.
- Recently the country has seen rising instances of people being defrauded by illicit deposit-taking schemes. For example Rose Valley Scam and Sharada chit fund scam.
- The worst victims of these schemes are the **poor and financially illiterate, and the operations of such schemes are often spread over many States**.

### Provisions in the Bill

- The Bill defines **deposit as an amount of money received through an advance, a loan, or in any other form, with a promise to be returned with or without interest**.

- Such deposit may be returned either in cash or as a service, and the time of return may or may not be specified.
- A deposit-taking scheme is defined as ‘**unregulated**’ if it is not registered with the relevant regulators listed in the Bill like the Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI), the Ministry of Corporate Affairs and state and union territory governments.
- The Bill defines **Deposit Taker** as all possible entities (including individuals) receiving or soliciting deposits, except specific entities such as those incorporated by legislation.
  - Banks and entities incorporated under any other law are not included as deposit takers.
- **Competent Authority:** The Bill provides for the appointment of one or more government officers, not below the rank of Secretary to the state or central government, as the Competent Authority. Police officers receiving information about offences committed under the Bill will report it to the Competent Authority. The Competent Authority will have powers similar to those vested in a civil court.
- **Three different types of offenses under the Bill:**
  - Running (advertising, promoting, operating or accepting money) unregulated deposit schemes.
  - Fraudulently defaulting on regulated deposit schemes.
  - Wrongfully inducing depositors to invest in unregulated deposit schemes by willingly falsifying facts.
- **Severe punishment** and heavy fines to act as a deterrent.
- **Provision for repayment of deposits** in cases where such schemes manage to raise deposits illegally.
- **Attachment of properties/assets by the Competent Authority**, and selling off assets for repayment to the depositor.
- **Clear-cut timelines have been provided for attachment of property and reimbursement to depositors.**
- Creation of an **online central database**, for collection and sharing of information on deposit-taking activities in the country.
- **Designation of Courts** to oversee repayment of depositors and to try offenses under the bill.

## Registration of Marriage of NRI Bill, 2019

The Union Cabinet has approved the introduction of **Registration of Marriage of Non-Resident Indian (NRI) Bill, 2019.**

- The Bill proposes to offer greater protection to Indian women married to NRIs and serve as a deterrent against their harassment.
- The introduction of the Bill was necessitated by the Ministry of External Affairs due to numerous complaints received from Indian nationals mostly women deserted or harassed by their Non-Resident Indian Spouses.

### Provisions in the Bill

- **Registration of Marriages by Non-Resident Indians**
  - The Bill provides for **compulsory registration of marriage within 30 days** of marriage if marriage has taken place or solemnized in India or at Indian mission or consulates (if it has taken place or solemnized abroad).
- **Amendment of the Passports Act, 1967**
  - This amendment would **empower the Passport Authority to impound or revoke the passport of NRI** if it is brought to its notice that the NRI has not registered his marriage within 30 days from the date of marriage.
- **Amendment to the Code of Criminal Procedure 1973.**
  - This amendment **empowers the Courts for the issuance of summons, warrants.**
  - It also provides provisions for attachment of properties belonging to the NRI, if he does not appear before the Court and is declared as Proclaimed Offender by the Court.

## Ladakh Gets Divisional Status

The government of Jammu Kashmir has granted **Ladakh a divisional status**, thus creating **three administrative units** in the state which are **Jammu, Kashmir, and Ladakh.**

- This **division will comprise Leh and Kargil districts** with its headquarter at Leh.
- **Ladakh was earlier a part of the Kashmir division.** The divisional status will create a separate administrative and revenue Division for Ladakh.

Note:

- Earlier the government established the Ladakh Autonomous Hill Development Councils (LAHDC) Leh and Kargil to give more autonomy to Ladakh region. These hill development councils have local administrative powers.
- Now the Kashmir valley is geographically the smallest division at 15,948 sq. km, Jammu division at 26,293 sq. km and Ladakh, the biggest division, at 86,909 sq. km.

### Why a Separate Division?

- During winter months the entire Ladakh region, comprising both Leh and Kargil, remains **cut-off from rest of the country for almost six months** and air travel via Leh is the only mode of transport available to this region, which makes it difficult for people to visit other parts of the country for various purposes.
- Consequently, the region faces problems with respect to the delivery of developmental schemes, redressal of public grievances, the conduct of administrative affairs and governance as such.
- **The remoteness and inaccessibility of the area makes it eligible for establishing a separate Division.**

### Ladakh

- Ladakh is one of the most sparsely populated regions in Jammu and Kashmir and is the highest plateau in the State, with most of it being over 9,800 feet above sea level.
- Ladakh has a population of 1.33 lakh. The biggest ethnic group is **Buddhist having 77.30%** of the population followed by **Muslims with 13.78%** and **Hindus with 8.16%**.
- **The Jammu and Kashmir Ladakh Autonomous Hill Development Council Act, 1997**
  - Under the Act, the Hill Development Councils were established both for Leh and Kargil Districts.
  - In order to strengthen the respective Hill Development Councils of Leh and Kargil, the LAHDC Act, 1997 have been amended further in 2018 to give them more powers.

## Kerala Sets Up Drug Price Monitoring & Research Unit

Kerala has become the **first State** to set up a **Price Monitoring and Research Unit (PMRU)** to track violation

of prices of essential drugs and medical devices under the **Drugs Price Control Order (DPCO)**.

### Composition

- PMRU has been registered as a society with the **State Health Secretary as its Chairman** and the Drugs Controller as its member secretary.
- Its members include a State government representative, representatives of private pharmaceutical companies, and those from consumer rights protection fora.
- The society which has been set up to get Central assistance for the functioning of the unit it would also have an executive committee headed by the Drugs Controller.

### Background

- The decision to set up PMRU comes more than five years after the **National Pharmaceutical Pricing Authority (NPPA) proposed** such a system for the States and the Union Territories.
- The suggestion to set up PMRUs was made against the backdrop of the lack of a field-level link between the NPPA and the State Drugs Controllers and State Drug Inspectors to monitor drug prices.
- No price control review mechanism has been in place until now.

### Objective

- The PMRU will work to develop synergy between the **central and state authorities**.
- It will provide **technical help to the State Drug Controllers** and the NPPA to monitor notified prices of medicines.
- Detect **violation** of the provisions of the **DPCO**.
- Look at **price compliance**.
- To collect test samples of medicines and compile market-based data of scheduled as well as non-scheduled formulations.

### National Pharmaceuticals Pricing Authority

- NPPA is an organization under **Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers** which was **set up in 1997** to revise the prices of controlled bulk drugs and formulations. It also enforces prices and availability of the medicines in the country, under the Drugs (Prices Control) Order (DPCO), 1995.



- The prices are **now fixed/revised** under **Drugs (Prices Control) Order (DPCO), 2013**.
- It also monitors the prices of decontrolled drugs in order to keep them at reasonable levels.
- Drug Price Control Orders (DPCO) are issued by the Government, under the Essential Commodities Act, 1955, for enabling the Government to declare a ceiling price for essential and life saving medicines (as per a prescribed formula) so as to ensure that these medicines are available at a reasonable price to the general public.

## Rajasthan to Scrap Education Criterion

Recently, the Rajasthan Assembly **passed two Bills** which seek to end the minimum education criterion for **panchayat and civic poll candidates**.

### Background

- This **reverses the amendments** introduced by the **previous government in 2015** which required candidates contesting the Zila Parishad and Panchayat Samiti **elections to have passed Class 10** and those contesting **Sarpanch elections to have passed Class 8**.
- Further, it **disallowed those without functional toilets** in their home to contest. Following this, **Haryana** also introduced similar restrictions for contesting local body elections.
- **In December 2015**, a two-judge Bench of the Supreme Court in **Rajbala v. the State of Haryana** upheld the validity of the amendments to the Haryana Panchayati Raj Act.
- The latest decision of the Rajasthan government has once again **revived the debate** on the fairness of having such restrictions.

### Arguments Against the Criteria of Minimum Education Qualification

- It **restricts a citizen's right** to contest elections and thereby challenges the basic premise of republican democracy.
- Denying the right to contest effectively restricts the right of a citizen to vote for a candidate of her choice since more than half the population is restricted from contesting.

- It disproportionately **disenfranchises the more marginal sections of society**: women, Dalits and poor.
- This approach **goes against the very objective of the 73<sup>rd</sup> and 74<sup>th</sup> Amendments** that sought to make panchayats and municipalities representative institutions with adequate representation from **Scheduled Castes, Scheduled Tribes, and women**.
- The disqualification of candidates who don't have toilets in their home or defecate in open places more importance to the implementation of a particular programme like the Swachh Bharat Mission over the need for representative government.
- **Such restrictions do not exist** for those contesting parliamentary or Assembly elections, and the restriction at the panchayat level is unreasonable. In fact, in the 16<sup>th</sup> Lok Sabha, 13% of MPs are under-matriculantes, a share higher than those of women MPs.

### Arguments in Favour of the Criteria of Minimum Education Qualification

- In **Rajbala** case, the Apex court held that prescription of educational qualification is relevant for **"better administration of the panchayats"**.
  - The Bench consisting of Justice Chelameswar and A.M.Sapre held that both the rights namely **"Right to Vote"** and **"Right to Contest"** are **not fundamental Rights but only constitutional rights** of the citizen. So, the minimum qualification for contesting election can be imposed.
- With minimum education qualification, there can be a reduction in the chances of getting misled by other people.
- Setting educational criteria would motivate society to be literate.
- A well-educated individual is considered as the resource for the development of the country. And if the leaders of the human resource are illiterate then there would be no proper guidelines for human resource.

### Way Forward

- Local bodies should be elected for its representative character and not for its administrative functions. Giving a voice to the people is more important than following bureaucratic procedures at the grassroots level.

## EC Launches VVIP, cVIGIL and PwD Apps

The Election Commission of India has launched a **Voter Verification and Information Programme (VVIP)** for citizens for **verification of their names, new registrations, changes in the voter details and corrections in the Voter Id Cards** for the **upcoming General Elections 2019**.

- EC has also launched the **cVIGIL App**. This app provides **time-stamped, evidence-based proof of the Model Code of Conduct/Expenditure Violation, having live photo/video with auto location data**.
- Any citizen can lodge a complaint through the Mobile App. Flying Squads will then investigate the matter and the Returning Officer takes the decision.
- The status of cVIGIL can be shared with the cVIGIL complainant within a specified time limit.
- A '**PwD App**' is a **mobile application to enable Persons with Disabilities (PwDs) to request for new registration, change in address, change in particulars and mark themselves as PwD** through the app was also launched. PwDs can also request for a wheelchair during polling.

## Buddhist Tourism Circuit

- Recently, the Union Ministry of Tourism has sanctioned **five new projects** under the **Buddhist Circuit**.
- The five states where the project under Buddhist Circuit has been sanctioned are **Madhya Pradesh, Uttar Pradesh, Bihar, Gujarat and Andhra Pradesh**.
- The Buddhist Circuit is one among the **fifteen thematic circuits** identified for development under **Swadesh Darshan Scheme**.

### Swadesh Darshan Scheme

- Swadesh Darshan, a **Central Sector Scheme**, was launched in 2014-15 for integrated development of theme based tourist circuits in the country.
- Under the scheme, the Ministry of Tourism provides **Central Financial Assistance (CFA)** to State Governments/Union Territory Administrations for infrastructure development of circuits.
- This scheme is envisioned to **synergise with other schemes** like Swachh Bharat Abhiyan, Skill India, Make in India etc. with the idea of positioning the tourism sector as a major engine for job creation, driving force for economic growth, building synergy with various sectors to enable tourism to realise its potential.

drishti

# Economic Scenario

## Highlights

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## Interim Budget 2019: Constitutional Provisions and Social Sector

### Constitutional Provisions

- According to **Article 266** of the Constitution, **Parliamentary approval** is required to draw money from the **Consolidated Fund of India**.
- Besides, **Article 114 (3) of the Constitution** stipulates that **no amount can be withdrawn** from the Consolidated Fund without the **enactment of a law (i.e. Appropriation bill)**.
- The passing of Appropriation bill **takes time** and usually goes on till the end of April. But the government needs money to carry on its **normal activities after 31<sup>st</sup> March (the end of the financial year)**.
- To overcome this functional difficulty, **Article 116 of the Constitution** has authorised the Lok Sabha to make any grant in advance in respect to the estimated expenditure for a part of the financial year. This provision is **known as the 'vote on account'**.
- Vote on Account was frequently used until 2016 when the Budget was presented on the last working day of February.
- However, **since 2017**, the budget presentation date was **advanced to February 1**. This helped the

government to use almost 2 months time to get the full-budget passed in the same financial year.

- Since 2017, Vote on Account is **not usually used** as part of the government budgeting process, unless in **special cases** like an **election year**.
- An outgoing government presents only an interim Budget or seeks a vote on account.
- An **Interim Budget is not the same as a 'Vote on Account'**. While a 'Vote on Account' deals **only with the expenditure side** of the government's budget, an Interim Budget is a **complete set of accounts, including both expenditure and receipts**.
- However, the estimates are presented for the entire year, as is the case with the regular Budget. Having said this, the **incoming government** has full freedom to **change the estimates completely** when the final Budget is presented.

### Social Sector

- **Health**
  - For the government's ambitious flagship scheme for universal health insurance, **Ayushman Bharat**, the government has **increased** the allocation by **166% over the past year (₹6,400 crore from ₹2,400 crore)**.
  - An additional allocation of ₹250 crore is provided under the **National Urban Health Mission** for building **wellness centres**.

Note:

- Allocation to the **Rashtriya Swasthya Bima Yojna**, which provides health insurance to families below the poverty line, **increased by 142%**.
- Setting up of a new – the **22nd AIIMS in Haryana announced**.
- Allocation for **Integrated Child Development Scheme (ICDS)** is being increased from ₹23,357 crore in 2018-19 to ₹27,584 crore in 2019-20.
- The allocations for **National Health Mission** that covers various health services such as immunization, neonatal care, ASHA workers, Vector Borne Diseases, TB, Leprosy and communicable disease **grew 3.46%**.
- Swachh Bharat Mission's allocation **decreased** to ₹12,750 crore from ₹16,978 crore last year.
- **Poor, Backward and Vulnerable Sections**
  - **25% additional seats in educational institutions** to meet the 10% reservation for the poor.
  - Targeted expenditure to bridge urban-rural divide & to improve quality of life in villages. The Government to make 1 lakh villages into **Digital Villages** over the next five years.
  - All willing households to be provided electricity connections by March 2019
  - A **new committee under NITI Aayog** to identify all the **remaining De-notified nomadic and semi-Nomadic tribes**.
  - **New Welfare development Board under the Ministry of Social Justice** and empowerment for development and welfare of Denotified nomadic and semi nomadic tribes.
- **Education**
  - The fund allocation for the **National Education Mission has been increased by about 20%**. The four prominent schemes under National Education Mission are: **Saakshar Bharat, Sarva Shiksha Abhiyan, Rashtriya Madhyamik Shiksha and Teacher training programs**.
  - National programme on **Artificial Intelligence (AI)** has been envisaged by the government, which also includes education and training of youths for AI-related jobs.

## Interim Budget 2019: Infrastructure and Economy

Interim budget 2019 has following proposal for Economy and Infrastructure.

- **Textile Sector**
  - Two major schemes implemented by the Ministry of Textiles – **the Amended Technology Upgradation Fund Scheme and the Remission of State Levies** – have seen lower allocation for 2019-20. Allocation for the textiles sector in the Interim Budget has been reduced by over ₹1,000 crore.
  - **Amended Technology Upgradation Fund Scheme**
    - The Technology Upgradation Fund Scheme was introduced by the Government in 1999 to facilitate new and appropriate technology for making the textile industry globally competitive and to reduce the capital cost for the textile industry.
    - In 2015, the government approved “Amended Technology Upgradation Fund Scheme (ATUFS)” for technology upgradation of the textiles industry.
- **Railways**
  - In the interim budget 2019, Railways has been allocated ₹1.5 lakh crore for the year 2019-20, This is the highest-ever allocation for the Indian Railways.
  - **Vande Bharat Express (Previously known as Train-18)**
    - The government has introduced Vande Bharat Express which is the first indigenously developed and manufactured semi high-speed train.
- **Micro Small And Medium Enterprises (MSME)**
  - Interim budget has proposed that **GST-Registered SME units will get 2% interest rebate on the incremental loan of ₹1 crore**. MSME sector will get a major boost from this proposal.
  - The budget has also proposed extending the government eMarketplace (GeM) platform to MSME's to support domestic services and trade. This will benefit MSMEs that are based in rural areas.
- **Direct Taxes**
  - Interim budget has proposed that Individual taxpayers having taxable annual income up to ₹5 lakhs will not be required to pay any income tax.
  - The government also released data on taxpayers and tax revenue stating that the **tax collections has increased significantly** from ₹6.38 lakh crore in 2013-14 to almost ₹12 lakh crore this year.

- The number of returns filed has also increased from 3.79 crores to 6.85 showing **80% growth in the tax base**
- **Reasons for widening tax base are**
  - **Demonetization**
  - Increase in the use of **digital technology** for information collection
  - The movement towards **digital assessment** and a decrease in the number of cases being picked up for scrutiny
  - The **ease of getting the refund**, majorly by small and medium taxpayers.

#### ➤ **Growth and Foreign Direct Investment**

- Due to Goods and Services Tax (GST) and other tax reforms, there is a potential for high growth in the future. The GST reforms have resulted in an increased tax base, higher tax collections, and ease of trade.
- India attracted as much as \$239 billion of Foreign Direct Investment (FDI) during the last 5 years.
- The GST collection has fallen short of the budget target by ₹1 lakh crore for 2018-19.

#### ➤ **Defense Sector**

- There is a hike in defense budget considering the mega defense tenders are in the pipe as **part of military modernization**.
- The defense budget of India will be crossing ₹3,00,000 crore for the first time in 2019-20.

#### **Vision of India for 2030**

- To build social as well as physical infrastructure and to provide ease of living.
- To create digital India, digitize government processes with leaders from youth.
- Making India pollution free by leading transport revolution with electric vehicles and focus on renewables.
- Expanding rural industrialization using modern digital technologies.
- Clean rivers, safe drinking water to all Indians and use of micro-irrigation.
- Besides scaling up of Sagarmala, coastline and ocean waters powering India's development and growth.
- Aim for India's space programme becoming the launch pad of satellites for the world.
- Making India self-sufficient in food, exporting to the world to meet their food needs.

- A healthy India via Ayushman Bharat with women having equal rights and concern for their safety and empowerment.
- Transforming India into a "minimum government maximum governance" nation with proactive and responsible bureaucracy.

## **Interim Budget 2019: Rural Sector**

Interim Budget 2019 has following proposals in Rural sector:

### **Agriculture and Allied Sector**

#### ➤ **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)**

- The Government will launch the **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)** to provide an assured income support to the small and marginal farmers.
- This scheme is **along the lines of Rythu Bandhu scheme of Telangana** which offers ₹10,000 per acre a year to all farmers, excluding tenant farmers and the **Krushak Assistance for Livelihood and Income Augmentation (KALIA) scheme of Odisha** which offers direct benefit cash transfer of ₹25,000 for a farm family over five seasons to small and marginal farmers.
- Under this programme, vulnerable landholding farmer families, having cultivable land upto 2 hectares, will be provided direct income support at the rate of ₹6,000 per year.
- This income support will be transferred directly into the bank accounts of beneficiary farmers, in three equal instalments of ₹2,000 each.
- This programme will entail an annual expenditure of ₹75,000 crore which will be funded by the Government of India. Around 12 crore small and marginal farmer families are expected to benefit from this.
- Government has announced the setting up of a '**Rashtriya Kamdhenu Aayog**' to upscale sustainable genetic upgradation of cattle resources and to enhance the production and productivity of cows. The Aayog will also look after effective implementation of laws and welfare schemes for cattle.
- ₹750 crore has been allocated under the **Rashtriya Gokul Mission (RGM)** which is **aimed at conserving indigenous Indian breeds of cattle through selective breeding**.

Note:



- To provide sustained and focused attention towards development of fisheries sector, the Government has decided to **create a separate Department of Fisheries**.

### **Rural Infrastructure**

- Pushing rural infrastructure in the new financial year, **union budget of 2019-20 allocated ₹19,000 crore against ₹15,500 crore in revised estimates of 2018-19** for development of roads in rural and backward area under **Pradhan Mantri Gram Sadak Yojana (PMGSY)**.
  - PMGSY was launched in 2000 to provide all-weather road connectivity to unconnected villages in India.
- Government will develop **one lakh villages as Digital Villages** over next five years which will be achieved by **expanding the Common Service Centres (CSCs)**.

### **MGNREGA**

- The **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** scheme was **allocated only ₹60,000 crore for 2019-20**, slightly lower than its revised estimate of ₹61,084 crore for 2018-19.
- According to activists, the fund crunch is resulting in difficulties in meeting the demand for work, as well as delayed payment of wages to workers.

### **Pension Scheme**

- The Centre has allocated **₹500 crore for a new pension scheme for workers** in the unorganised sector, while reducing its allocation for an **existing pension scheme National Social Assistance Programme (NSAP)** (a pension scheme administered by the Ministry of Rural Development) from ₹9,975 crore in the 2018-19 budget to ₹9,200 crore for 2019-20.
- The new scheme, to be called the **Pradhan Mantri Shram-Yogi Maandhan**, will benefit unorganised sector workers who have a monthly income up to ₹15,000. It will provide them a monthly pension of ₹3,000 from the age of 60.
- Workers will contribute an amount ranging from ₹55 to ₹100 each month, depending on their age, at the time of joining the scheme, while the government will deposit a matching contribution. The Centre expects 10 crore workers to get the benefit within the next five years.

## **International Financial Services Centres Authority Bill, 2019**

The Union Cabinet has approved **International Financial Services Centres Authority Bill, 2019** which seeks to **establish a unified authority** for regulating all financial services in **International Financial Services Centres (IFSCs)** in India.

### **International Financial Service Centre (IFSC)**

- An IFSC caters to customers **outside the jurisdiction** of the domestic economy. Such centres deal with **flows of finance, financial products** and services **across borders**.
- An expert panel headed by former **World Bank economist Percy Mistry** submitted a report on making **Mumbai an international financial centre in 2007**. However, the global financial crisis in 2008 made countries including India cautious about rapidly opening up their financial sectors.
- In India, IFSC has been **defined in SEZ Act, 2005**. As per the Act:
  - The **Central Government may approve the setting up** of an International Financial Service Centre in a Special Economic Zone and may prescribe the requirements for setting up and operation of such centre.
  - The Central Government shall approve **only one International Financial Services Centre in a Special Economic Zone**.

### **Special Economic Zone (SEZ)**

- In India, the Special Economic Zones (SEZs) **policy was announced in April 2000**.
- The **Special Economic Zones Act, 2005**, was passed by Parliament in May, 2005 and **came into effect in 2006**.
- SEZs addresses the issue of multiplicity of controls and clearances, have world-class infrastructure, and a stable fiscal regime.
- SEZs focus on economic growth supported by quality infrastructure complemented by an attractive fiscal package, both at the Centre and the State level, **with the minimum possible regulations**.
- **GIFT (Gujarat International Finance Tec-City), located in Gandhinagar** is India's **first International Financial Services Centre**.

- Since India has **many restrictions on the financial sector**, such as **partial capital account convertibility**, **high SLR (statutory liquidity ratio) requirements** and **foreign investment restrictions**, an SEZ can serve as a testing ground for financial sector reforms before they are rolled out in the entire nation.

### Background

- Currently, the banking, capital markets and insurance sectors in IFSC are **regulated by multiple regulators**, i.e. **RBI, SEBI and IRDAI**.
- The dynamic nature of business in the IFSCs necessitates a **high degree of inter-regulatory coordination**. It also requires regular clarifications and frequent amendments in the existing regulations governing financial activities in IFSCs.
- The development of financial services and products in IFSCs would **require focussed and dedicated regulatory interventions**. Hence, a need for a **unified financial regulator for IFSCs in India** to provide world class regulatory environment to financial market participants.
- Further, this would also be essential from an **ease of doing business perspective**. The unified authority would also provide the much needed impetus to further development of IFSC in India **in-sync with the global best practices**.

### Salient Features of the Authority

- **Composition:** The Authority shall consist of a **Chairperson, one Member each** to be nominated by the **Reserve Bank of India (RBI)**, the **Securities Exchange Board of India (SEBI)**, the **Insurance Regulatory and Development Authority of India (IRDAI)** and the **Pension Fund Regulatory and Development Authority (PFRDA)**, **two members** to be nominated by the Central Government along with two other whole-time or full-time or part-time members.
- **Functions:** The Authority shall **regulate all such** financial services, financial products and Financial Institutions in an IFSC. It may also **recommend to the Central Government** such other financial products, financial services and financial institutions which may be permitted in the IFSCs.
- **Powers:** All powers exercisable by the respective financial sector regulatory (viz. RBI, SEBI, IRDAI, and PFRDA etc.) under the respective Acts shall be **solely**

**exercised by the Authority in the IFSCs** in so far as the regulation of financial products, financial services and FIs that are permitted in the IFSC are concerned.

- **Processes and procedures:** The processes and procedures to be followed by the Authority shall be governed in accordance with the provisions of the respective Acts of Parliament of India applicable to such financial products, services or institutions, as the case may be.
- **Grants by the Central Govt.:** The Central Govt. may, after due appropriation made by Parliament by law in this behalf, make to the Authority grants of such sums of money as the Central Government may think fit for being utilized for the purposes of the Authority.
- **Transactions in foreign currency:** The transactions of financial services in the IFSCs **shall be done in the foreign currency** as specified by the Authority in consultation with the Central Govt.

## UNCTAD Report on Trade Wars

Recently the UN body has released a report on trade wars titled **"Trade Wars: The Pain and the Gain"**.

- This dispute between China and the United States will **not benefit domestic producers in either country** but could have **"massive" implications on the global economy**.

### Background

- The ongoing trade tensions initially came out in **early 2018 when China and the United States** imposed tariffs on about \$50 billion of each other's goods.
- The confrontation quickly escalated, and in **September 2018 the United States imposed 10% tariffs** covering about \$200 billion of Chinese imports, to which **China retaliated by imposing tariffs** on imports from the United States worth an additional \$60 billion.
- The 10% tariffs were initially due to rise to 25% in January 2019. However, in early December 2018 the parties agreed to freeze the tariff increase until 1 March 2019.

### Positive Impacts

- Amid tit for tat tariff hikes between Washington and Beijing, **trade is being diverted** and a handful of countries stand to benefit from the ongoing trade tensions.

- The trade war between the US and China is expected to **boost the Indian economy with a rise of 3.5% in exports.**
- The countries that are expected to benefit the most from the trade war are:
  - The **EU members**, as exports in the bloc are likely to grow by USD 70 billion.
  - **Japan and Canada** will see exports increase by more than USD 20 billion each.
  - Other countries set to benefit from the trade tensions include **Australia, with 4.6% export gains, Brazil (3.8) India (3.5), Philippines (3.2) and Vietnam (5).**
- However, the study also underscores that even for countries whose exports are set to increase because of the trade disruptions, not all the results will be positive.

### Negative Impacts

- One major concern is the risk that trade tensions **could spiral into currency wars, disturbances in commodity prices, financial markets, etc.** all of which will have important repercussions for developing countries.
- The **magnitude and duration of tariffs is unclear**, because of which producers have been reluctant to make investment decisions that may turn out to be unprofitable if the tariffs are revoked.
- More countries may join the fray and that protectionist policies could escalate to a global level, which is against the rule based order, thus hurting weaker countries the most.

### UNCTAD

- Established in 1964, UNCTAD (United Nations Conference on Trade and Development) promotes development-friendly integration of developing countries into the world economy.
- UNCTAD is a **permanent intergovernmental body established in 1964.**
- Headquarters – **Geneva, Switzerland.**
- Some of the reports published by it are:
  - Trade and Development Report
  - World Investment Report
  - The Least Developed Countries Report
  - Information and Economy Report
  - Technology and Innovation Report
  - Commodities and Development Report

## DIPP Renamed as DPIIT

The government has notified changing the name of the **Department of Industrial Policy & Promotion (DIPP)** to the **Department for Promotion of Industry and Internal Trade (DPIIT)** under the **Ministry of Commerce and Industry.**

- The renamed body will also be in charge of four new categories of responsibilities:
  - the **promotion of internal trade** (including retail trade).
  - the **welfare of traders** and their employees.
  - matters relating to **facilitating Ease of Doing Business.**
  - matters relating to **start-ups.**
- The new responsibilities are in addition to the previous responsibilities of the erstwhile DIPP relating to general industrial policy, administration of the Industries, industrial management, productivity in industry, and matters related to e-commerce.

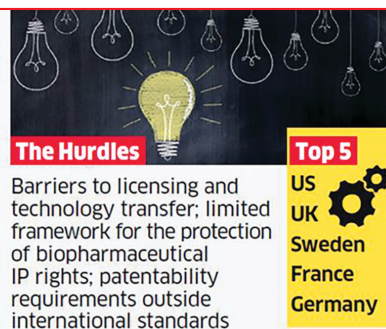
## International Intellectual Property (IP) Index: US Chamber of Commerce

Acknowledging the **improvement in India's innovation ecosystem**, the **US Chamber of Commerce** has moved India up eight places in its **international intellectual property (IP) index by ranking it 36th amongst 50 countries in 2019.**

### Major Gains

**36.04%:** India's overall score in 2019, up substantially from 30.07% in the previous edition

**2nd year** in a row, India's score represents the largest gain by any country on the index



- The improvement in India's performance is a result of specific reforms, including its **accession to the WIPO Internet Treaties, the agreement to initiate a patent prosecution highway with international patent offices, a dedicated set of IP incentives for small businesses, and administrative reforms to address the patent backlog.**

- However, the report noted that there were still substantial challenges regarding the country's patenting and IP enforcement environment.
- The **seventh edition titled "Inspiring Tomorrow"**, analyses the IP climate in 50 world economies, based on 45 indicators critical to an innovation-led economy.

#### World Intellectual Property Organisation

- WIPO is the global forum for intellectual property services, policy, information and cooperation. It is a self-funding agency of the United Nations, with 189 member states.
- Its mission is to lead the development of a balanced and effective international intellectual property (IP) system that enables innovation and creativity for the benefit of all.
- Its mandate, governing bodies and procedures are set out in the WIPO Convention, which **established WIPO in 1967**.
- Some agreements under the ambit of WIPO:
  - **Marrakesh Treaty** for visually impaired patients
  - **Patent cooperation treaty** in 1970
  - **Madrid system**
- Headquarters: Geneva, Switzerland.

## Agri-Market Infrastructure Fund

Recently, the Cabinet Committee on Economic Affairs (CCEA) approved a corpus of **₹2,000 crore for Agri Market Infrastructure Fund (AMIF)** to be created with **NABARD** for development and upgradation of agricultural marketing infrastructure in rural agricultural markets.

- The Agri-Market Infrastructure Fund was **announced in 2018 Budget** for developing and upgrading agricultural marketing infrastructure in the **22,000 Gramin Agricultural Markets (GrAMs)** and **585 Agricultural Produce Market Committee (APMC)**.
- At present, GrAMs are being developed from **MGNREGA fund**.
- The scheme being **demand-driven**, progress will depend on demand from states.

#### Objectives

- The fund will provide **subsidised loans to states and Union Territories** for 585 APMC mandis and 10,000 GrAMs.

- States can also utilise this fund for innovative integrated market infrastructure projects, including hub and spoke model and in public-private partnership mode.

#### Significance

- More than **86% of farmers in India are small and marginal** who are not always in a position to directly transact at APMCs and other wholesale markets.
- A network of rural godowns enables small farmers to enhance their holding capacity in order to sell their produce at remunerative prices and avoid distress sales.
- Accordingly, Government of India launched '**Grameen Bhandaran Yojana**' in **2001**, which has been subsumed into "**Agricultural Marketing Infrastructure (AMI)**" from **2014**.
- Main objectives of scheme include **creation of scientific storage capacity** with allied facilities in rural areas to meet out various requirements of farmers for storing farm produce, processed farm produce, agricultural inputs, etc.

## RBI Lifts Curbs on Three PSBs

The Reserve Bank of India (RBI) has decided to allow three public sector banks – Bank of India, Bank of Maharashtra and Oriental Bank of Commerce (OBC) – to exit the Prompt Corrective Action (PCA) framework following capital infusion by the government and a decline in net non-performing asset ratio.

- The RBI, conducted a review of PCA following governments request to lift the restrictions on Public Sector Banks (PSB's) in order to boost credit growth in the country.
- The PCA framework is triggered when a bank breaches one of the three risk thresholds, namely **capital to risk-weighted assets ratio, net non-performing assets (NPA) and return on assets (RoA)**.
- The three public sector banks are now out of PCA, but there are another eight public sector banks which are still facing restrictions under PCA.

#### Prompt Corrective Action

- **Prompt Corrective Action (PCA)** is a framework under which banks with weak financial metrics are put under watch by the RBI.
- The RBI introduced the PCA framework in 2002 as a structured early-intervention mechanism for banks



that become undercapitalized due to poor asset quality, or vulnerable due to loss of profitability.

- PCA is intended to help alert the regulator as well as investors and depositors if a bank is heading for trouble.

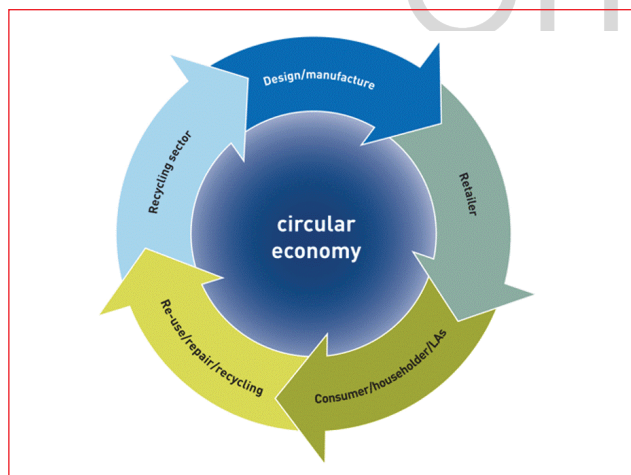
## National Productivity Council

The **National Productivity Council (NPC)** celebrated its **61st Foundation Day (as Productivity Day)** on **February 12, 2019** and also observes **National Productivity Week from February 12-18, every year.**

- The **theme** for 2019 is **“Circular Economy for Productivity & Sustainability”** to mark the transition from a linear to a circular economy that embraces economic growth and environmental sustainability and represents a unique opportunity for circular business models for **Make – Use – Return.**

### National Productivity Council

- NPC is a national **level organization** to promote productivity culture in India.
- Established by the **Ministry of Commerce and Industry, in 1958**, it is an **autonomous, multipartite, non-profit organization.**
- NPC is a constituent of the **Tokyo-based Asian Productivity Organisation (APO)**, an Intergovernmental Body, of which the Government of India is a founder member.



### Circular Economy

- A circular economy is an industrial system that is **restorative or regenerative** by intention and design.

- It replaces the **end-of-life concept with restoration**, shifts towards the use of renewable energy, eliminates the use of toxic chemicals which impair reuse and return to the biosphere.
- It aims for the elimination of waste through the superior design of materials, products, systems and business models.
- Circular economy is based on **four principles**. They are:
  - Circular economy aims to **design out waste**. The products are designed and optimized for a cycle of disassembly and reuse. This sets it apart from disposal and even recycling, where large amounts of embedded energy and labour are lost.
  - It introduces a strict **differentiation between consumable and durable components** of a product.
    - Consumables in the circular economy are largely made of **biological ingredients** that are non-toxic and possibly even beneficial, and **can safely be returned to the biosphere**, either directly or in a cascade of consecutive uses.
    - **Durables** such as engines or computers, on the other hand, are made of technical nutrients unsuitable for the biosphere, such as metals and most plastics. These are designed from the start for reuse, and products subject to rapid technological advance are designed for upgrade.
  - The energy required to fuel this cycle should be **renewable by nature**, again to decrease resource dependence and increase systems resilience.
  - It replaces the concept of a consumer with that of a user which calls for a **new contract between businesses and their customers** based on product performance. The durable products are leased, rented or shared wherever possible. If they are sold, there are incentives or agreements in place to ensure the return and thereafter the reuse of the product.
- Circular economy has the potential to **increase productivity and create jobs**, whilst reducing carbon emissions and preserving valuable raw materials. It provides for a way of creating value.
- However, the challenge lies in **building circular economy knowledge and capacity.**

Note:



## India's First Career Portal

The Rajasthan government has launched India's first "career portal" to address the needs of secondary and higher secondary students (from class 9th to 12th) for information on scholarships and career choices.

- The portal launched with the support of United Nations International Children's Emergency Fund (UNICEF) is expected to help the students take "informed decisions" about their academic and professional pursuits.
- By enabling the students to choose their career path matching with their aspirations, interest, inclination and aptitude, the portal would reduce dropouts at various stages in schools and improve retention in jobs.
- The portal was developed by UNICEF after an assessment of needs, awareness and perspective of students, teachers and system functionaries.
- It will provide information on 200 vocational and 237 professional careers, 455 employment avenues, 960 scholarships, 955 competitive examinations and 10,000 institutions of higher education to the students from Classes IX to XII.

### Why Rajasthan?

- UNICEF had selected Rajasthan for launching the portal because of its track record in employment-oriented education.
- Most of the boys and girls in the State were keen to join the workforce as soon as they finished Class X or XII. Besides, the assessment revealed a substantial progress in terms of gender equality among the students.
- According to the assessment conducted by UNICEF, two largest sources of career information for students are teachers and family members. About 69% of students mentioned that they were using Internet for their career-related queries, which indicates that the adolescents will quickly learn to use the career portal.
- The establishment of Rajiv Gandhi Career Counselling Cell for adolescents and youths was also announced. The cell will link school and college students with skill development programmes and internship opportunities in the pursuit of their career choices.

### United Nations International Children's Emergency Fund (UNICEF)

- The United Nations International Children's Emergency Fund was created by the United Nations General Assembly in 1946, to provide emergency food and healthcare to children in countries that had been devastated by World War II.
- In 1950, its mandate was broadened to address the long-term needs of children and women in developing countries everywhere. UNICEF became a permanent part of the United Nations system in 1953.
- UNICEF is headquartered in New York, USA.

## 100<sup>th</sup> Anniversary of ILO

In 2019, the **International Labour Organization (ILO)**, the UN specialized agency celebrates its 100<sup>th</sup> anniversary.

- In the run up to the anniversary **seven Centenary Initiatives** are being implemented as part of a package of activities aimed at equipping the organization to tackle up successfully the challenges of its social justice mandate in the future.

### Seven Centenary Initiatives

- **The future of work initiative** : Initiating and cultivating a global dialogue on the future of work, to build the ILO's ability to prepare and guide governments, workers and employers to better meet the world of work challenges of the next century.
- **The end to poverty initiative**: Promoting a multi-dimensional response through the world of work, labor markets, and social and employment protection to eradicate global poverty.
- **The women at work initiative**: Reviewing the place and conditions of women in the world of work and engaging workers, employers and governments in concrete action to realize equality of opportunity and treatment.
- **The green initiative**: Scaling up the ILO's office-wide knowledge, policy advice and tools for managing a just transition to a low carbon, sustainable future.
- **The standards initiative**: Enhancing the relevance of international labour standards through a standards review mechanism and consolidating tripartite consensus on an authoritative supervisory system.

- **The enterprises initiative:** Establishing a platform for ILO engagement with enterprises which would contribute to their sustainability and to ILO goals.
- **The governance initiative:** Reforming the ILO's governance structures, assessing the impact of the 2008 Declaration as set out in its final provisions, and act on its findings.

#### **Eight Core International**

#### **Labour Organisation (ILO) Conventions**

- **India has ratified six out of the eight core/fundamental ILO Conventions.** These are
  - Forced Labour Convention, 1930 (No. 29),
  - Abolition of Forced Labour Convention, 1957 (No. 105),
  - Equal Remuneration Convention, 1951 (No. 100),
  - Discrimination (Employment and Occupation) Convention, 1958 (No. 111),
  - Minimum Age Convention, 1973 (No. 138) and
  - Worst Forms of Child Labour Convention, 1999 (No. 182).
- India has **not ratified** the core/fundamental Conventions, namely **Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)** and **Right to Organise and Collective Bargaining Convention, 1949 (No. 98)**.
- The main reason for non-ratification of ILO Conventions No.87 & 98 is **due to certain restrictions imposed on the Government servants.**
- The ratification of these conventions would involve granting of certain rights that are prohibited under the statutory rules, for the Government employees, namely, to strike work, to openly criticize Government policies, to freely accept financial contribution, to freely join foreign organizations etc.
- In India, **convention is ratified only when the national laws are brought fully into conformity with the provisions of the Convention.**
- Ratification of ILO convention is a voluntary process and no time frame has been agreed for the same.

#### **About International Labour Organization (ILO)**

- The International Labour Organization (ILO) is a United Nations agency dealing with labour issues, particularly international labour standards, social protection, and work opportunities for all.
- ILO was created in **1919**, as part of the Treaty of Versailles that ended World War I, to reflect the belief

that universal and lasting peace can be accomplished only if it is based on social justice. It **became a specialized agency of the United Nations in 1946.**

- It is a tripartite organization, the **only one of its kind bringing together representatives of governments, employers and workers in its executive bodies.**
- Since 1919, the International Labour Organization has maintained and developed a system of international labour standards aimed at promoting opportunities for women and men to obtain decent and productive work, in conditions of freedom, equity, security & dignity.
- In **1969, ILO received the Nobel Peace Prize for improving fraternity and peace among nations**, pursuing decent work and justice for workers, and providing technical assistance to other developing nations.
- **India is a founder member of the International Labour Organization.**
- The **Headquarter** of ILO is in **Geneva, Switzerland.**

### **Atal Bhujal Yojana**

- Recently, the **World Bank has approved Atal Bhujal Yojana (ABHY), a Central Sector, ₹6000 Crore scheme**, for sustainable management of groundwater with community participation.
- The **funding pattern is 50:50 between Government of India and the World Bank.**
- The identified over-exploited (OE) and water-stressed areas for the implementation of the scheme fall in the States of Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, and Uttar Pradesh.
- **ABHY envisages active participation of the communities in various activities such as the formation of 'Water User Associations', monitoring and disseminating ground water data, water budgeting, preparation & implementation of Gram-panchayat-wise water security plans and IEC activities related to sustainable groundwater management.**

#### **Central Schemes**

- The central schemes are divided into Central Sector Schemes and Centrally Sponsored Schemes (CSS).
- Central sector schemes:
  - These schemes are 100% funded by the Central government.
  - Implemented by the Central Government machinery.

- Formulated on subjects mainly from the Union List.
- E.g.: Bharatnet, Namami Gange-National Ganga Plan, etc.
- Centrally Sponsored Schemes are the schemes by the centre where there is financial participation by both the centre and states.
- Centrally Sponsored Schemes (CSS) are again divided into Core of the Core Schemes, Core Schemes and Optional schemes.
- Currently, there are 6 core of the core schemes while 22 core schemes.
- Most of these schemes prescribes specific financial participation by states. For example, in the case of MGNREGA, state governments have to incur 25% material expenditure.
- The 6 core of the core CSS are:
  - National Social Assistance Programme
  - Mahatma Gandhi National Rural Employment Guarantee Program
  - Umbrella Scheme for Development of Scheduled Castes
  - Umbrella Programme for Development of Scheduled Tribes
  - Umbrella Programme for Development of Minorities
  - Umbrella Programme for Development of Other Vulnerable Groups

### **Status of Groundwater Depletion**

- **India is the world's largest user of groundwater**, withdrawing about 250 cubic kilometers per year, more than twice that of the US.
- As per the latest assessment of the Central Ground Water Board, out of 447 billion cubic metre (BCM) of total replenishable groundwater available annually, 228 BCM is currently being used for irrigation, while 25 BCM is being used for domestic, drinking and industrial purposes.
- **The 5<sup>th</sup> Census of Minor Irrigation (2017)** has underlined that in 661 districts of the country about 13 million dugwells and shallow tube wells and five million medium tube wells and deep tubewells irrigate about 38 million hectares (mha) and 23 mha of land, respectively.
- Besides, the **Standing Committee of Water Resources in its 23<sup>rd</sup> report on Socio-Economic Impact of**

**Commercial Exploitation of Water by Industries (2017-18)** has highlighted that about 85% of rural drinking water schemes in about 17.14 lakh habitations in the country are based on groundwater as source; nearly 7,426 licenses have been given to packaged drinking water plants in the water-stressed States of Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu, and Uttar Pradesh.

- According to a latest **survey by the Central Groundwater Board (CGWB)**, Andhra Pradesh, Tamil Nadu, Kerala, and Karnataka are in a worse state as far as groundwater decline is concerned.
- Not only this, many multinational beverages and packaged drinking water companies in various States reportedly draw about 6.5-15 lakh liters of groundwater per day against the permissible limit of 2.4 lakh litres.
- **It is estimated that as much as 50 lakh litres of groundwater is extracted illegally on a daily basis by tanker mafia in most metropolitan cities.**
- The rate of groundwater extraction is so severe that NASA's findings suggest that India's water table is declining alarmingly at a rate of about 0.3 metres per year.
- The NITI Aayog in its Report on Composite Water Management Index (2018) has revealed that about 54% of the country's groundwater wells have declined and most of the States have achieved less than 50 % of the total score in the augmentation of groundwater resources.
- If the present rate of groundwater depletion persists, India will only have 22% of the present daily per capita water available in 2050, possibly forcing the country to import its water.
- **The NITI Aayog's water report has warned that if the situation persists, there will be a 6% loss in the country's GDP by 2050.**
- Falling groundwater tables will result in an escalation of irrigation costs and, thereby, a rise in cost of cultivation. Up to a quarter of India's harvest has been estimated to be at risk due to groundwater depletion.

### **Kisan Credit Cards**

- The Government of India has decided to launch a campaign aimed at financial inclusion of farmers by enhancing the coverage of **Kisan Credit Cards (KCC)**.

- This campaign will be launched through the **Financial Institutions including Commercial Banks, Cooperative Banks and Regional Rural Banks in collaboration with the State Governments.**
- At present, there are around 6.95 crores active KCCs. However, there are still a large number of farmers who do not have access to institutional credit either because they have not been issued a KCC or the KCC issued earlier have been inactive due to various reasons.
- **Kisan Credit Card (KCC) was introduced in August 1998** to enable farmers in having quick and **timely access to affordable credit.** It was **launched by the NABARD and Reserve Bank of India.**
- The scheme aims to reduce farmers' dependency on informal banks for credit, which is often lucrative yet very expensive.

## Credit Linked Capital Subsidy and Technology Upgradation Scheme

The Cabinet Committee on Economic Affairs (CCEA) has approved the continuation of the **Credit Linked Capital Subsidy and Technology Upgradation Scheme (CLCS-TUS)** for the year 2017-18 to 2019-20.

### About CLCS-TUS

- This scheme aims at **improving the competitiveness of MSMEs** by integrating various ongoing schematic interventions aimed at up-grading technology through the Credit Linked Capital Subsidy (CLCS).
- Special provisions have been made in this scheme to promote entrepreneurship for SC/STs, women, North Eastern Region, Hill States, Island Territories (Andaman & Nicobar and Lakshadweep) and the Aspirational Districts/Left Wing Extremism (LWE) Districts.
- The subsidy will be given for investment in acquisition/replacement of plant & machinery/equipment & technology up-gradation of any kind.
- In addition, the scheme through **Zero Defect & Zero Effect**, component will promote the reduction in emission level of greenhouse gases and improve the competitiveness through the reduction in defect/wastage during the manufacturing process of the products.

- It will also promote the innovation, digital empowerment of MSMEs, design interventions and support the protection of intellectual property of MSMEs.
- The scheme will facilitate technology up-gradation to MSEs, improvement in Quality of products by MSMEs, enhancement in productivity, reduction in waste and shall promote a culture of continuous improvement.
- The Credit Linked Capital Subsidy Scheme (CLCSS) for Technology Upgradation of SSI was launched by the Government of India during 2000-01.
- Along with Small Industries Development Bank of India (SIDBI) and the National Bank for Agriculture and Rural Development (NABARD), there are 12 Nodal Banks/Agencies under CLCSS for the implementation of this scheme.

## Kisan Urja Suraksha Evam Utthaan Mahabhiyan (KUSUM) Scheme

- The Government of India is formulating a Scheme '**Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM)**' which aims to **promote use of solar energy among the farmers.**
- The proposed scheme provides for:
  - Setting up of **grid-connected renewable power plants** each of 500 KW to 2 MW in the rural area,
  - Installation of **standalone off-grid solar water pumps** to fulfil irrigation needs of farmers not connected to grid, and
  - **Solarization of existing grid-connected agriculture pumps** to make farmers independent of grid supply and also sell surplus solar power generated to Discom and get extra income.
- The farmers will have to **tolerate only 10% of the total expenditure** to acquire and install a solar pump. The **Central Govt. will provide 60%** cost while the **remaining 30% will be taken care** of by bank as credit.

### 1<sup>st</sup> Aqua Mega Food Park

- Union Minister for Food Processing Industries has commissioned **Godavari Mega Aqua Food Park at West Godavari District, Andhra Pradesh.**
- **This is India's first Mega Aqua Food Park operationalized exclusively for fish and marine products** processing in the state of Andhra Pradesh.



- The facilities at aqua food park include the **pre-processing, freezing line for Fish and shrimp, ice plant and food testing laboratory.**

#### Mega Food Park

- To give a **major boost to the food processing sector by adding value and reducing food wastage** at each stage of the supply chain with a particular focus on perishables, **Ministry of Food Processing Industries** is implementing Mega Food Park Scheme in the country.
- It aims to link agricultural production to the market by bringing together farmers, processors, and retailers.
- **Mega Food Parks create modern infrastructure facilities for food processing along the value chain from farm to market with strong forward linkages (market and transport etc) and backward linkages (raw material, packaging etc) through a cluster-based approach.**
- Common facilities and enabling infrastructure is created at **Central Processing Centre (CPC)** and facilities for primary processing and storage is created near the farm in the form of **Primary Processing Centers (PPCs) and Collection Centers (CCs).**
- The financial assistance under the scheme is provided in the form of a grant-in-aid, i.e. 50% of eligible project cost in general areas and 75% of eligible project cost in North East Region and difficult areas (Hilly States and ITDP areas) subject to a maximum of ₹50 crore per project.
- The modern infrastructure for food processing created at Park will **benefit the farmers, growers, processors, and consumers of Andhra Pradesh** and adjoining areas immensely and prove to be a big boost to the growth of the food processing sector in the State of Andhra Pradesh.

### International Cotton Advisory Committee (ICAC)

- Recently, the **International Cotton Advisory Committee (ICAC)** stated that India's cotton production is expected to dip by 7% due to "insufficient rainfall" in growing regions.
- At the same time production in **China is expected to increase** because of better farming practices by about 1%, enabling China to regain the '**top producer**' title it lost to India in the 2015-16 season.

### Issues with Cotton Production in India

- The **adverse climatic and water availability** situation in cotton growing regions. About 77% of India's growing region is non irrigated, making it highly dependent on rains.
- Reluctance to adding new areas for cotton cultivation because of the **pest menace.**
- The **lack of awareness among farmers** on good farming practices.

#### International Cotton Advisory Committee

- The ICAC is an association of members of cotton producing, consuming and trading countries. The Committee was **formed in 1939**, and the Secretariat was established in 1946.
- It is **headquartered in Washington DC, U.S.A.**
- **India is one of the 27 members of this grouping since 1939.**

### Light House Projects Challenge

- The Ministry of Housing & Urban Affairs has instituted a challenge for States/UTs to select six sites across the country for constructing the Lighthouse projects under **Global Housing Technology Challenge (GHTC)-India.**
- The winning six States/UTs that score the highest marks across the prescribed criteria will be awarded lighthouse projects. The States/UTs will receive **Central Assistance** to construct these projects as per **Pradhan Mantri Awas Yojana Urban (PMAY-U) guidelines.**
- The selected sites for lighthouse projects will be used as an '**open laboratory**' for **live demonstration** and will receive due attention from academia, practitioners, policy makers (Central/State) and media apart from felicitation/recognition in Grand Expo-cum-Conference.

#### Lighthouse Project

The term lighthouse project refers to a model project that aims, besides its original purpose, to have a signal effect for numerous follow-up projects as they look towards it for inspiration and guidance.

#### Global Housing Technology Challenge

- Global Housing Technology Challenge – India is an initiative by **Ministry of Housing and Urban Affairs, Govt. of India**, with an aim to identify, evaluate and shortlist a basket of proven & potential innovative



- technologies from across the globe and subsequently mainstream them in Indian construction sector that are sustainable, green and disaster resilient.
- GHTC-India has following **three components**:
  - **Component 1** – Conduct of EXPO-Cum-Conference
  - **Component 2** – Identifying Proven Demonstrable Technologies :Inducting suitable established technologies from across the globe to the Indian market through shortlisting and actual construction of Light House Projects.
  - **Component 3** – Establishment of Affordable Sustainable Housing Accelerators India (ASHA-India) for Indian technologies which have potential but not market ready yet.

## Workshop on Gross Domestic Knowledge Product (GDKP)

Ministry of Statistics and Programme Implementation (MoSPI) in collaboration with Indian Statistical Institute (ISI), Kolkata held a one-day workshop on the emerging area of **Gross Domestic Knowledge Product (GDKP)**.

### Gross Domestic Knowledge Product

- The idea of GDKP was propounded by **Prof. Umberto Sulpasso of the University of Southern California**.
- The Gross Domestic Knowledge Product (GDKP) measures a nation's growth and future through four basic pillars:

- **Knowledge items (Ki)** – identification of both modern and local distinct culture knowledge items in distinct categories.
- **Country's Knowledge Producing Matrix (CKPM)** – comparison of knowledge produced by government, private institutions, and households as a differentiated way to impact on the GDP.
- **Country's Knowledge User Matrix (CKUM)** – the value of knowledge bought by individuals and private companies as a way to measure their modernization efforts.
- **Cost of Learning** – similar to the cost of living to be used as a political reference for government budgeting decisions through education family bonds, education credit card etc. to support young citizens.

### GDKP for India

- GDKP will allow **calculation of the value of specific knowledge** items related to national culture produced and how these items change over time.
  - In India, for examples, these specific knowledge items include the **proliferation of cultural and religious teaching (yoga, Veda, and dance schools), religious festivals, and harvest festivals**.
- GDKP can also **facilitate the creation of a National Knowledge Education Platform**. It will also enhance GDP and the proper role of private investment with direct benefits to the Indian economy like software, publishing etc.



# International Relations

## Highlights

- NPT Must for India's Entry into NSG : China (20)
- India and Norway to Combat Marine Pollution (21)
- Intermediate-Range Nuclear Forces Treaty (22)
- India-Monaco Relations (23)
- 40 Years of Islamic Revolution: Iran (23)
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## NPT Must for India's Entry into NSG : China

Recently, the permanent members of the **United Nations Security Council (UNSC)** also known as **P5 countries (China, France, Russia, Britain and the US)** – have concluded their meetings to discuss issues related to nuclear disarmament, nuclear non-proliferation and peaceful uses of nuclear energy.

- **China** has said that **India** must sign the **Non-Proliferation Treaty (NPT)** to gain entry into **Nuclear Suppliers Group (NSG)**.
- Earlier, after India applied for the NSG membership, **Pakistan** too applied for the same following which China, a close ally of Pakistan, called for a **two-step approach** which states that **NSG members** first need to **arrive at a set of principles for the admission of non-NPT states** into the group and then **move forward discussions of specific cases**.

### Nuclear Suppliers Group (NSG)

- NSG is a **group of nuclear supplier countries that seeks to contribute to the non-proliferation of nuclear weapons** through the implementation of **guidelines for nuclear exports and nuclear-related exports**.
- The NSG was **set up as a response to India's nuclear tests conducted in 1974**.
- The aim of the NSG is to ensure that **nuclear trade for peaceful purposes** does not contribute to the proliferation of nuclear weapons.
- The grouping has **48 participating governments** and the European Commission acts as an Observer.
- Since **2008**, India has sought membership in the NSG. The same year, the **NSG granted India a "clean waiver" from its existing rules**, which forbid nuclear trade with a country which has not signed the Nuclear Non-Proliferation Treaty (NPT).

- The waiver paved the way for India to engage in nuclear trade and led to the **Indo-US Civil Nuclear Deal**. India has since signed **civilian nuclear cooperation agreements** with the **U.S., U.K., France, Canada, Argentina, Australia, Russia, Kazakhstan, Mongolia, Namibia, and South Korea**.
- The drive for India's membership got a decisive boost when U.S declared support for India joining the quartet of **multilateral export control regimes**.

#### NOTE:

The four multilateral export control regimes are **Wassenaar Arrangement (WA)**, **Missile Technology Control Regime (MTCR)**, **Australia Group (AG)** and **Nuclear Suppliers Group (NSG)**. India is a member of all the groups **except NSG**.

### Impediments to India's NSG bid

- **NSG operates by consensus** and all its current members are signatories to the Nuclear Non-Proliferation Treaty.
- **China** has relied on an **obstructionist** argument claiming that a "compulsory" requirement for NSG membership is that they must be signatories to the NPT.
- **China equates India with Pakistan** – which has an established history of nuclear proliferation, further complicating the scenario.

### Significance of NSG Membership for India

- Membership of NSG will **increase India's access to state-of-the-art nuclear technology** from members of the Group.
- As per India's commitment under the **Paris climate agreement**, it has to ensure that **40% of its energy is sourced from renewable and clean sources by 2030**. In order to achieve this target, India needs to scale up nuclear power production. This can only happen if India gains access to NSG.

Note:

- Some nations are restricted by regional treaties (For eg., **Pelindaba Treaty**) to provide access to nuclear fuel and technology to India. If India joins the NSG, such restrictions are expected to be done away with.

#### **Pelindaba Treaty (African Nuclear Weapon Free Zone Treaty)**

- It establishes a **Nuclear-Weapon-Free Zone in Africa**.
- The treaty was signed in 1996 and came into effect in July 2009.
- It aims at preventing nuclear proliferation and preventing strategic minerals of Africa from being exported freely.
- This treaty **prohibits member parties to come into bilateral agreement with countries who are non signatories of NPT**.
- In **2016**, Namibia criticized the Treaty of Pelindaba for **disallowing Namibia to trade uranium to India** because India is not a member of the NPT.

#### **India and Non-Proliferation Treaty (NPT)**

- The **NPT is an international treaty** whose **objective is to prevent the spread of nuclear weapons and weapons technology**, to foster the peaceful uses of nuclear energy, and to further the goal of disarmament.
- It represents the only **binding commitment** in a multilateral treaty to the goal of disarmament by the nuclear-weapon States.
- **Nuclear-weapon states parties under the NPT** are defined as those that manufactured and exploded a nuclear weapon or other nuclear explosive device before **January 1, 1967**.
- India has argued that **treaties like NPT are discriminatory and are selectively applicable to only non-nuclear powers** and legitimized the monopoly of nuclear power by a few.
- Consequently India **conducted nuclear explosion test in May 1974**, all along maintaining that it was **committed to peaceful use of atomic energy**.
- In **1998**, India again **conducted a nuclear explosion tests**, and acquired the **capacity to use nuclear energy for military purposes**.
- To alleviate the fears of a world community, **India formulated a comprehensive nuclear doctrine**. The major tenets of this doctrine are:
  - Maintenance of a **credible minimum nuclear deterrence**.

- Professes **no first use policy**.
- Commitment to **global veritable and non-discriminatory nuclear disarmament** leading to a nuclear weapons free world.
- India has abided by both NPT and **Comprehensive Nuclear-Test-Ban Treaty (CTBT)** even though it is a non-signatory.

#### **CTBT**

- The Comprehensive Nuclear-Test-Ban Treaty (CTBT) is the treaty banning all nuclear explosions – everywhere, by everyone.
- The Treaty was negotiated at the **Conference on Disarmament in Geneva** and adopted by the **United Nations General Assembly**. It opened for signature on 24 September 1996.

## **India and Norway to Combat Marine Pollution**

Recently, the **Ministry of Environment, Forests and Climate Change** signed a letter of Intent establishing the **India-Norway Marine Pollution Initiative** together with the **Norwegian Ministry of Foreign Affairs**.

- Both the governments **launched the first Joint initiative under this new partnership**. The India-Norway Marine Pollution Initiative will **combat marine pollution**, which is one of the fastest growing environmental concerns.
- In January, 2019, the Indian and Norwegian governments agreed to work more closely on oceans by signing an MoU and establishing the **India-Norway Ocean Dialogue** during the **Norwegian Prime Minister's visit to India**.
- A joint Task Force on **Blue Economy** with government officials, researchers and experts as well as private sector was established to develop sustainable solutions within strategic areas of the blue economy, such as maritime and marine sector in addition to energy sector.

#### **Significance**

- Through a range of implementing partners, this initiative will seek to
  - **support local governments** in implementing sustainable waste management practices,
  - develop systems for collecting and analyzing information about sources and scope of marine pollution and

- Improve private sector investment.
- Support will also be directed towards **beach clean-up efforts, awareness raising campaigns** and pilot project, for example, using plastic waste as fuel substitution for coal in cement production and developing frameworks for deposit schemes.
- In partnership, **Norway and India will share experiences and competence**, and collaborate on efforts to develop clean and healthy oceans, **sustainable use of ocean resources** and **growth in the blue economy**.

### Marine Pollution

- Land-based sources (such as **agricultural run-off, discharge of nutrients and pesticides and untreated sewage including plastics**) account for approximately **80% of marine pollution**, globally.
- **Excessive nutrients from sewage** outfalls and agricultural runoff have contributed to the **increasing incidence of low oxygen (hypoxic)** areas known as **dead zones**, where most marine life cannot survive, resulting in the collapse of some ecosystems.
  - There are now close to **500 dead zones with a total global surface area of over 245,000 km<sup>2</sup>**, roughly equivalent to that of the United Kingdom.
- The excess **nitrogen** may lead to the **proliferation of seaweeds and microorganisms** and cause **algal blooms**. Such blooms can be harmful, causing massive fish kills, contaminating seafood with toxins and altering ecosystems.
- **Litter can accumulate in huge floating garbage patches** or wash up on the coasts. Plastics float in the Ocean, releasing contaminants as they break down into toxic micro-particles that animals mistake for food.
  - Fish and birds can choke on these particles, get sick as they accumulate in their stomachs, or become entangled in larger debris.
- In 2010, the **Gulf of Mexico deep-water oil spill** had a devastating effect on the entire marine ecosystem, as well as the populations that depend on the marine areas for their livelihoods.
  - Smaller oil spills happen every day, due to drilling incidents or leaking motors, and cause the death of birds, marine mammals, algae, fish and shellfish.

### Significance of Clean Ocean

- The **ocean is a vital source of nourishment, especially to people in the world's poorest nations**.
- Many depend on fish for their primary source of protein; **fisheries and aquaculture support the livelihoods of about 540 million people (8% of the world's population)** directly or indirectly.
- **Overfishing, loss of biodiversity** and the **possible extinction of species** put a **stress on these limited resources**. This could lead to famine, increased poverty and conflicts, including war.
- Learning to manage ocean sustainably is the only path to global prosperity and peace.

## Intermediate-Range Nuclear Forces Treaty

The United States has suspended the **Intermediate-Range Nuclear Force Treaty** with Russia.

## ARMS CONTROL TREATIES

### Limited Test Ban Treaty (LTBT)

Banned nuclear weapon tests in the atmosphere, in outer space and under water. Signed by the US, UK and USSR in Moscow on 5 August 1963.  
Entered into force on 10 October 1963.

### Nuclear Non-Proliferation Treaty (NPT)

Allows only the nuclear weapon states to have nuclear weapons and stops others from acquiring them. For the purposes of the NPT, a nuclear weapon state is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January 1967. So there are five nuclear weapon states: US, USSR (later Russia), Britain, France and China. Signed in Washington, London and Moscow on 1 July 1968.  
Entered into force on 5 March 1970. Extended indefinitely in 1995.

### Strategic Arms Limitation Talks I (SALT-I)

The first round of the Strategic Arms Limitation Talks began in November 1969. The Soviet leader Leonid Brezhnev and the US President Richard Nixon signed the following in Moscow on 26 May 1972 — (a) Treaty on the limitation of Anti-Ballistic Missile Systems (ABM Treaty); and (b) Interim Agreement on the limitation of strategic offensive arms.  
Entered into force on 3 October 1972.

### Strategic Arms Limitation Talks II (SALT-II)

The second round started in November 1972. The US President Jimmy Carter and the Soviet leader Leonid Brezhnev signed the Treaty on the limitation of strategic offensive arms in Vienna on 18 June 1979.

### Strategic Arms Reduction Treaty I (START-I)

Treaty signed by the USSR President Mikhail Gorbachev and the US President George Bush (Senior) on the reduction and limitation of strategic offensive arms in Moscow on 31 July 1991.

### Strategic Arms Reduction Treaty II (START-II)

Treaty signed by the Russian President Boris Yeltsin and the US President George Bush (Senior) on the reduction and limitation of strategic offensive arms in Moscow on 3 January 1993.

Note:



- The treaty was signed in December 1987 by US President Ronald Reagan and Soviet General Secretary Mikhail Gorbachev.
- It prohibited the United States and the Soviet Union from possessing, testing and deploying ground-launched cruise and ballistic missiles of ranges between 500 and 5,500 kilometers.
- It also covered all land-based missiles, including those carrying nuclear warheads but did not cover sea-launched missiles.
- The objective of this treaty was to end the arms race between the two superpowers US and USSR.

## India-Monaco Relations

Prince of Monaco Albert II came to India on his first official visit.



- During the visit, a number of agreements were signed which includes:
  - Cooperation on the environment, climate change, renewable energy.
  - Establishing linkages especially in infrastructure development.
  - Visa waiver for diplomatic passport holders of Monaco.
  - Scope for business cooperation.
  - Both sides also decided to step up cooperation in the field of ocean resources and urban affairs (including Smart Cities).

### India-Monaco Relations

- The Principality of Monaco and India officially established diplomatic relations on September 21, 2007. However, Consular Relations between the

Principality of Monaco and India have existed since September, 30 1954.

### Monaco

- Monaco is a **city-state** situated in Southern Europe, on the **Mediterranean coast**.
- Monaco is spread over 2 km<sup>2</sup> and is the second **smallest country** in the world after Vatican City.
- Monaco's **government structure is a hereditary constitutional monarchy**, governed by the Constitution established on December 17, 1962.
- The executive power rests under the high authority of Prince Albert II, Sovereign Prince of Monaco.

## 40 Years of Islamic Revolution: Iran

40 years have been completed of the **Iranian revolution** which took place in **February, 1979**.

- Iran's revolution began with a **popular democracy movement** and ended with the **establishment of the world's first Islamic state**.

### Background

- By the end of the second world war, the **United States, provided Iran with economic and political support** in return for their **membership in the democratic Western block**.



- As a result **Mohammad Mosaddeq's National Front** became the **first democratically-elected Iranian government in 1951**.
- Mosaddeq was a modern, secular leaning, progressive leader who was able to gain the broad support of both the secular elite and the Iranian ulama (religious scholar).



- After coming to power **Mosaddeq** made a bold move to address the **issue of exploitation of Persian oil by Western powers** through **nationalising the previously British-owned Anglo-Iranian Oil Company (AIOC)**.
  - This did not work out in his favour, as it attracted **British and US economic sanctions**. This in turn **crippled the Iranian economy**.
- In **1953**, Mosaddeq was **replaced in a military coup organised by the Central Intelligence Agency(CIA) and British Intelligence**. As a result **Shah (king) Reza Pahlavi** (reigning monarch of Iran) was returned to power and the Anglo-Iranian Oil Company became BP, British Petroleum, with a 50-50 divide of profits.
  - Not only did this intervention leave Iranians with a **sense of bitter humiliation and betrayal**, its impact also reverberated within the wider Muslim world.
  - It sent the message that a **democratically-elected government would be toppled if it did not fit with Western interests**. This narrative continues to be the dominant discourse of Islamist activists to this day, used in explaining world events that affect the Muslim masses.
- Between 1953 and 1977, the **Shah relied heavily on the US** in his efforts to modernise the army, Iranian society and build the economy.
- Though his economic program brought prosperity and industrialisation to Iran and educational initiatives increased literacy levels, this all came at a hefty cost.
  - Wealth was unequally distributed, there was a development of an underclass of peasants migrating to urban centres and large scale political suppression of dissent.
  - Disillusioned religious scholars were alarmed at the top-down imposition of a Western lifestyle, believing Islam was being completely removed from society.

### Revolution

- Distrust of the Shah's economic policy and resentment of his autocratic style fuelled dissent against his regime.
- Under these circumstances among many protests, sustained and indirect opposition came from the religious circles led by **Ayatollah Khomeini**, a shia cleric living in exile in Paris.
- The persistent protests instigated by Khomeini's followers swelled to include all major cities which culminated in the revolution on February 1, 1979, when Khomeini triumphantly returned to Iran.



### The Impact of the Revolution

- The Iranian revolution was a **watershed event** that not only transformed Iran completely, but also had **far-reaching consequences for the world**.
- It caused a **deep shift in Cold War and global geopolitics** as US not only lost a key strategic ally against the communist threat, but it also gained a new enemy.
- The Iranian revolution **dramatically altered Middle Eastern politics**. It flamed a **regional sectarian cold war between Iran and Saudi Arabia**. The revolution challenged Saudi Arabia's monarchy and its claim for leadership of the Muslim world.

### Was the Revolution a Success?

- From the perspective of longevity, **the revolution still stands**. It has managed to survive four decades, including the eight-year Iran-Iraq war as well as decades of economic sanctions. Comparatively, the **Taliban's attempt at establishing an Islamic state only lasted five years**.
- Khomeini and his supporters had promised to end the gap between the rich and the poor, and deliver economic and social progress.
  - However, the **Iranian economy is in poor shape**, despite the oil revenues that holds back the economy from the brink of collapse.
  - People are dissatisfied with **high unemployment rates and hyper-inflation**. They have little hope for the economic fortunes to turn.
- The most important premise of Islamism of **making society more religious through political power has also failed to produce the desired results**. Even though 63% of Iranians were born after the revolution, they are no more religious than before the revolution.

Note:

- Although there is **still significant support for the current regime**, a significant proportion of **Iranians want more freedoms**, and disregard religion being forced from above. There are growing protests demanding economic, social and political reforms as well as an end to the Islamic republic.
- Most Iranians blame the failures of the revolution on the never-ending US sanctions. Even though Iran trades with European powers, China, Russia and India, they believe the West does not want Iran to succeed at all costs.

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## Wind-Rush Scheme

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More than 450 Indians have been confirmed their British citizenship under the **British government's 'Windrush Scheme'**.

- Under the **Windrush Scheme**, citizenship has been granted to **immigrants from Commonwealth countries to the UK**, who arrived or settled in the **UK before 1 January 1973** and have been continuously resident in the UK since their arrival.
- The 'Windrush Generation' refers to citizens of former British colonies who **arrived in the UK before 1973**, when the rights of such Commonwealth citizens to live and work in Britain was substantially curtailed.
- While a large proportion of them were of Jamaican/ Caribbean descent, they also included Indians and other South Asians.
- The immigrants referred to under the bracket of 'Windrush Generation' **relates to a ship named 'Windrush', which brought Jamaican workers to the UK shores in 1948.**



# Science and Technology

## Highlights

- GSAT-31 Launched by ISRO (26)
- Shift in Magnetic North Pole (27)
- MarCO Cubesat (28)
- 150 years of the Periodic Table (28)
- AI 'Project Debater' Lost to Human (29)

## GSAT-31 Launched by ISRO

Indian Space and Research Organisation (ISRO) has launched GSAT-31 onboard Ariane 5 rocket from French Guiana in South America.

➤ **GSAT-31 is India's 40<sup>th</sup> communication satellite.**

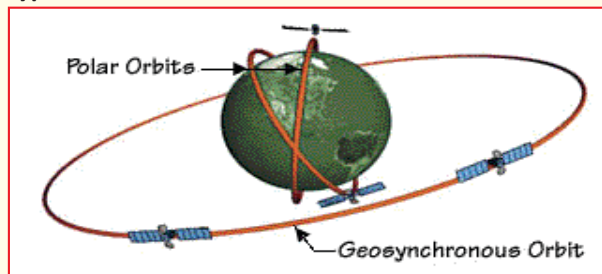
### About GSAT-31

- **Weight:** 2,536 kg
- **Payload:** Ku-Band Transponders
- **Coverage Area:** India Mainland and Islands
- **Mission Life:** 15 Years
- **Orbit:** Geostationary Orbit

### Significance

- GSAT 31 will replace the satellites INSAT-4CR and INSAT-4A which are going to expire soon and will help in maintaining continuity of services currently provided by these satellites.
  - The satellite will provide connectivity to very small aperture terminals (VSAT) for ATM, stock exchange, e-governance applications, and Direct-to-Home (DTH) services.
  - It will also provide telecommunication applications for bulk data transfer for a host of applications, emergency communications, disaster management support.

### Types of Orbits



### In general, there are two types of orbits:

- Polar Synchronous
- Geosynchronous

#### Polar Orbit

- A polar orbit travels north-south over the poles and takes approximately 90 minutes for a full rotation.
- These orbits have an inclination near 90 degrees. This allows the satellite to see virtually every part of the Earth as the Earth rotates underneath it.
- These satellites have many uses such as monitoring crops, global security, measuring ozone concentrations in the stratosphere or measuring temperatures in the atmosphere.
- Almost all the satellites that are in a polar orbit are at lower altitudes.
- An orbit is called sun-synchronous when the angle between the line joining the center of the Earth and the satellite and the Sun is constant throughout the orbit.
- These orbits are also referred to as "Low Earth Orbit (LEO)" which enables the onboard camera to take images of the earth under the same sun-illumination conditions during each of the repeated visits, thus making the satellite useful for earth resources monitoring.
- It passes over any given point on Earth's surface at the same local solar time.

#### Geosynchronous Orbit

- Geosynchronous satellites are launched into orbit in the same direction the Earth is spinning and can have any inclination.
- When the satellite is in orbit at a specific altitude (approximately 36,000km above the Earth's surface), it will exactly match the rotation of the Earth.

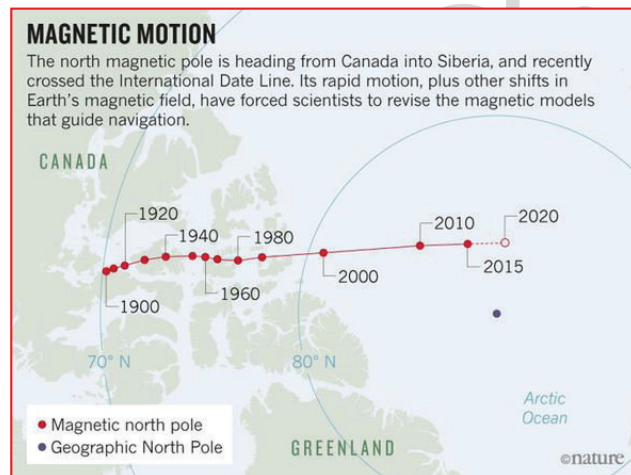
Note:

- While, Geostationary orbits fall in the same category as geosynchronous orbits, but with that one special quality of being parked over the equator.
- In the case of geostationary satellites, the Earth's force of gravity is exactly enough to provide acceleration required for circular motion.
- Geosynchronous Transfer Orbit(GTO): To attain geostationary or geosynchronous earth orbits, a spacecraft is first launched into a Geosynchronous Transfer Orbit.
- From the GTO the spacecraft uses its engines to shift to geostationary or geosynchronous orbit.

## Shift in Magnetic North Pole

Recently, the updated World Magnetic Model has been released.

- The World Magnetic Model was scheduled to be released in 2020, but it was preponed due to shifting in earth's magnetic north pole.
  - The Magnetic model which is updated at every five years and was supposed to be updated in 2020, but due to the unexpected shift, it has been preponed to January 30, 2019.
- British Geological Survey has reported that the earth's magnetic north pole is moving from its current position in Canada to Siberia.



- The shift is causing geophysicists to reconsider the world magnetic model which is used for navigation purposes.
  - The World Magnetic Model (WMM) is a standard model of the core and large-scale crustal magnetic field.

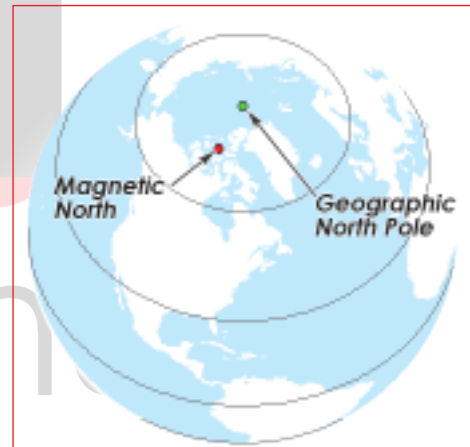
- It is used extensively for navigation by the United Kingdom and the US for Defence purposes, the North Atlantic Treaty Organization (NATO) and the International Hydrographic Organization (IHO).
- It is also used widely in civilian navigation.
- Scientists think that reasons for such shifts are geomagnetic pulses beneath South America and the high-speed jet of liquid iron beneath Canada.

## Geographical Poles vs. Magnetic Poles

### ➤ Geographic Poles

- The Earth rotates on the geographic north and south poles.
  - The geographic north and south poles are where lines of longitudes (meridians) converge in the north.
  - The south and north pole are directly opposite to one another.

### ➤ Magnetic North Pole



- The Earth consists of a solid iron core. Surrounding the iron core is an ocean of hot, liquid metal. The liquid metal that flows in Earth's core creates electrical currents, which in turn creates our magnetic field.
- The Magnetic North Pole (also known as the North Dip Pole) is a point on Ellesmere Island in Northern Canada where the northern lines of attraction enter the Earth.
- This means that a compass needle point to the Magnetic North Pole – which is different from the geographic north.
- Magnetic equator does not coincide with geographical equator.



**International Hydrographic Organization**

- The International Hydrographic Organization is an intergovernmental consultative and technical organization that was established in 1921 to support the safety of navigation and the protection of the marine environment.
- India is also a member of IHO.

**MarCO Cubesat**

- NASA has lost contact with its two mini-satellites Mars Cube One (MarCO) named as MarCO-A and MarCO-B.
  - CubeSats are a class of spacecraft based on a standardized small size and modular use of off-the-shelf technologies.
  - All previous CubeSats have orbited the Earth. MarCO was the first attempt to orbit another planet.
  - MarCO CubeSats were launched along with InSights Mission to serve as communication relays during its Mars landing.
  - After InSight's landing, these spacecraft were launched further on their own trajectories to test if such low-cost technology can operate in deep space.

**150 years of the Periodic Table**

The United Nations has designated 2019 as the International Year of the Periodic Table (IYPT2019) to commemorate the 150th anniversary of the establishment of the Periodic Table of Chemical Elements by Dmitri Ivanovich Mendeleev on 17<sup>th</sup> February 1869.

	Mendeleev's periodic table		Modern periodic table
1.	Elements are arranged in the increasing order of their atomic masses.	1.	Elements are arranged in the increasing order of their atomic numbers.
2.	Elements having similar properties were placed directly under one another.	2.	Elements having the same valence shell are present in the same period while elements having the same number of valence electrons are present in the same group.
3.	The position of hydrogen could not be explained.	3.	Hydrogen is placed above alkali metals.
4.	No distinguishing positions for metals and non-metals.	4.	Metals are present at the left hand side of the periodic table whereas non-metals are present at the right hand side.

- The International Year aims to recognize the importance of the Periodic Table of Chemical Elements as one of the most important and influential achievements in modern science reflecting the essence not only of chemistry but also of physics, biology and other basic sciences disciplines.
- The initiative for IYPT2019 is supported by the International Union of Pure Applied Chemistry (IUPAC) in partnership with other science-related organizations.

**Mendeleev was not the First****One to Create the Table of Elements**

- Earliest of such efforts was due to the father of modern chemistry, Antoine Lavoisier, in 1789 who also classified elements terms of their properties.
- John Newlands introduced the concept of octaves in chemistry, wherein properties repeat for every eighth element.
- Mendeleev's periodic table was designed in the order of increasing atomic weight while the modern periodic table has been designed according to increasing atomic number.

**Important Facts about Periodic Table**

- There are 118 confirmed elements in the periodic table.
  - Among those, 90 elements can be found in nature, others are strictly man-made.
  - Technetium was the first man-made element.
  - Hydrogen is the lightest element with its atomic weight 1. Uranium is the heaviest element with an atomic weight of 238.
  - Helium, neon, argon, krypton, xenon, and radon are known as the Noble Gases as they were believed to be unreactive, but recent studies have shown reactive compounds of xenon, krypton, and radon.
  - The International Union of Pure and Applied Chemistry (IUPAC) is responsible for maintaining the periodic table.
  - Most of the elements on the periodic table are metals (almost 75 percent).
  - Different forms of pure elements are called allotropes. For example, diamond, graphite, buckminsterfullerene, and amorphous carbon are allotropes of Carbon.
  - The only two elements that are liquid at room temperature are mercury and bromine.

Note:



### The International Union of Pure and Applied Chemistry (IUPAC)

- **IUPAC, is the world authority on chemical nomenclature and terminology**, including the naming of new elements in the periodic table; on standardized methods for measurement; and on atomic weights etc.
- **A neutral and objective scientific organization**, IUPAC was established in 1919 by academic and industrial chemists who shared a common goal – to unite a fragmented global chemistry community for the advancement of the chemical sciences via collaboration and the free exchange of scientific information.
- **Four new elements discovered in the year 2015 have been named by the IUPAC**
  - These are Nihonium (113Nh), Moscovium (115Mo), Tennessine (117Te) and Oganesson (118Og).
  - Of these elements, Nh-278 is highly radioactive with a very short half-life of 0.24 milliseconds.

## AI 'Project Debater' Lost to Human

- Recently **International Business Machines Corporation's (IBM)** artificial intelligence (AI) system-**Project Debater lost the public debate with a human**

**champion**, Harish Natarajan, at Think 2019 in San Francisco, U.S.

- The winner of the event was determined by **Project Debater's ability to convince the audience of the persuasiveness** of the arguments.
- Project Debater is taught to debate unfamiliar topics, as long as these are well covered in the massive corpus that the system mines including hundreds of millions of articles from numerous well-known newspapers and magazines.

### NOTE:

- A decade ago, **IBM's supercomputer Deep Blue defeated then world chess champion, Gary Kasparov.**
- In March 2016, Alphabet-owned AI firm DeepMind's computer programme, **AlphaGo**, beat **Go (ancient Chinese game) champion Lee Sedol.**
- On 7 December 2017, **AlphaZero** (modelled on AlphaGo) took just four hours to learn all chess rules and master the game enough to defeat the **world's strongest open-source chess engine, Stockfish.**

- Project Debater is endowed with three capabilities:
  - data-driven speech writing and delivery,
  - listening comprehension that can identify key claims hidden within long continuous spoken language and
  - modelling human dilemmas in a unique knowledge graph to enable principled arguments.



# Environment and Ecology

## Highlights

- World Wetlands Day (30)
- Polar Vortex (31)
- Melting Glaciers in Hindu Kush Himalayas (32)
- National Board for Wildlife (33)
- 2018 was the 4th Hottest Year (34)
- India to Host CMS COP 13 in 2020 (34)
- Asiatic Lion Conservation Project (35)
- World Sustainable Development Summit 2019 (35)
- Asian Elephant Alliance (36)
- Giant Cavity in Antarctic Glacier (36)
- Indus River Dolphin (36)
- Black Softshell Turtle (36)
- Rashtriya Kamdhenu Aayog (37)

## World Wetlands Day

- Recently the World Wetlands Day was celebrated with a theme – ‘**Wetlands and climate change**’.
- The World Wetlands Day is celebrated every year on **2<sup>nd</sup> February**. This day marks the date of the adoption of the ‘**Convention on Wetlands**’ on **2<sup>nd</sup> February 1971**, in the **Iranian city of Ramsar**.

### Wetlands

- Wetlands are ecosystems saturated with water, either seasonally or permanently. They include **mangroves, marshes, rivers, lakes, deltas, floodplains and flooded forests, rice-fields**, and even **coral reefs**.
- Wetlands are vital for human survival as they are among the world’s most productive environments; cradles of biological diversity that provide water and productivity upon which countless species of plants and animals depend for survival.

### Why are wetlands important?

- Wetlands are the vital link between land and water.
- Wetlands **mitigate floods, protect coastlines and build community resilience to disasters, reduce the impacts of floods, absorb pollutants and improve water quality**.
- More than one billion people depend on wetlands for a living and 40% of the world’s species live and breed in wetlands.
- They are a **vital source for food, raw materials, genetic resources for medicines**, and hydropower.

- They play an important role in **transport, tourism and the cultural and spiritual well-being** of people.
- They provide **habitat for animals and plants and many contain a wide diversity of life**, supporting plants and animals that are found nowhere else.
- Many wetlands are areas of natural beauty and some are important to Aboriginal people.
- Wetlands also **provide important benefits for industry**. For example, they form nurseries for fish and other freshwater and marine life and are critical to commercial and recreational fishing industries.

### Threats to Wetlands

- **Agriculture and Development:** Wetlands are often underappreciated because they are viewed as being more valuable for their water and undeveloped land than the ecosystem services they provide.
  - They are often drained to make room for agriculture or human settlements and any other wetlands nearby may lose its own water to this development.
- **Pollution:** Wetlands act as natural water filters. However, they can only clean up the fertilizers and pesticides from agricultural runoff and not mercury from industrial sources and other types of pollution.
  - There is a growing concern about the effect of industrial pollution on drinking water supplies and the biological diversity of wetlands.
- **Climate Change :** Climate change brings a variety of alterations to patterns of water and climate.
  - In some places, rising sea levels are swamping shallow wetlands and drowning some species of mangrove trees. In others, droughts are destroying estuaries, floodplains and marshes.

- According to Global Wetland Outlook, released by the Ramsar Convention on Wetlands, approximately 35% of the world's wetlands were lost between 1970-2015.
- In some places the pace of wetlands destruction occurs at incredible speeds. For example, In the **Philippines, 80% of coastal wetlands have been degraded**, drained or destroyed in the last 30 years.

### 'Wise Use' of Wetlands

- According to Ramsar Convention on Wetlands, '**Wise use**' of wetlands is the **maintenance of their ecological character**, achieved through the implementation of ecosystem approaches, within the **spirit of sustainable development**. 'Wise Use' guidelines encourage Contracting Parties to:
  - **Adopt national wetland policies** with legislations and institutional arrangements to deal with wetland;
  - **Develop programmes of wetland inventory**, monitoring, research, training, education and public awareness; and
  - **Take actions involving the development of integrated management plans** covering every aspect of the wetlands and their relationships with their catchments.

#### Ramsar Convention

- The Convention on Wetlands, called the Ramsar Convention, is the **intergovernmental treaty that provides the framework for the conservation and wise use of wetlands** and their resources.
- The Convention was adopted in the **Iranian city of Ramsar in 1971** and came into force in 1975. Since then, almost 90% of UN member states, from all the world's geographic regions, have acceded to become "Contracting Parties".
- **India has 27 Ramsar Sites** which are the Wetlands of International importance.

#### Montreux Record

- Montreux Record under the Ramsar Convention is a **register of wetland sites on the List of Wetlands of International Importance where changes in ecological character have occurred, are occurring, or are likely to occur** as a result of technological developments, pollution or other human interference.
- It is maintained as a part of the Ramsar List.
- Currently, two wetlands of India are in Montreux record: **Keoladeo National Park** (Rajasthan) and **Loktak Lake** (Manipur).

## Ramsar Sites In India



#### NOTE:

**Chilika lake** (Odisha) was placed in the record but was later removed from it.

## Polar Vortex

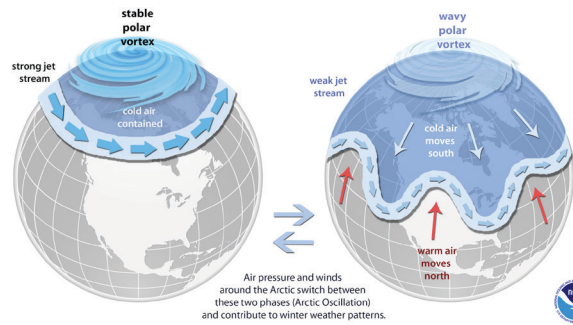
The **United States** is grappling with the **extreme cold**, with the temperature reaching -30°C in cities like Chicago and Dakota.

- This is caused by a blast of **Arctic air**, which is a result of a "**polar vortex**" event.
- The polar vortex is a **large area of low pressure** and **cold air** surrounding both of the Earth's poles. It is also known as the **Polar Pig**.
- The term "vortex" refers to the **counterclockwise flow of air** that helps keep the colder air near the Poles. It **always exists** near the poles, but weakens in summer and strengthens in winter.
- However, many times **during winter** in the northern hemisphere, the **polar vortex expands, sending cold air southward**. This occurs regularly during wintertime and is often associated with large outbreaks of Arctic air in the **United States and portions of Europe and Asia**.
- Also, it is not a feature that exists at the Earth's surface, rather it exists tens of **thousands of feet up in the atmosphere**.
- By itself, the only danger to humans is the magnitude of how cold temperatures will get when the polar vortex expands, sending Arctic air southward into areas that are not typically that cold.

Note:

### The Science Behind the Polar Vortex

The polar vortex is a large area of low pressure and cold air surrounding the Earth's North and South poles. The term vortex refers to the counterclockwise flow of air that helps keep the colder air close to the poles (left globe). Often during winter in the Northern Hemisphere, the polar vortex will become less stable and expand, sending cold Arctic air southward over the United States with the jet stream (right globe). The polar vortex is nothing new — in fact, it's thought that the term first appeared in an 1853 issue of E. Littell's *Living Age*.



### How is it linked to Global Warming?

- The global temperature has risen by 0.8°C since 1880.
- The **Arctic has warmed** over twice the average.
- The **temperature difference** between the North Pole and regions like North America **has reduced**.
- The **energy generated by the jet stream** travels upward and disrupts the **polar vortex, causing it to split**.
- One of **these two "child" vortices** has visited North America during February, **causing the record low temperatures**.

## Melting Glaciers in Hindu Kush Himalayas

Recently, The Hindu Kush Himalayan Assessment study has been released by the International Centre for Integrated Mountain Development (ICIMOD).

### Critical importance of Hindu Kush Himalayas

- ▶ The Hindu Kush Himalayas span eight countries, from Afghanistan to Myanmar, and encompass over 4.2 million sq. km
- ▶ The mountains are the source of 10 major river systems in Asia that include the Indus, Ganga and Brahmaputra
- ▶ They sustain the livelihood of 240 million mountain dwellers and 1.9 billion people living downstream
- ▶ Of the eight countries, India has the highest population of 50.3 million distributed across its 11 mountain states
- ▶ Researchers warn of more political unrest in the region due to conflicts over natural resources, especially river water



- The Hindu Kush Himalayan region is of critical importance, given that it holds the largest ice mass after the North and South Poles, and has been on a constant warming trend since the 1970s.

- The study warns that if global efforts to limit global warming to below 2°C above pre-industrial levels fail, it could lead to the melting of two-thirds of the region's glaciers by 2100.
- This trend could be catastrophic, given that there are 8,790 glacial lakes in the region, of which 203 could lead to floods due to glacial lake outbursts. On an average, 76 events of natural hazard occur every year in the Hindu Kush, with China accounting for 25 and India 18.
- The Indo-Gangetic Plain, an extremely polluted region, has amplified the effects of greenhouse gases. Deposits of black carbon and dust have speed up the melting of Hindu Kush glaciers.

### Adverse Effects

- **Destabilizing Rivers**
  - Increasing glacial melts could destabilize rivers by changing their stream flow.
  - The Indus river could witness more stream flow due to high glacial melt till 2050, after which the flow would start reducing due to decreasing glacial melt.
  - The Ganga and the Brahmaputra, which are mainly monsoon-fed rivers, will also see variations, as the pre-monsoon flows may decline. This will hamper agriculture that accounts for the largest share of water usage.

### International Centre for Integrated Mountain Development (ICIMOD)



- The International Centre for Integrated Mountain Development (ICIMOD) is a regional intergovernmental learning and knowledge sharing centre.
- It has eight regional member countries of the Hindu Kush Himalaya – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and is based in Kathmandu, Nepal.



- Globalization and climate change have an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people.
- ICIMOD aims to assist the mountain people to understand these changes, adapt to them, and to make the most out of new opportunities, while addressing upstream-downstream issues.
- **Impact on Monsoons**
  - The Hindu Kush range exerts a significant influence on seasonal shifts in the monsoon circulation and the distribution of rainfall over Asia in summer.
  - Changing monsoon patterns, including increased severity and frequency of storms, could lead to mountain hazards that may destroy critical infrastructure.
- **Forced Environmental Migration**
  - Forced migration could occur with an increase in the incidence and magnitude of extreme events such as floods.
- A separate study conducted by scientists from GB Pant National Institute of Himalayan Environment and Sustainable Development and the Centre for Earth Sciences at the Indian Institute of Science (IISc) has concluded that the Chaturangi Glacier, a tributary of Gangotri glaciers, is also receding.
- The study was done by using the satellite data from 1989 to 2016 and kinematic GPS.

#### Kinematic GPS

Kinematic Global Positioning System (GPS) is a satellite navigation technique used to enhance the precision of data from satellite-based positioning systems.

#### Findings of the Study

- Chaturangi glacier is retreating at a “considerable rate” and may vanish in the future.
- The Chaturangi glacier was connected with the Gangotri glacier till 1989 but it is now detached and retreating at the rate of about 22.84 m/year.
- The variability in retreating rate is not only controlled by climate change but is also governed by glacier size, type, topographic setting and debris cover.
- The retreating rate of the Chaturangi glacier is higher than the Gangotri glacier because of its smaller size and fast response time to climatic variability.

#### Impact of Glacier Retreat

- **The flow of Ganga:** Since Ganga originates from Gangotri glacier, which is fed by its tributary glaciers, the rapid retreat of glaciers like Chaturangi and Raktavarna will impact the flow and water level in the Ganga.
- **Impact on Human Life:** NASA’s Land Use Land Cover Change programme has predicted that glacial melt will impact water supplies in the Himalayan region.
  - Also, there will be an impact on agriculture, including soil loss due to soil erosion, landslides, and floods.
- **Glacial Lake Outburst Floods (GLOF):** Glacial lakes may also form due to the accumulation of melted ice, which may result in Glacial Lake Outburst Floods (GLOF).

#### About Gangotri Glacier

- Gangotri Glacier is situated in the Uttarkashi District of Uttarakhand.
- The Gangotri glacier originates at the northern slope of Chaukhamba range of peaks in Garhwal Himalayas. It is about 30 km long and 0.5 to 2.5 km wide.
- Gangotri is not a single valley glacier, but a combination of several other glaciers. This glacier comprises three main tributaries, namely Raktavaran (15.90 km), Chaturangi (22.45 km) and Kirti (11.05 km) and more than 18 other tributary glaciers.
- The Bhagirathi, one of the main tributaries of the Ganga, originates from the gangotri glacier.

#### National Board for Wildlife

- **National Board for Wildlife (NBWL)** which is charged with responsibility of allowing forest land in Protected Areas to be diverted for industrial use has, cleared 682 of the 687 **projects (99.82%) that came up for scrutiny.**
- On one hand few experts have criticised NBWL as merely a “**clearance house**”. On the other hand, officials state the **following reason** for increased clearances:
  - Streamlined processes.
  - Regular meetings since 2014.
  - Online filling of applications.
  - Projects coming to NBWL are one which has already passed scrutiny of respective state governments.



### **National Board for Wildlife (NBWL)**

- National Board for Wildlife is a statutory Board constituted officially in 2003 under the Wild Life (Protection) Act, 1972.
- The NBWL is chaired by the Prime Minister.
- The board is 'advisory' in nature and is responsible for promotion of conservation and development of wildlife and forests.
- It reviews all wildlife-related matters and provides for the approval of projects in and around national parks and sanctuaries

### **2018 was the 4<sup>th</sup> Hottest Year**

- According to World Meteorological Organisation, report, 2018 is set to be the fourth warmest year in recorded history, stressing the urgent need for action to rein in runaway planetary warming.
- WMO concluded that average global surface temperature in 2018 was 1°C (1.8°F) above pre-industrial baseline levels.
- 2016, boosted by a strong El Nino remains the hottest year on record.
- The WMO said that the 20 warmest years in history all occurred within the last 22 years.
- The WMO said heightened temperatures also contributed to a number of extreme weather events such as hurricanes, droughts and flash flooding.

#### **World Meteorological Organization (WMO)**

- The World Meteorological Organization (WMO) is an intergovernmental organization, under United Nations, with a membership of 192 Member States and Territories.
- It originated from the International Meteorological Organization (IMO), which was established after the 1873 Vienna International Meteorological Congress.
- Established by the ratification of the WMO Convention on 23 March 1950, WMO became the specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences.
- WMO is headquartered in Geneva, Switzerland.

### **India to Host CMS COP 13 in 2020**

The 13<sup>th</sup> Conference of Parties (COP) of the Convention on the Conservation of Migratory Species of Wild Animals

(CMS) will be hosted by India during 15<sup>th</sup> to 22<sup>nd</sup> February, 2020 at Gandhinagar in Gujarat.

- Great Indian Bustard (GIB) will be the mascot for the 13th Conference of Parties (COP) of the UN Convention on the conservation of migratory species (CMS).
- Representatives from 129 Parties and eminent conservationists and international NGOs working in the field of wildlife conservation will attend the COP.
- Hosting of COP would give India an opportunity to showcase its conservation initiatives for wildlife species.
- It will provide a global platform for deliberations on the conservation and sustainable use of migratory wild animals and their habitat.

### **Migratory Species in India**

- Migratory species are those animals that move from one habitat to another during different times of the year, due to various factors such as food, sunlight, temperature, climate, etc.
- The movement between habitats can sometimes exceed thousands of miles/kilometers for some migratory birds and mammals.
- A migratory route may involve nesting and also requires the availability of habitats before and after each migration.
- India is a temporary home to several migratory animals and birds. The important among these include Amur Falcons, Bar-headed Geese, Black-necked cranes, Marine turtles, Dugongs, Humpback Whales, etc.
- The Indian sub-continent is also part of the major bird flyway network, i.e, the Central Asian Flyway (CAF) that covers areas between the Arctic and Indian Oceans.
- India has also launched the National Action Plan for the conservation of migratory species under the Central Asian Flyway.

### **Convention on the conservation of migratory species of wild animals (CMS)**

- It is an environmental treaty under the aegis of the United Nations Environment Programme, CMS (also referred to as the Bonn Convention) provides a global platform for the conservation and sustainable use of migratory animals and their habitats.

- CMS brings together the States through which migratory animals pass, the Range States, and lays the legal **foundation for internationally coordinated conservation measures** throughout a migratory range.
- It is the only global convention specializing in the conservation of migratory species, their habitats and migration routes.
- **India** has been a **Party to the CMS since 1983**. The Conference of Parties (COP) is the decision-making organ of this convention.
- **India** has also signed **non legally binding MOU with CMS on the conservation and management of Siberian Cranes (1998), Marine Turtles (2007), Dugongs (2008) and Raptors (2016)**.

## Asiatic Lion Conservation Project

A dedicated “**Asiatic Lion Conservation Project**” has been launched by the Union Ministry of Environment, Forests and Climate Change (MoEFCC).

- MoEFCC has approved the project for three financial years from 2018 to 2021.
- The Asiatic Lion, **endemic to Gir landscape of Gujarat**, is one of the 21 **critically endangered species** identified by the Ministry for taking up recovery programmes.
- The project envisages scientific management with the involvement of communities in coordination with multi-sectoral agencies for disease control and veterinary care for overall conservation of Asiatic lion.
- This project has “**Species Conservation over a large landscape**” approach.

### Large Landscape Conservation

- Large landscape conservation is an approach to conservation and management that focuses on actions that are taken across large areas, such as entire watersheds. Large landscape conservation generally involves many forest divisions, government agencies, and conservation organizations.
- As Asiatic Lions are found only in the Gir Landscape, this project will focus on conservation efforts of Asiatic Lions over whole Gir Range.
- Modern Information and Communication Technology (ICT) is proposed in the conservation, protection and development efforts of the Greater Gir Region. Additional ICT will include the following:

- GPS based tracking like Surveillance Tracking Animal Tracking and Vehicle Tracking
- Automated Sensor Grid like Magnetic Sensors, Movement Sensors, and Infrared heat sensors
- Night vision capability enhancement
- GIS-based real-time monitoring, analysis and report generation.

### Asiatic lion (*Panthera leo persica*)

- Asiatic lions are slightly smaller than African lions.
- Males have only moderate mane growth at the top of the head so that their ears are always visible.
- The most striking morphological character, which is always seen in Asiatic lions, and rarely in African lions, is a longitudinal fold of skin running along its belly.

### Status of Asiatic Lions as per various wildlife protection laws:

- Wildlife (Protection) Act 1972: Schedule 1
- CITES Appendix I
- **IUCN Red List:** Endangered
- Asiatic lions were once distributed to the state of West Bengal in east and Rewa in Madhya Pradesh, in central India.
- At present Gir National Park and Wildlife Sanctuary is the only abode of the Asiatic lion.

## World Sustainable Development Summit 2019

- Recently, the three-day **World Sustainable Development Summit 2019** was **inaugurated in New Delhi**.
- The theme of summit was ‘**Attaining the 2030 Agenda: Delivering on our Promise**’.
- The World Sustainable Development Summit (WSDS) is the annual flagship event of **The Energy and Resources Institute (TERI)**.
- It has been conceptualized as a single platform to accelerate action towards sustainable development and climate change.
- The goal of the World Sustainable Development Summit is to bring together global leaders and thinkers in the fields of sustainable development, energy and environment sectors on a common platform.
- It was earlier known as **Delhi Sustainable Development Summit**.

Note:

**The Energy and Resources Institute (TERI)**

- TERI is a **non-profit research institute**.
- It conducts research work in the fields of energy, environment and sustainable development for India and the Global South.
- It was **established in 1974 as Tata Energy Research Institute** and later renamed to The Energy Resources Institute in 2003.

**Asian Elephant Alliance**

- The **Asian Elephant Alliance** has decided to raise about 187 crore rupees to secure 96 out of the 101 elephants corridors across 12 States in India in the next 10 years.
- Asian Elephant Alliance is a joint initiative by **five non-governmental organizations (NGOs)**.
- Five NGOs include **Elephant Family, International Fund for Animal Welfare, IUCN Netherlands, World Land Trust and Wildlife Trust of India**.

**Giant Cavity in Antarctic Glacier**

- NASA scientists have discovered a gigantic cavity, almost 300 meters tall, growing at the bottom of the Thwaites Glacier in West Antarctica.
- **Cavity indicates rapid decay of the ice sheet and acceleration in global sea levels due to climate change.**
- The cavity was revealed by ice-penetrating radar in **NASA's Operation IceBridge**, an airborne campaign beginning in 2010 that studies connections between the polar regions and the global climate.
- Thwaites Glacier is currently responsible for about 4% of global sea level rise.

**Indus River Dolphin**

- Recently the **Punjab Government**, declared the Indus River dolphin, as the **state's aquatic animal**.
- Indus river dolphin is found **only in the main channel of the Indus River** in Pakistan and in the **Beas river in India**.
- Indus river dolphins also known as **Bhulan** are one of the **only four river dolphin species** and subspecies

in the world that are found in freshwater. Others include the **Chinese river dolphin, Ganges river dolphin and Amazon river dolphin**.

- Indus river dolphin is the **national marine mammal of Pakistan** and the **Gangetic dolphin is the national aquatic animal of India**.
- The Indus river dolphin is a **marine mammal** which means it is **warm-blooded, breathes air, gives birth and produces milk to feed its young**.
- It is listed **endangered** in the **IUCN's Red List of Threatened Species** and its International trade is prohibited by virtue of it being listed under **Appendix I of the Convention on International Trade in Endangered Species (CITES)**.
- It is placed in **Schedule I of India's Wildlife Protection Act**.
- Indus dolphin like Ganges River dolphin is **functionally blind** and relies on **echolocation to navigate, communicate and hunt prey in muddy river water**.

**Black Softshell Turtle**

- The **black softshell turtle** is being bred in the pond of **Hayagriva Madhab Temple at Hajo in Guwahati, Assam**.
- Locals regard the turtles in the pond as Kurma avatar of Lord Vishnu to whom the Hajo temple is dedicated.
- India hosts 28 species of turtles, of which 20 are found in Assam. Threats to turtles include hunting for meat and eggs, silt mining, encroachment of wetlands and change in flooding pattern have had a disastrous impact on the turtle population.

**Black Softshell Turtle (*Nilssonina nigricans*)**

- IUCN Status: **Extinct in Wild**
- CITES: **Appendix 1**
- Wildlife Protection Act (WLPA): **Schedule IV**
- Habitat: **Bangladesh and Indian state of Assam**.

**Hayagriva Madhava Temple**

- The Hayagriva Madhava temple is one of the important centers for **Vaishnavism**.
- The temple exists on a hilly place which is located at **Hajo nearby Guwahati, Assam**.
- It was estimated that the temple was built during the **Pala period of 10<sup>th</sup>-12<sup>th</sup> century A. D.**

## **Rashtriya Kamdhenu Aayog**

- The Union Cabinet has approved the proposal for the establishment of **Rashtriya Kamdhenu Aayog for Conservation protection and development of cows and their progeny** in pursuance of the announcement in the Union Budget 2019-20.
  - Rashtriya Kamdhenu Aayog will lead to **conservation, protection, and development of the cattle population in the country** including the development and conservation of indigenous breeds.
  - It will result in **increased growth of the livestock sector** which is more inclusive, benefiting women, and small and marginal farmers.
- The Rashtriya Kamdhenu Aayog will work in collaboration with **Veterinary, Animal Sciences or Agriculture University or departments or organizations of the Central/State Government** engaged in the task of research in the field of breeding and rearing of the cow, organic manure, biogas etc.
  - According to **Article 48 of the Indian Constitution** the state must organise agriculture and animal husbandry on modern and scientific lines and, in particular, it must take steps for preserving and improving the breeds, and prohibiting the slaughter, of cows and calves and other milch and draught cattle.





# Art & Culture

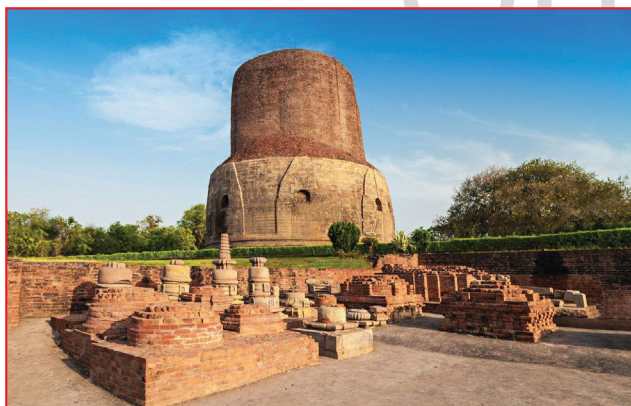
## Highlights

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## Land of Stupas: Sarnath

Sarnath, Varanasi is known for two things: **Buddha's first sermon** and for **the Ashoka Pillar**.

- **In ancient times, this place was known by many names – Rishipatana, Mrigadava and Mrigadaya.**
  - The word Sarnath comes from a corruption of the name Saranganatha (lord of deer).
- The ashes of the Buddha were buried in stupas built at locations associated with important events in the Buddha's life including:
  - **Lumbini** (where he was born), **Bodh Gaya** (where he achieved Enlightenment), **Deer Park at Sarnath** (where he preached his first sermon sharing the Four Noble Truths also called the dharma or the law), and **Kushinagara** (where he died).



*Stupas at Sarnath*

- Two hundred years after Buddha, the Mauryan emperor, Ashoka, fought the battle of Kalinga and, disgusted by the bloodshed, became a Buddhist.
- Ashoka built many beautiful stupas and monasteries at Sarnath.

- Sir Alexander Cunningham (First Director-General of Archaeological Survey of India), excavated the Dhamekh, Dharmarajika, and Chaukhandi stupas along with a monastery and temple between 1834 and 1836.

- Many excavations followed these, the most famous among them being the 1904-05 excavation by Friedrich Oscar Oertel of the Ashoka Pillar, including the Lion Capital.

- **According to an inscription at Chaukhandi stupa, Humayun sought refuge in Sarnath when he was escaping from the battle of Chausa.**

- **Note:** The battle of Chausa was fought between the Mughal emperor, Humayun, and the Afghan, Sher Shah Suri in 1539 at Chausa (modern-day Bihar, India).

## Invasions and Restorations

- **Dharmarajika stupa is the one said to have been built by Ashoka to commemorate Buddha's first sermon.**
  - After Ashoka, the other rulers who added to Sarnath's glory were the Kushans, the Guptas and Harshavardhana.
  - **Under the Guptas, the Dhamekh stupa (synonymous with Sarnath) was encased with stone-carved floral designs.**
- Sarnath suffered from the Huna invasions, but Harshavardhana later restored some of the earlier buildings.
  - The Chinese pilgrim Hiuen-Tsang (602-664) left detailed accounts of the Dharmarajika stupa and Ashoka's lion pillar.

Note:

- Sarnath also suffered when it was attacked by Mahmud of Ghazni in the 11th century.
- After that, Mahipala, the Pala king, restored the monuments.
- The last great monument of Sarnath, a monastery named Dharmachakra Jina Vihara was built in the 11th century by Kumaradevi, wife of Govindachanda of the Gahadavala dynasty.

## State Emblem

- The State Emblem of India is an adaptation from the Sarnath Lion Capital of Ashoka.
- In the original, there are four lions, standing back to back, mounted on an abacus with a frieze carrying sculptures in high relief of an elephant, a galloping horse, a bull and a lion separated by intervening wheels over a bell-shaped lotus.
- Carved out of a single block of polished sandstone, the Capital is crowned by the Wheel of the Law (Dharma Chakra).
- In the State Emblem, adopted by the Government of India on 26 January 1950, only three lions are visible, the fourth being hidden from view.
- The wheel appears in relief in the centre of the abacus with a bull on right and a horse on left and the outlines of other wheels on extreme right and left.
- The bell-shaped lotus has been omitted.
- The words Satyameva Jayate from Mundaka Upanishad, meaning 'Truth Alone Triumphs', are inscribed below the abacus in Devanagari script.



## Promotion and Protection of Maithili

The Ministry of Human Resource Development has decided to apply some of the recommendations of a committee constituted in 2018 for the promotion and protection of Maithili language and its scripts.

- The accepted recommendations include:
  - Establishment of a script and manuscript centre in Darbhanga either at Kameshwar Singh Sanskrit University or Lalit Narayan Mithila University.
  - Early completion of work pertaining to Unicode scripts of Mithilakshar by the Technology Development of Indian Languages.
  - Preparation of audio-visual materials for teaching the Mithilakshar scripts.

### Mithilakshar Script of Maithili Language

- Mithilakshar or Tirhuta is the script of broader cultural Mithila.
- Mithilakshar, Bangla, Assamese, Nebari, Odia and Tibetan are a part of the same family of scripts.
- It is an ancient script and is one of the scripts of the broader North Eastern India.
- Mithilakshar script emerged during 10th Century AD as its oldest form was found in Sahodara stone inscriptions of 950 AD.
- The script has been used throughout Mithila from Champaran to Deoghar.
- The use of this script has been declining since the last 100 years, which is the primary reason for the cultural decline.

### Maithili Language

- Maithili is a language spoken in Bihar belonging to the eastern sub-group of the Indo-Aryan branch.
  - Bhojpuri and Magadhi are closely related to the language.
- The language is claimed to have developed from Magadhan Prakrit.
  - It was the literary language of all of eastern India during the medieval period.
  - This language was popularised in fourteenth century by poet Vidyapati and solidified the importance of the language in literature.
- Maithili language has been accorded Constitutional status in 2003 and it became one of the 22 languages mentioned in the 8<sup>th</sup> Schedule.

## Sangeet Natak Akademi Awards

- The President of India confers the prestigious Sangeet Natak Akademi Awards at Rashtrapati Bhawan, New Delhi.

- **The General Council of the Sangeet Natak Akademi, the National Academy of Music, Dance and Drama, an autonomous body of the Ministry of Culture** had selected forty-two (42) artists from the field of Music, Dance, Theatre, Traditional/Folk/Tribal Music/Dance/Theatre, Puppetry and Overall contribution/scholarship in the Performing Arts for the Sangeet Natak Akademi Awards (Akademi Puraskar) for the year 2017.
- **The honour of Akademi Award has been conferred since 1952.**
  - These honours not only symbolize the highest standard of excellence and achievements, but also recognize sustained individual work and contribution.
- The honour of Akademi Award carries with it **₹1,00,000/- (Rupees one lakh), besides a Tamrapatra and shawl.**

## Statue of Guru Padmasambhava

- A 19-foot-high statue of **Guru Padmasambhava, the founder of Tibetan Buddhism**, was unveiled at **Jirang in Gajapati district, Odisha.**
- This 29 tonne stone statue is placed in the middle of 'Padma Sarovar', a large tank near **Padmasambhava Mahavihara, the largest Buddhist monastery in eastern India.**
  - The Dalai Lama had inaugurated Padmasambhava Mahavihara monastery in 2010.
- Historians claim that Guru Padmasambhava, also known as second Buddha, was born and brought up in Odisha before he left for Tibet.

## Kawtchhuah Ropui Heritage Site, Mizoram

Archaeological Survey of India (ASI) has discovered traces of an ancient civilization in Vangchhia, a village in Mizoram's Champhai district bordering Myanmar.

- The site has been named as the **Kawtchhuah Ropui heritage site.**
  - Kawtchhuah Ropui means the Great Entranceway.
- **Kawtchhuah Ropui the heritage site is Mizoram's first site which is under the protected monuments of Archaeological Survey of India's (ASI).**

- The site, measuring about 45 sq km has yielded pictographs etched on large stone slabs, menhirs (large standing stones), a necropolis (a large cemetery), a water pavilion among other artifacts.
  - The ancient people of Vangchhia also carved terraces on rocks for their settlement – the main excavated site consists of 15 such terraces.



## Mahamastakabhisheka Celebrations

Recently, the **10-day long Mahamastakabhisheka** for the **monolith 39-foot high Bahubali** statue started in **Dharmasthala, Karnataka.**

- This year (2019), Mahamastakabhisheka Mahotsava will be observed from February 9 to February 18.
- This is the **fourth mahamastakabhisheka** of Lord Bahubali since its installation in 1982. Earlier were performed in 1982, 1995, and in 2007 in Dharmasthala.
- It was sculpted by **Renjala Gopalakrishna Shenoy** under the aegis of Ratnavarma Heggade in **1973**. It was then positioned atop **Ratnagiri Hill** in the temple town of **Dharmasthala in 1982.**

### NOTE:

- In 2018, the anointing ceremony of the **Gomateshwara Bahubali statue at Shravanabelagola** took place from February 17 to February 25.
- The statue at Shravanabelagola is believed to be **one of the largest free-standing statues** in the world (at 57 feet), which was built in **983 AD by the minister of the Ganga dynasty, Chamunda-Raya.**

### Mahamastakabhisheka

- The word Mahamastakabhisheka is a combination of three words viz: **Maha (great), Masthaka (head) and Abhisheka (anointing)** which literally means 'the head anointing ceremony'.

- The ceremony is called Mahamastakabhisheka (also referred as Grand Consecration) and not Mastakabhisheka because the ceremony is performed **only once in 12 years**.
- The Mahamastakabhisheka Mahotsava is an anointing ceremony of the statue of Lord Bahubali.

### Lord Bahubali

- Lord Bahubali was the **son of lord Rishabhanatha** who was the first of the **24 Jain Tirthankaras**.
- Jain mythology holds up Bahubali as the one who succeeded in **attaining liberty from worldly desires** through a long period of **sustained meditation**.
- The sculpture of Lord Bahubali is in upright posture of **meditation known as Kayotsarga** which stands for renunciation, self-control and subjugation of the ego as a reflection of his life.
- This is the **digambara form of Bahubali** which represents complete victory over earthly desires and needs, which forms the edifice for spiritual ascent towards divinity.

### Jainism

- The most famous thinker of the Jainas, **Vardhamana Mahavira was born in 540 B.C.** in Kundagram village near Vaishali. He was a **Kshatriya prince** belonging to the **Lichchhavi clan**.
- According to the beliefs of the Jain tradition, Mahavir was the **24<sup>th</sup> Tirthankara, who succeeded the 23rd Tirthankara, Parshvanatha**.
- Tirthankara is a Sanskrit word meaning '**Fordmaker**', i.e., one who is able to ford the river, to cross beyond the perpetual flow of earthly life.
- Mahavir attained '**kaivalya**' or **omniscience at the age of 42**.
- He passed away at the age of 72 at a place called Pavapuri, near modern day Rajgir (in Bihar) after preaching for thirty years.
- Jainism attaches utmost importance to ahimsa or non-violence. It preaches **5 mahavratas (the 5 great vows)**:

- Ahimsa (Non-violence)
- Satya (Truth)
- Asteya or Achaurya (Non-stealing)
- Brahmacharya (Celibacy/Chastity)
- Aparigraha (Non-attachment/Non-possession)

- The **three jewels or triratna of Jainism** include **Samyak Darshana (right faith), Samyak Gyana (right knowledge) and Samyak Charitra (right conduct)**.
- Jainism is a religion of self-help. There are no gods or spiritual beings that will help human beings. It does not condemn the varna system.
- The texts containing the teachings of Mahavira are **called the Agamas**.
- In later times, it got divided into **two sects: Shvetambaras (white-clad) under Sthalabahu and Digambaras (sky-clad) under the leadership of Bhadrabahu**.

## Hindi Becomes Third Official Language in UAE

- **United Arab Emirates (UAE)** has included **Hindi as the third official language** in their judicial system alongside **Arabic and English** to make justice delivery system simpler and more accessible to Indians.
- Indians form the **largest immigrant community in the UAE**, with more than three million living in Dubai.
- The landmark decision undertaken by the judicial department will benefit a major chunk of workers, who mostly come from Hindi speaking regions of central and north India.
- The Indian workforce in UAE can now file their complaints to the labour courts in the country in their own mother-tongue.

**NOTE:** Hindi is popular in many other countries, including Nepal, Guyana, Trinidad and Tobago, Suriname, Fiji and Mauritius. **Hindi and Nepalese share the same script- Devnagari.**





# Social Issues

## Highlights

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## World Cancer Day

World Cancer Day is organized by the Union for International Cancer Control (UICC) and celebrated each year on 4 February.

- The theme for 2019-2021 is "I am and I will" – all about individual stories and commitments to beat cancer.
- The objective of World Cancer Day is aligned with Sustainable Development Goal (SDG-3.4), i.e. to reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being by 2030.
- The World Cancer Day aims to save millions of preventable deaths each year through education, raising awareness and by pressing governments and individuals across the world to take action.

### Cancer

- Cancer is a generic term for a large group of diseases characterized by the growth of abnormal cells beyond their usual boundaries that can then invade adjoining parts of the body and/or spread to other organs.
  - Other common terms used for cancer are malignant tumours and neoplasms.
- Cancer is the second leading cause of death globally and is estimated to account for 9.6 million death in 2018.

### Union for International Cancer Control (UICC)

- The Union for International Cancer Control (UICC) is a membership organisation to help the global health community accelerate the fight against cancer.
- It was founded in 1933 and is based in Geneva.

## Non-Communicable Diseases Burden in India

- According to recently released data by the World Health Organisation (WHO), nearly 61% of deaths in India are now attributed to non-communicable diseases (NCDs).
  - Cardiovascular diseases (coronary heart disease, stroke, and hypertension) contribute to 45% of all NCD deaths, followed by chronic respiratory disease (22 %), cancer (12 %) and diabetes (3%).
- NCDs are also a major cause and consequence of poverty.
- Although, the percentage of deaths from NCDs is still lower in India compared to many other countries across the world but the burden is rapidly increasing because of changing lifestyle and factors like pollution.
  - Four risk factors responsible are tobacco, unhealthy diet, physical inactivity and harmful use of alcohol.
  - Major metabolic risk factors are obesity, and raised blood pressure, blood glucose and blood cholesterol levels.

## Endosulfan in Kerala

In news because the representatives of the victims of endosulfan poisoning in Kasaragod district of Kerala called off the sit-in in front of the state Secretariat in Thiruvananthapuram.

### What is EndoSulfan?

- Endosulfan is an organochlorine insecticide which was first introduced in the 1950s and is commonly known by its trade name Thiodan.

### Use of Endosulfan

- Sprayed on crops like cotton, cashew, fruits, tea, paddy, tobacco etc. for control of pests such as whiteflies, aphids, beetles, worms etc.

### Impact of Endosulfan

- Environment
  - Endosulfan in the environment gets accumulated in food chains leading to higher doses causing problems.
  - If Endosulfan is released to water, it may bioconcentrate in aquatic organisms.
- Humans And Animals
  - Endosulfan ingestion results in diseases ranging from physical deformities, cancer, birth disorders and damage to the brain and nervous system.

### Ban on Endosulfan

- The Supreme Court in India has banned the manufacture, sale, use, and export of Endosulfan throughout the country, citing its harmful health effects in 2015.
- Endosulfan is listed under both Rotterdam Convention on the Prior Informed Consent and the Stockholm Convention on Persistent Organic Pollutants.

#### Rotterdam Convention 1998

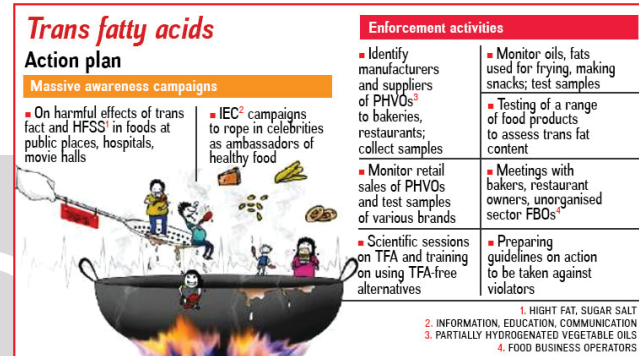
- The convention aims to promote cooperation and responsibility sharing measures amongst different countries dealing with trade in hazardous chemicals and pesticides.
  - PIC, i.e Prior Informed Consent is the main feature of the convention and is legally binding on the party members.
  - The Convention creates obligations for the implementation of the Prior Informed Consent (PIC) procedure.
  - PIC facilitates information exchange about nature and trade-related information amongst the party members.

#### Stockholm Convention 2001

- The convention aims to reduce the concentration of persistent organic pollutants (POPs) which are chemical substances that not only remain in the atmosphere for longer periods but also possess the ability to bioaccumulate.
  - The convention had listed 12 POPs as 'dirty dozen'.

## Awareness Campaign on Trans Fatty Acids

- The Kerala Health Department has drawn up an action plan to generate public awareness on the harmful effects of trans fatty acids (TFA) in commercially available food items and to encourage the local food industry to meet the current statutory limits set for TFA.
- This initiative is being supported by the World Bank, World Health Organisation (WHO), the Food Safety and Standards Authority of India (FSSAI), and the State Food Safety wing.



## POSHAN Abhiyaan

- Recently, Ministry of Women and Child Development organized the 4<sup>th</sup> meeting of National Council on India's Nutrition Challenges under POSHAN Abhiyaan.
  - POSHAN Abhiyaan (National Nutrition Mission) was launched by the government on March 8, 2018.
  - The Abhiyaan targets to reduce stunting, undernutrition, anemia (among young children, women and adolescent girls) and reduce low birth weight.
  - The target of the mission is to bring down stunting among children in the age group 0-6 years from 38.4% to 25% by 2022.
  - POSHAN Abhiyaan aims to ensure service delivery and interventions by use of technology, behavioural change through convergence and lays-down specific targets to be achieved across different monitoring parameters.

### The National Council on India's Nutrition Challenges

- Set up under the Poshan Abhiyaan, the Council is also known as National Council on Nutrition (NCN).

- The NCN is headed by the Vice-Chairman of the NITI Aayog.
- It provides policy directions to address nutritional challenges in the country and review programmes.
- **It is the national level coordination and convergence body on nutrition.**

## Kerala's Village Millet Scheme

- Kerala government has decided to expand its Millet Village Scheme to other districts in the state.
- The Millet Village scheme was first launched in Attappady in Palakkad district of Kerala.
- Under the Millet Village scheme, the government promoted the harvest of ragi (finger millet), thina (foxtail millet), cholam (sorghum) and kuthiravaali (barnyard millet).
- The project aimed at protecting seeds of traditional varieties of millets and ensures food security and livelihood for tribals.
- The scheme also provides financial assistance to farmers for cultivation of millets crops.

## Millets Production in India

- Millets are cultivated in low-fertile land, mountainous, tribal and rain-fed areas. These areas include Andhra Pradesh, Chhattisgarh, Gujarat, Haryana, Madhya Pradesh, Rajasthan, Maharashtra, Karnataka, Uttar Pradesh, Tamil Nadu, and Telangana.
- India celebrated 2018 as the national year of millets.
- Also, India's proposal to observe an International Year of Millets in 2023 has been approved by the Food and Agriculture Organisation (FAO).

## Advantages of Millets

- **Millets also are known as 'nutri-cereals'** and have a high protein content, short growing season, are climate change resilience and have low water requirement.
- Millets are less expensive and nutritionally superior to wheat & rice owing to their high protein, fibre, vitamins and minerals like iron content. Millets are also rich in **antioxidants**.
- Millets **can provide nutritional security and act as a shield against nutritional deficiency**, especially among children and women. Its **high iron content** can fight high prevalence of anaemia in India women of reproductive age and infants.

- Millets have low carbon and water footprint and can withstand high temperature.

## e-AUSHADHI Portal

- Recently, the Government launched the **e-AUSHADHI portal**, for **online licensing of Ayurveda, Siddha, Unani and Homoeopathy drugs and related matters**.
- The portal is intended for increased transparency, improved information management facility, improved data usability and increased accountability.
- This new e-portal is an **acronym for Ayurveda, Unani, Siddha and Homeopathy Automated Drug Help Initiative**.
- It will provide **real time information** of the licensed manufactures and their products, cancelled and spurious drugs, contact details of the concerned authority for specific grievances, and thereby **aid the licensing authority, manufactures and consumers**.
- It can be noted that recently the Cabinet also approved the **draft National Commission for Indian Systems of Medicine (NCIM) Bill, 2018** which seeks to enhance transparency.

## National Deworming Day

- Recently, the Ministry of Health and Family Welfare conducted its eighth round of National Deworming Day. It was conducted in several rounds, from February 10-14, 2019.
- NDD (first round) is conducted on February 10 each year. It was **launched in 2015 with aim to reduce the prevalence of Soil-Transmitted Helminths and parasitic intestinal worms**.
- Helminths (worms) which are transmitted **through soil contaminated with faecal matter** are called soil-transmitted helminths (Intestinal parasitic worms). **Roundworm** (*Ascaris lumbricoides*), **whipworm** (*Trichuris trichiura*) and **hookworms** (*Necator americanus* and *Ancylostoma duodenale*) are worms that infect people.
- According to World Health Organization 241 million children between the ages of 1 and 14 years are at risk of parasitic intestinal worms in India, also known as Soil-Transmitted Helminths (STH).

- The objective of National Deworming Day is to deworm all preschool and school-age children (enrolled and non-enrolled) **between the ages of 1-19 years** through the platform of schools and Anganwadi Centers in order to improve their overall health, nutritional status, access to education and quality of life.
- The program is implemented with the **coordination of Ministries of Women and Child Development and Human Resource Development.**
- It falls under the purview of the **Extended Gram Swaraj Abhiyan** and is committed to improve the nutritional uptake in all children and adolescents.





# Security

## Highlights

- Project-75 India (46)
- Multinational Training Exercise 'CUTLASS EXPRESS' (46)
- Helicopter-Launched Anti-tank Missile 'Helina' (46)

### Project-75 India

- Recently the government gave the approval to construct six new-generation conventional stealth submarines under the **"strategic partnership (SP)" model**.
- Under the Strategic Partnership (SP) model, the project will be executed by an **Indian shipyard collaborating with a foreign collaborator** under the "Make in India" policy.
- The SP model is aimed at boosting the **Indian private sector's role** in the production of new-generation weapon systems, in collaboration with global arms manufacturers through joint ventures.
- The **six submarines will be constructed under Project-75 India (P-75I)** and will have both land-attack cruise missiles and air-independent propulsion for greater underwater endurance.

### Multinational Training Exercise 'CUTLASS EXPRESS'

- Recently, the **Indian Navy participated in CUTLASS Express exercise** from January 27-February 6, 2019.
- Cutlass Express is an **exercise sponsored by U.S. Africa Command (USAFRICOM) and conducted by Naval Forces Africa (NAVAF)**.

- The objective is to assess and improve maritime law enforcement capacity, promote national and regional security in eastern Africa, inform planning and operations, and shape security force assistance (SFA) efforts.
- Naval, Coast Guard and Marine Police personnel from East African countries were jointly trained by mentors from USA, India, and Netherlands, with support of International Maritime Organization, Combined Maritime Force and European Naval Forces.

### Helicopter-Launched Anti-tank Missile 'Helina'

- Recently, India has test-fired **Helina, the helicopter-launched version of the Nag anti-tank guided missile** with a hit range of 7-8 km from an Army chopper.
- It is developed by the **Defence Research and Development Organisation (DRDO)**.
- It is said to be one of the most-advanced anti-tank weapons in the world.
- It is guided by an **infrared imaging seeker (IIR) operating** in the lock-on-before-launch mode and helps in further strengthening the defense capabilities of the country.



# Miscellaneous

## Highlights

- The Future of Rail Report (47)
- Sri Lanka To Re-introduce Death Penalty (47)
- Rail Tunnel for Vizhinjam Port Connectivity (47)
- Ladakh's Dard Aryan Tribes (48)
- Ujjwala Utsav (48)
- PETROTECH – 2019 (48)
- Mobile-App e-Cocoon (48)

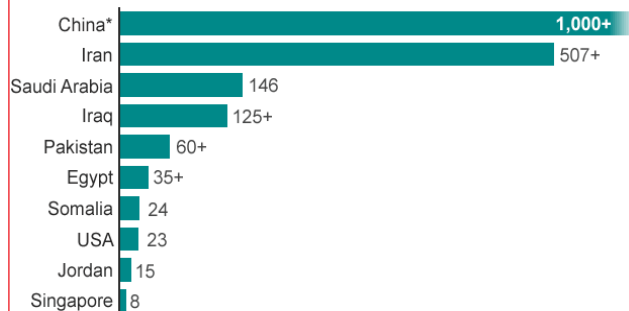
## The Future of Rail Report

- The Minister of Railways recently launched the **International Energy Agency (IEA's)** Report **"The Future of Rail"**.
- "The Future of Rail" the **first-of-a-kind** report analyses the **current and future importance** of rail around the world through the perspective of its **energy and environmental implications**.
- This **first ever global report** has a **focus on India**, elaborating on the **unique social and economic role** of rail in India.

## Sri Lanka To Re-introduce Death Penalty

- Sri Lanka has decided to end the country's moratorium on capital punishment due to an upsurge in drug-related crimes.
- Sri Lanka had imposed a moratorium on the capital punishment penalty in 1976.

### Executions around the world in 2017



\*Official data unavailable, but Amnesty International estimates that executions in China were in the thousands

Source: Amnesty International

BBC

- Human rights groups have criticized the decision and said that there is no evidence that carrying out executions would serve as a deterrent to drug use or trafficking.
- **Global Trends**
  - As of October 2018, 170 States have either abolished the death penalty or introduced a moratorium on its use.
  - However, 23 states including India, have carried out at least one execution in the past decade.

## Rail Tunnel for Vizhinjam Port Connectivity

- A 10.7 km railway line, including a 9.02 km tunnel, has been proposed to connect Balaramapuram station on the Kanyakumari-Thiruvananthapuram railway line to the upcoming Vizhinjam International Multipurpose Deepwater Seaport.

### Tunnelled rail link

Vizhinjam seaport-Balaramapuram rail link  
**10.7 km**

Estimate cost  
**₹1,069 cr.**

• Land to be acquired  
**6.57 hectares**

**9.02 km** of the rail link through tunnel

It's second longest rail tunnel in the country

• The single line can ply nine rakes a day

• New rail link by May 2022

• KRCL, experts in tunnel construction, submits DPR

### Longest rail tunnels in India

• 11.26-km Pir Panjal tunnel, connecting Banihal and Hillar Shahabad

• 7.2-km Sangaldan tunnel in Katra-Banihal section of Jammu-Baramulla line

Note:

- It will be the **second longest railway tunnel of the country on completion after the Pir Panjal Tunnel which is in Jammu and Kashmir.**
- The development of the Balaramapuram railway station is being explored as part of the rail link to the seaport.

## Ladakh's Dard Aryan Tribes

- **Dard Aryan tribe** of Ladakh has requested the central government to intervene to protect their culture and legacy.
- The 'Dard' is derived from a **Sanskrit word, 'Daradas'**, which refers to **people who live on hillsides.**
- Dard Aryan – **believed to be the original descendants of 'pure Aryan race'** – tribe is known for its liberal customs and ornate costumes. Many researchers believe that the 'Aryans of Ladakh' or the 'Brokpas' were a part of Alexander's army and had come to the region over 2,000 years ago.
- They live in the villages of Dha and Hanu (commonly called as Dhahanu), Darchik, and Gahanu – situated 163 km southwest of Leh, the administrative capital of Ladakh.
- The rich heritage of the Dard Aryans is under threat **due to rapid modernization, migration and religious conversion.**

## Ujjwala Utsav

- The oil industry has observed Ujjwala Utsav to celebrate the role played by all stakeholders – District Nodal Officers, Policymakers, Distributors, and beneficiaries – in making **Pradhan Mantri Ujjwala Yojana (PMUY)** a success.
- The event was organized under the aegis of **Ministry of Petroleum & Natural Gas.**
- PMUY anthem – Ujjwala Bharat Ujjwala-was also launched during the event.

## PETROTECH – 2019

- PETROTECH-2019, **India's flagship hydrocarbon conference** is being organised at India Expo Centre, Greater Noida, Uttar Pradesh under the aegis of the Ministry of Petroleum & Natural Gas, Government of India.
- This is the **13th edition with the theme of – 'Shaping the New Energy World through Innovation and Collaboration'.**
- PETROTECH is a **biennial platform** for national and international experts in the oil & gas industry to exchange views and share knowledge, expertise, and experiences.

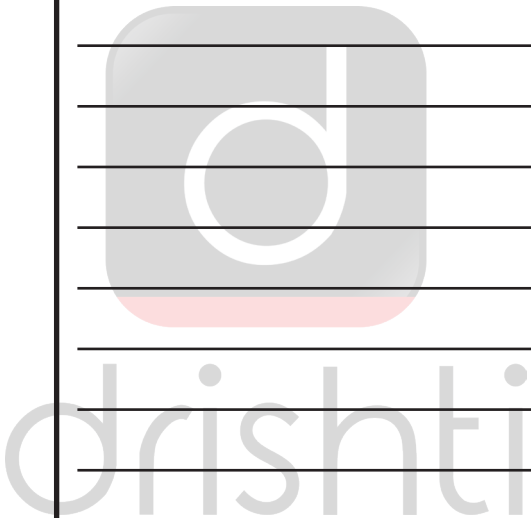
## Mobile-App e-Cocoon

- Recently **Ministry of Textiles** launched a **mobile application e-cocoon for quality certification in silkworm seed sector.**
- Mobile app e-cocoon will be used for **quality certification in silk worm sector** as it will be used by the Seed Analysts and Seed Officers nominated under Central Seed Act for system and product certification through real time reporting.
- India has the unique distinction of **being the only country producing all the five known commercial silks-Mulberry, Tropical Tasar, Oak Tasar, Eri and Muga.**
- Mulberry Silk is produced mainly in Karnataka, Andhra Pradesh, Assam, Tamil Nadu, Jammu and Kashmir, Jharkhand and West Bengal.
- Non-Mulberry Silk or Vanya Silk (Tasar, Eri and Muga) is produced in Odisha, Chhattisgarh and North-Eastern States.
- **North East is the only region** that produces four varieties of silk-Mulberry, Oak Tasar, Muga and Eri.
- India is the **second largest producer of silk after China** and the largest consumer of silk.



**Key Points**

**Details**

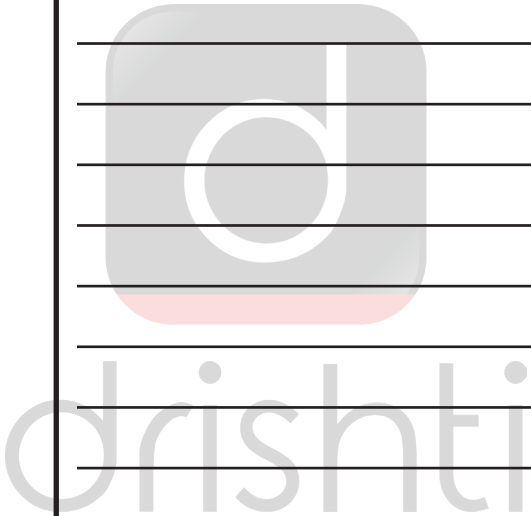


**Summary**



**Key Points**

**Details**



**Summary**



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# Current Affairs (CONSOLIDATION)

**16-28<sup>th</sup>  
FEBRUARY 2019**

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# Polity and Governance

## Highlights

- Re-promulgation of Triple Talaq Ordinance (1)
- Modify Eviction Order: Centre urges SC (2)
- Rail Drishti Dashboard (2)

## Re-promulgation of Triple Talaq Ordinance

- Recently the Union cabinet approved the promulgation of **Muslim Women (Protection of Rights on Marriage) Ordinance, 2019**, for the third time. Making Triple Talaq a cognisable offence.
- This ordinance makes Instant Triple Talaq or Talaq-e-biddat a cognizable offense.
- In August 2017, the Supreme Court ruled that Instant Triple talaq or talaq-e-biddat is unconstitutional and illegal in *Shayara Bano vs. Union of India and Ors.*
- To enforce the Supreme Court ruling, the government brought The Muslim Women (Protection of Rights on Marriage) Bill, 2017.
- The bill was passed by Lok Sabha, but the bill remains pending in Rajya Sabha.

### Ordinance Making Power of President

- Under the Constitution, the power to make laws rests with the legislature. However, Article 123 of the constitution empowers the President to promulgate ordinance on urgent matter when Parliament is not in session, and 'immediate action' is needed.
- After the ordinance is notified it is to be laid before Parliament within 6 weeks of its first sitting.
- The maximum life of a ordinance can be 6 months and 6 weeks.
- When both the houses are in session, an ordinance promulgated at that time is void.
- In addition, the President may chose to withdraw the ordinance.

### Ordinance: Supreme Court Verdict Timeline

- In Cooper case, (1970), the Supreme Court held that the President's satisfaction can be questioned in a court on the ground of malafide.

- The 38<sup>th</sup> Constitutional Amendment Act of 1975 made the President's satisfaction final and conclusive and beyond judicial review. But, this provision was deleted by the 44<sup>th</sup> Constitutional Amendment Act of 1978. Thus, the President's satisfaction is justiciable on the ground of malafide.
- In the D C Wadhwa case (1987) the court ruled that successive re promulgation of ordinances with the same text without any attempt to get the bills passed by the assembly would amount to violation of the Constitution and the ordinance so re-promulgated is liable to be struck down.
- It held that the exceptional power of law-making through ordinance cannot be used as a substitute for the legislative power of the state legislature.
- In Krishna Kumar Singh vs. State of Bihar (2017), the Supreme Court stated that ordinances are subject to judicial review, and do not automatically create enduring effects.

- The ordinance gives effect to amended version of The Muslim Women (Protection of Rights on Marriage) Bill, 2017 as **presented in Rajya Sabha by the government.**

### Ordinance Provisions

- **Any pronouncement of Talaq** by a Muslim husband upon his wife in any manner, written, spoken or electronic, will be **illegal**.
- Any husband who pronounces triple talaq can be punished by a **jail term up to three years** and will also be liable for fine.
- Muslim women will now be entitled to custody of her minor children.
- Muslim women are now entitled to **receive maintenance for herself and her dependent** children.
- Triple talaq is now a **cognizable offense** if the case is filed by married Muslim women or any person related to her by blood or marriage.



- The offense will be compoundable, i.e. there can be a compromise but only on the insistence of the wife and magistrate will determine the terms and conditions.
- The offender can be granted bail by a magistrate but only after hearing the victim wife and if magistrate is satisfied that there is reasonable ground for bail.

### What is instant triple talaq?

- In the practice of talaq-e-biddat, when a man pronounces talaq thrice in a sitting, or through phone, or writes in a talaq-nama or a text message, the divorce is considered immediate and irrevocable, even if the man later wishes to re-conciliate. However, Women cannot pronounce triple talaq and are required to move a court for getting the divorce under the Sharia Act, 1937.
- **There are three forms of talaq** (divorce) in Islam: Ahsan, Hasan, and Talaq-e-Biddat (triple or instant talaq). Ahsan and Hasan are revocable but talaq-e-Biddat is irrevocable.
- **Triple talaq** is a practice, mainly prevalent among India's Muslim community following the **Hanafi Islamic school of law**.
- Triple talaq divorce is **banned** by many Islamic countries, including **Pakistan, Bangladesh, Turkey, UAE, and Indonesia**.

## Modify Eviction Order: Centre urges SC

- **The Centre has urged the Supreme Court to modify its recent order** directing the eviction of thousands of Scheduled Tribes (STs) and other traditional forest dwellers whose claims for forest land rights have been **rejected under the Forest Rights Act of 2006**.
- The Centre said that the **claims of lakhs of forest-dwelling STs and other traditional forest dwellers were rejected by the States without observing due process of law**. Following were the **arguments of Centre**:
  - The forest land claims of these tribes and forest dwellers, who live in the forest, are mostly rejected by the States.
    - **Being poor and illiterate people** who live in remote areas, they **do not know the appropriate procedure for filing claims**.
  - **The gram sabhas**, which initiate the verification of their claims, are **low on awareness** about how to deal with these claims.
  - **The rejection orders are not even communicated** to the forest-dwelling STs and communities.

## Global outlook

According to the Centre's application before the Supreme Court, the scheme of the Forest Rights Act 2006, is in tune with several international covenants

### 1 UN Universal Declaration on Human Rights

Recognises the equal rights of the human family. India is a signatory

### 2 UN Convention concerning Indigenous and Tribal Populations

Seeks to protect ownership rights of populations over lands they traditionally occupy. **Ratified by India**

### 3 UN Declaration on Rights of Indigenous People

Mandates to protect the rights of indigenous people to lands, territories and resources which they traditionally own, occupy and use. **India is a signatory**

### 4 UN Convention on Biological Diversity

Advocates preservation of indigenous knowledge and practices. **India is a party**



### 5 Rio Declaration on Environment and Development

Proclaims indigenous people have a vital role in environmental management

## Rail Drishti Dashboard

- The government has launched **Rail Drishti dashboard**, encompassing all the **digitisation efforts** in Indian Railways and **promoting transparency and accountability**.
- The **dashboard** brings information from various sources on a **single platform** and gives access to **key statistics** and parameters to every citizen of the country. Related to freight and passenger trains.

### Indian Railway Catering and Tourism Corporation (IRCTC)

- IRCTC is a Public Sector Enterprise under Ministry of Railways.
- It was incorporated on 27<sup>th</sup> September, 1999 as an extended arm of the Indian Railways to upgrade, professionalize and manage the catering and hospitality services at stations, on trains and other locations
- To promote domestic and international tourism through development of budget hotels, special tour packages, information & commercial publicity and global reservation systems.



# Economic Scenario

## Highlights

- National Policy on Electronics 2019 (3)
- LADIS – Least Available Depth Information System (4)
- Policy Bias Against Rainfed Agricultural Area (4)
- National Rural Economic Transformation Project (5)
- Khadi Gramodyog Vikas Yojana (5)
- Women's Livelihood Bond (6)
- Angel Tax (6)
- RBI to Merge Three Categories of NBFCs (6)
- Pradhan Mantri Kaushal Vikas Yojana (PMKVY) (7)
- Draft e-Commerce Policy (8)
- Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) (9)
- Aviation Conclave 2019 (9)
- SATAT Scheme (10)

## National Policy on Electronics 2019

The Union Cabinet gave its approval to the **National Policy on Electronics 2019 (NPE 2019)**, proposed by the **Ministry of Electronics and Information Technology (MeitY)**.

- The Policy envisions positioning India as a global hub for **Electronics System Design and Manufacturing - (ESDM)** by
  - encouraging and driving capabilities in the country for developing core components, including chipsets, and
  - creating an enabling environment for the industry to compete globally.
- The National Policy of Electronics 2019 (NPE 2019) **replaces the National Policy of Electronics 2012 (NPE 2012)**.

### Salient Features of NPE 2019

- **Creation of ecosystem for globally competitive ESDM sector.**
- Providing incentives and support for **manufacturing of core electronic components**.
- **Providing special package of incentives for mega projects.**
- **Formulation of suitable schemes and incentive mechanisms to encourage new units and expansion of existing units.**
- **Promotion of Industry-led R&D and innovation in emerging technology areas such as 5G, Internet of**

**Things (IoT)/ Sensors, Artificial Intelligence (AI), Machine Learning, Virtual Reality (VR), Drones, Robotics, Additive Manufacturing, Photonics, Nano-based devices, etc.**

- Providing incentives and support for significantly **enhancing availability of skilled manpower, including re-skilling.**
- Creation of **Sovereign Patent Fund (SPF)** to promote the development and acquisition of Intellectual Properties (IPs) in ESDM sector.
- Promotion of trusted electronics value chain initiatives to improve national cyber security profile.

#### NOTE:

**Sovereign Patent Fund (SPF)** is a **state-led investment vehicle** intended to strategically acquire important IP assets, thereby promoting national economic objectives.

### Implementation Strategy and Targets

- The Policy will lead to the formulation of several schemes, initiatives, projects and measures for the development of ESDM sector in the country as per the roadmap envisaged therein.
- The target of the policy is to promote domestic manufacturing and export in the entire value-chain of ESDM for economic development.

### Major Impact

- It will **enable flow of investment and technology**, leading to higher value addition in the domestically manufactured electronic products, **increased**

electronics hardware manufacturing in the country and their export, while generating substantial employment opportunities.

## LADIS – Least Available Depth Information System

To ensure optimum use of National Waterways (NWs), the Inland Waterways Authority of India (IWAI) has launched a **new portal LADIS – Least Available Depth Information System**.

- LADIS will ensure that **real-time data on least available depths** is disseminated for ship/barge and cargo owners so that they can undertake transportation on NWs in a more planned way.
- IWAI has designed LADIS to facilitate the **day-to-day operations of inland vessels plying on NWs** and to avoid any hindrance in service and operation.
- It will enhance **credibility and efficiency of information sharing** to achieve seamless operations on NWs, besides pre-empting problems that may occur during movement of vessels.

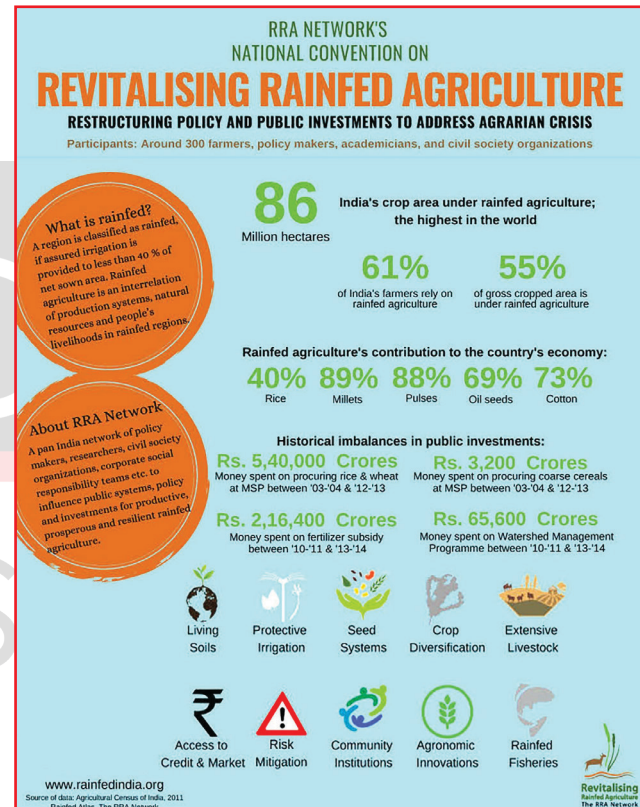
### Inland Waterways Authority of India (IWAI)

- The IWAI is a statutory body under Ministry of Shipping, established in 1986.
- It is headquartered in Noida, Uttar Pradesh and its main function is to build necessary infrastructure in inland waterways, surveying economic feasibility of new projects and also carrying out administration and regulation.
- As per the National Waterways Act, 2016, 111 waterways have been declared as NWs.
- In 2018, the IWAI also launched a portal known as Forum of Cargo Owners and Logistics Operators (FOCAL) for cargo owners and logistic operators to access real time data on availability of vessels.
- In 2018, IWAI signed a project agreement with the World Bank for Jal Marg Vikas Project on river Ganga which aims for capacity augmentation of navigation on NW-1 (River Ganga) from Varanasi to Haldia.
- These initiatives are a part of objective to develop NWs as a key transport intervention and lower huge logistics costs, which currently account for 15% of the GDP and is about twice that of the U.S.' logistics costs.

## Policy Bias Against Rainfed Agricultural Area

Recently a **new rainfed agriculture atlas** was released highlighting the **policy biases that are making farming unviable for many in these areas**.

- There has been **negligence toward rainfed areas** which is leading to lower incomes for farmers in these areas.
- Further farmers in rainfed areas are **receiving 40% less of their income from agriculture** in comparison to those in irrigated areas.



### Key Issues

- Even though **rainfed agriculture contributes to 60% of the value of agriculture GDP of India**, there is a clear-cut bias towards irrigated areas when it comes to public investment in agriculture in the country.
- In terms of procurement over the **decade between 2001-02 and 2011-12**, the **government procured ₹5.4 lakh crore of wheat and rice**.
- On the other hand, **coarse cereals**, which are **grown in rainfed areas**, only had **₹3,200 crore** worth of procurement in the same period.



- **Flagship government schemes**, such as seed and fertiliser subsidies and soil health cards, are designed for irrigated areas and **simply extended to rainfed farmers without taking their needs into consideration.**

### Way Forward

- **More balanced approach** is needed, to give rainfed farmers the same research and technology focus, and production support that their counterparts in irrigation areas have received over the last few decades.
- There is an **urgent need to do more R&D in rainfed agriculture** and bring in more policy perspective like tweaking of government schemes by considering the needs of rainfed agricultural areas.
- In the long run, cash incentives and income support like the **PM-KISAN scheme** announced in the interim budget 2019 are better than extensive procurement as they are inclusive in character, and doesn't distinguish between farmers in one area or another, growing one crop or another.
- Along with income support to help farmers, it is now the time to **design better structured interventions for the future.**
- Like the ease of doing business, **ease of doing farming** should be done on the parameters of seeds, soil, water in rainfed areas to make agriculture attractive in the long term.

## National Rural Economic Transformation Project

The Union Cabinet has approved the implementation of an externally aided project namely **National Rural Economic Transformation Project (NRETP)** under the **Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM)** through loan assistance from **World Bank.**

### NOTE:

- Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM) was launched by the Ministry of Rural Development (MoRD), Government of India in 2011.
- The Mission aims at creating efficient and effective institutional platforms of the rural poor enabling them to increase household income through sustainable livelihood enhancements and improved access to financial services.

### Salient features

- DAY-NRLM lays special emphasis on **targeting the poorest of the poor** and the most vulnerable communities and their financial inclusion.
  - Innovative projects will be undertaken under NRETP to pilot alternate channels of financial inclusion, creating value chains around rural products, introduce innovative models in livelihoods promotion and access to finance and scale-up initiatives on digital finance and livelihoods interventions.
- DAY-NRLM provides for mutually beneficial working relationship and formal platforms for consultations between Panchayati Raj Institutions (PRIs) and Community Based Organizations (CBOs).
  - NRLM has also developed **activity map to facilitate convergence in different areas of interventions where NRLM institutions and PRIs could work together** which has been disseminated to all state Rural Livelihood Missions.

### Benefits

- It will enhance the livelihoods promotion and access to finance, and
- It will scale-up initiatives on digital finance and livelihood interventions.

## Khadi Gramodyog Vikas Yojana

The Cabinet Committee on Economic Affairs has approved the following:

- 8 different schemes of Khadi & Village Industries are now merged under two heads i.e. 'Khadi Vikas Yojana' and 'Gramodyog Vikas Yojana':
  - **Khadi Vikas Yojana** includes Market Promotion & Development Assistance (MPDA), Interest Subsidy Eligibility Certificate (ISEC), Workshed, Strengthening Weak Infra, Aam Aadmi Bima Yojana, Khadi Grant.
  - **Gramodyog Vikas Yojana include** Village Industries Grant.
- To bring in a new component of '**Rozgar Yukt Gaon**' to introduce enterprise-based operation in the Khadi sector and to create employment opportunities.

**MPDA**

- The **Market Promotion and Development Assistance Scheme (MPDA)** was launched as a unified scheme by merging different schemes implemented by the Khadi sector including publicity, marketing, market promotion, and marketing development assistance.
- Grant/subsidy was also provided for construction of **Khadi plazas**.

**Interest Subsidy Eligibility Certificate (ISEC)**

- ISEC Scheme was **launched in May 1977** to help Khadi and Polyvastra producing institutions in **mobilizing the capital funds from banking institutions**.
- Under the Scheme, **implementing agencies can avail of bank loan as per the ISEC issued by the KVIC on payment of only 4% of interest and difference between the actual interest charged by the bank and 4% is borne by KVIC as interest subsidy**.

**Rozgar Yukt Gaon**

- **Rozgar Yukta Gaon (RYG)** aims at introducing an **'Enterprise-led Business Model' in place of 'Subsidy-led model'** through a partnership among 3 stakeholders- Khadi Reform and Development Programme (KRDP)- assisted Khadi Institution, Artisans and Business Partner.

**Women's Livelihood Bond**

The **World Bank, UN Women (a United Nations entity dedicated to gender equality and empowerment of women), and Small Industries Development Bank of India (SIDBI)** have come together to launch a five-year tenor **women's livelihood bond (WLB)**.

- The proceeds from these social impact bonds will be used to help rural women in the country's poorest States to set up or scale up their own enterprises.
- WLB's will be unsecured and unlisted.

**Unsecured and Unlisted Bonds**

- **Unlisted Securities:** Unlisted securities are shares, bonds or any other securities that are not traded on a stock exchange but traded through the **over-the-counter (OTC) market**.
- **Unsecured Bonds:** Unsecured bonds, also called debentures, are not backed by any collateral, or mortgages on real estate. Instead, the issuer promises that they will be repaid. This promise is frequently called "full faith and credit."

**Angel Tax**

The **Ministry of Commerce and Industry** has revised the current definition of startups and has addressed the raging issue of angel tax.

- Concerns had been flagged off by the industry earlier on taxation of angel investments and other issues that need urgent attention for availability of capital to startups.
- Funds from angels are subjected to over 30% tax if it is more than the fair market value (FMV). Introduced in Section 56 of the I-T Act in Budget 2012, it explicitly states that companies - from mature private enterprises to small startups - are liable to pay taxes on money invested at capital. But with most startups taking years just to break-even, treating part of the hard-won cash that came in from angels as taxable income, even before a company begins to make money seems unwarranted.

**Angel Tax**

- Angel tax is a term used to refer to the income tax payable on capital raised by startup companies via the issue of shares where the share price is seen in excess of the fair market value of the shares sold. The excess realization is treated as income and taxed accordingly.
- The angel tax is levied on investments made by external investors in startups or companies. The entire investment is not taxed - only the amount that is considered above "fair value" valuations of the startup.
- The tax was introduced in the 2012 Union Budget to arrest laundering of funds by portraying them as angel investment.

**RBI to Merge Three Categories of NBFCs**

The Reserve Bank of India (RBI) has decided to **merge three categories of Non Banking Financial Companies (NBFCs) into a single category** to provide greater **operational flexibility to non-banking lenders**.

- NBFCs categorized as **Asset Finance Companies (AFC), Loan Companies (LCs) and Investment Companies (ICs)**, will be merged into a new category called NBFC - Investment and Credit Company (**NBFC-ICC**).



- **Asset Finance Company (AFC)** : An AFC is a company which is a financial institution focussing on financing of physical assets supporting productive/economic activity, such as automobiles, tractors, generator sets etc.
- **Investment Company (IC)** : IC means any company which is a financial institution carrying on as its principal business the acquisition of securities.
- **Loan Company (LC)**: LC means any company which is a financial institution carrying on as its principal business the providing of finance whether by making loans or advances or otherwise for any activity other than its own but does not include an Asset Finance Company.

### Non-Banking

#### Financial Company (NBFC)

- A Non-Banking Financial Company (NBFC) is a **company registered under the Companies Act, 1956** engaged in the business of loans and advances, acquisition of shares/stocks/bonds/debentures/securities issued by Government or local authority or other marketable securities of a like nature.
- NBFC **does not** include any institution whose **principal business** is that of **agriculture activity, industrial activity, purchase or sale of any goods** (other than securities) or providing any services and sale/purchase/construction of immovable property.
- A non-banking institution which is a company and has principal business of receiving deposits under any scheme or arrangement in one lump sum or in installments by way of contributions or in any other manner, is also a non-banking financial company (Residuary non-banking company).

#### Difference between Banks & NBFCs

- NBFCs lend and make investments and hence their activities are akin to that of banks; however there are a few differences as given below:
  - NBFC **cannot accept demand deposits**;
  - NBFCs **do not form part of the payment and settlement system** and cannot issue cheques drawn on itself;
  - **Deposit insurance facility of Deposit Insurance and Credit Guarantee Corporation is not available** to depositors of NBFCs, unlike in case of banks.

## Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

Launched in 2015, it is a flagship program of **Ministry of Skill Development and Entrepreneurship (MSDE)**. **National Skill Development Corporation (NSDC)** implements it with the help of training partners.

- It aims to **mobilize youth to take up skill training** with the aim of increasing productivity and **aligning the training and certification to the needs** of the country.

#### National Skill Development Corporation (NSDC)

- The NSDC is a not-for-profit public limited company incorporated on July 31, 2008 under section 25 of the Companies Act, 1956 (corresponding to section 8 of the Companies Act, 2013).
- It was set up by Ministry of Finance as Public Private Partnership (PPP) model.
  - The Government of India through Ministry of Skill Development & Entrepreneurship (MSDE) holds 49% of the share capital of NSDC, while the private sector has the balance 51% of the share capital.
- It aims to promote skill development by catalyzing creation of large, quality and for-profit vocational institutions.
- It acts as a catalyst in skill development by providing funding to enterprises, companies and organizations that provide skill training.

#### Key Components

- **Short Term Training**: Training as per **National Skills Qualification Framework (NSQF)** is provided to those who are either **school/college dropouts or unemployed**.
- **Recognition of Prior Learning (RPL)**: An individual with a certain set of skills or with prior learning experience is assessed and certified under RPL with grade according to the NSQF.
- **Special Projects**: This component ensures training in special areas and premises of government bodies and corporate. It aims to **encourage training in vulnerable and marginalized groups of society**.
- **Training Partners (TPs)** are mandated to organize **Kaushal and Rozgar Melas** every six months, thus providing placement assistance to certified ones.

### Analysis

- Out of 4.06 million candidates that got enrolled between its relaunch and 24 January 2019, 3.73 million completed the course.
- **Certification Stats:** Candidates who score at least 50% of total marks are provided with certification. Nearly, 30% of those who enrolled between the above mentioned period have not been certified yet. This shows that even skill training is not enough for such people. This point towards the lack of proper basic education at schools and colleges.
- **Placement Status:** Tracking of placements is mandatory under PMKVY. **Till 26 October 2018, 1.94 lakh candidates** got a certificate and out of them, **only 55% got employed across different sectors. This shows the low employability level** under PMKVY.

### Way Forward

- The government needs to **ensure high-quality secondary education** at the secondary level **to prepare the youth for skills provided under the scheme.** It should also promote vocational education in schools.
- Accountability of Training partners.
- Industries participation need to be encouraged.
- **Around one million youth enter the workforce every month;** it is necessary to increase the number of people that go under training under the scheme.

## Draft e-Commerce Policy

The Department For Promotion of Industry and Internal Trade (DPIIT) has released the **draft National e-Commerce Policy** for public comments.

- The National e-Commerce Policy lays down strategies to address issues pertinent to the sector-**Consumer protection, data privacy, and maintenance of a level playing field.**

### Need for policy

- In 2014, the **average monthly data consumption** in India was only **0.26 GB per person**, which increased to **over 4GB at the end of 2017.**
- **Greater internet usage** means the **generation of more data** and therefore, the greater **requirement to prioritize privacy, consumer protection** and regulate the flow of data for leveraging it **to benefit the domestic economy.**

- A **regulatory environment** is necessary to ensure that there is **genuine competition** in the market, which **encourages entrepreneurship and innovation.**
- To address a few **challenges arising out of e-Commerce** of law and order, revenue-base erosion, privacy, **anti-competitive behavior, consumer protection**, etc., without harming the of growth in the e-Commerce sector.

### Key Issues Addressed

#### ➤ Data

- **Individual Right:** An Individual **owns the right to his data.** Therefore, data of an individual is must be used with his/ her **express consent.**
- **Indian Control Over Data:** There should be a **restriction on cross-border data flow.** The policy bats for **data localization** and states that the data generated within India must be **stored within India.**
- If a **business entity** that **collects or processes any sensitive data in India** and **stores it abroad**, should **not share data with business entities outside India**, for any purpose, **even with customer consent.**
- A request from Indian authorities to have **access to all such data stored abroad** shall be **complied with immediately.**
- All e-Commerce websites, apps available for download in India should have a registered business entity here. Non-compliant e-Commerce app/ website to be denied access here.

#### ➤ Infrastructure development

- It stressed on **developing physical infrastructure for a robust digital economy** and suggested steps for developing the **capacity for data storage in India.**
- **Incentives** will be provided to **companies** for **establishing data localization** location facilities like data centers, server farms within India.
- **Firms to get 3 years to comply with local data storage requirements** and **data storage facilities** should be given '**infrastructure status**'.
- **Domestic alternatives to foreign-based clouds and email facilities** should be promoted through budgetary support.

#### ➤ e-Commerce marketplaces

- The policy mentions that foreign direct investment (FDI) is allowed only in the marketplace model, **not in inventory based model.**

- This is in line with the e-Commerce guidelines given by the government in December.
- The policy also takes into account the interests of domestic manufacturers and Micro, Small and medium enterprises and seeks to create a level playing field for them in online retail.
- To curbs on Chinese e-commerce exports the Gifting route (where goods are shipped as gifts), often used by Chinese apps, websites should be banned for all parcels except life-saving drugs.
- To prevent fake products, Seller details should be made available on the website for all products and sellers must provide an undertaking to the platform about the genuineness of products.
- **Stimulating the domestic digital economy**
  - There is a need to formulate domestic industrial standards for smart devices and IoT devices to meet the goals of the country like consumer protection.
  - Online custom clearance will eliminate the need for manual processes and will help in ease of doing business.
  - Continued focus on Digital India initiatives by the Government will help in the development of the e-Commerce sector.
- **Export promotion**
  - e-Commerce startups may get 'infant industry' status raising the limit for courier shipments from ₹25,000 to boost e-Commerce export.
  - To promote export it is necessary to lower the cost of transport, reducing paperwork, reducing delays at ports and airports etc.
  - Integrating Customs, RBI and India Post to improve tracking of imports through e-Commerce.

## Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)

The Prime-minister launched PM-KISAN scheme from Gorakhpur in Uttar Pradesh on Feb. 24, 2019.

- Under PM-KISAN, vulnerable landholding farmer families, having cultivable land up-to 2 hectares, will be provided direct income support at the rate of ₹6,000 per year.
- This income support will be transferred directly into the bank accounts of beneficiary farmers, in three equal installments of ₹2,000 each.



- This programme is under the aegis of Ministry of Agriculture and Farmers Welfare and aims to address farm sector distress, caused by lower sales realization on bumper production of food-grains, oilseeds, sugarcane, cotton and horticulture crops.
- State Government and UT Administration will identify the farmer families which are eligible for support as per scheme guidelines.
- This programme will entail an annual expenditure of Rs.75,000 crore which will be funded by the Government of India. Around 12 crore small and marginal farmer families are expected to benefit from this.

## Aviation Conclave 2019

The Ministry of Civil Aviation, in association with Airports Authority of India (AAI), Airport Authority of India - Cargo Logistics & Allied Services Company Limited (AAICLAS) and Confederation of Indian Industry, is organizing the Aviation Conclave 2019.

- The theme of the conclave is "Flying for All".
- Aviation Conclave brings into focus new aviation business to India, in particular,
  - drones systems,
  - manufacturing of aircraft in India,
  - financing and leasing of aircraft from India by Indian and foreign airlines,



- transforming Indian airports into **next-gen aviation hubs**,
- and **unleashing the air cargo potential** by integrating every **village of India** in global value chains.

### **The 5 Key Areas of Deliberation**

- **Drone-Ecosystem Policy Roadmap**,
- **Roadmap for Manufacturing Aircraft and associated equipment**, including Regional Transport Aircraft, in India,
- The **Project Rupee Raftaar**- which aims at **Aircraft Financing and Leasing** from India,
- **National Air Cargo Policy**: it seeks to make India among the **top five air freight markets by 2025**, besides **creating air transport shipment hubs** at all major airports over the next six years.
  - The policy will encourage **code sharing/interline agreements** between foreign and Indian carriers.
- **Mission to transform Indian Airports** into Next-Gen Aviation Hubs

### **India's Aviation Industry**

- Indian civil aviation industry is undergoing an expansion, driven by factors such as **low-cost carriers (LCCs)**, **modern airports**, **Foreign Direct Investment (FDI)** in domestic airlines, **advanced information technology (IT)** interventions and a strong **focus on regional connectivity**.
- Growth in aviation is also **increasing demand for MRO** (maintenance, repair, and overhaul) facilities.
- Greater focus is given on **infrastructure development – increasing liberalization - Open Sky Policy**; AAI driving modernization of airports and Air & Navigation Systems.
- **Enhanced Skill Development** in the sector can **leverage India's human capital** potential and can create job opportunities.
- **Innovation and Technology – GPS Aided Geo Augmented Navigation (GAGAN)**: India's **first satellite-based navigation system** has been launched along with NO Objection Certificate Application System (NOCAS) which streamlines online process of timely **NOC for height clearances of buildings** around airports and E-Governance for Civil Aviation (eGCA) which regulates online delivery of licensing and regulatory processes of Directorate General of Civil Aviation.

### **Government's Policy**

- **Regional connectivity scheme of UDAN (Ude Desh ka Aam Nagrik)** initiated by the government in 2016 aims to make **flying affordable by connecting unserved airports** across the country.
- **NABH (Nextgen Airports For Bharat) Nirman**, announced in the 2018-19 budget, aims to expand airport capacity by more than five times to handle a billion trips in a year.
- **National Civil Aviation Policy (NCAP)** was framed to **boost regional air connectivity**, establish an integrated ecosystem to promote **tourism** and generate employment.

### **SATAT Scheme**

Recently the **Minister of Petroleum and Natural Gas** has handed over the 100<sup>th</sup> Letter of Intent (LOI: is a document outlining the understanding between two or more parties) to the **Compressed Bio-Gas (CBG) Entrepreneur (producer)** under the **Sustainable Alternative Towards Affordable Transportation (SATAT)** scheme.

- SATAT has following **four objectives**:
  - **Utilising more than 62 million metric tonnes of waste generated every year** in India,
  - **Cutting down import dependence**,
  - **Supplementing job creation** in the country, and
  - **Reducing vehicular emissions and pollution from burning of agricultural / organic waste**.

#### **Compressed Biogas**

- Bio-gas is produced naturally through a process of anaerobic decomposition from waste/bio-mass sources like agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc. After purification, it is compressed and called Compressed Biogas (CBG), which has pure methane content of over 90%.
- CBG is exactly similar to the commercially available natural gas in its composition and energy potential.
- CBG can be used as an alternative and renewable automotive fuel. Given the abundance of biomass in the country, CBG has the potential to replace CNG in automotive, industrial and commercial uses in the coming years.

- Advantages of converting agricultural residue, cattle dung and municipal solid waste into CBG on a commercial scale:
  - **Responsible waste management**, reduction in carbon emissions and pollution.
  - Additional **revenue source for farmers**.
- **Boost to entrepreneurship**, rural economy and employment.
- Support to national commitments in achieving **climate change goals**.
- **Reduction in import** of natural gas and crude oil.
- **Buffer against crude oil/gas price fluctuations**.





# International Relations

## Highlights

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## India Revokes MFN Status to Pakistan

In a major diplomatic move, **India withdrew the Most Favoured Nation (MFN) status** accorded to Pakistan in its bid to convey a strong message to the country in the aftermath of Pulwama terror strike.

### What does Most Favoured Nation mean?

- **Article 1 of General Agreement on Tariffs and Trade (GATT), 1994**, requires every World Trade Organization (WTO) member country to accord MFN status (or preferential trade terms with respect to tariffs and trade barriers) to all other member countries.
- Accordingly, India accorded MFN status to all WTO member countries, including Pakistan, from the date of entry into force of the so called Marrakesh Agreement, establishing the WTO.

### NOTE:

- **Established in 1995**, WTO, replaced General Agreement on Trade and Tariffs (**GATT**) that has been in existence **since 1948** to **promote international trade** after World War II.
- The bulk of the WTO's current work comes from **1986–94 negotiations** called the **Uruguay Round** and earlier negotiations **under** the General Agreement on Trade and Tariffs (**GATT**).
- Although it **sounds as if MFN offers preferential treatment**, it only ensures **non-discriminatory trade**.

- It makes sure that any country receiving MFN status avoids any disadvantageous situation in comparison to the granter's other trade partners.
- According to the World Trade Organisation rules, countries **cannot normally discriminate between their trading partners**.
- **If one country is granted a trade concession** such as, for example, **lower import duties**, then **all WTO members** must be extended the **same concessions**.
  - **This principle** is known as the **Most Favoured Nation treatment**.
  - Despite repeated promises, Pakistan has never granted MFN status to India.
- Therefore, MFN is a non-discriminatory trade policy as it ensures equal trading among all WTO member nations rather than exclusive trading privileges.
- Since India and Pakistan are part of the WTO, both are required to grant MFN status to each other and other partner countries.

### What does revoking MFN mean?

Revoking it means **India can levy whatever import tariffs it wants**. India can now make it very **expensive for Pakistan to export** its goods or services **to India**.

### What happens now?

The commerce ministry will now **write to WTO** in order to **revoke MFN status given to Pakistan** by invoking **Article 21 of WTO**, also known as the **Security Exceptions Article**.

### Impact Analysis

- So far, **India** has **only revoked the MFN status**. It has **not altered the import duties** on Pakistan. However, if it does hike them, then this will likely have an impact on Pakistan.
- **The scale of that impact is questionable** because as per Commerce Ministry data, India's total trade with Pakistan is only \$2.4 billion in 2017-18, with just \$488.56 million of this being imports from Pakistan which is meagre. Therefore, revoking Pakistan's MFN status seems to be more of a **symbolic move**.
- It **may further give a push to the illegal trade** between the two countries, which takes place through **border gaps** and **via third countries**.
- It could also give a handle to **extremist elements in Pakistan** to scale up the **rhetoric against India**.
- However, the decision by India to withdraw MFN status to Pakistan is intended to **isolate Pakistan diplomatically** and squeeze the country's industry.
- This move will adversely affect the image of Pakistan as a trade partner and investment hub.

### India-ASEAN Expo and Summit

Recently the **Minister of Commerce & Industry** inaugurated the **4<sup>th</sup> India-ASEAN Expo and Summit 2019** in New Delhi.

- It is organised by the **Department of Commerce** in collaboration with industry body, '**Federation of Indian Chambers of Commerce & Industry (FICCI)**'.
- The Summit is a platform for the policy makers, industry captains and business leaders to come together and forge a common vision for India and ASEAN's mutual growth and progress.
- The Summit is a testimony of India's dedicated efforts towards **Act East policy**.

#### Association of Southeast Asian Nations (ASEAN)

- ASEAN was established on 8 August 1967 in Bangkok, Thailand, with the signing of the Bangkok Declaration by the Founding Fathers of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore and Thailand.
- Brunei Darussalam then joined in 1984, Vietnam in 1995, Lao People's Democratic Republic and Myanmar in 1997, and Cambodia on 30 April 1999, making up what is today the ten Member States of ASEAN.

- The motto of ASEAN is "One Vision, One Identity, One Community".
- 8<sup>th</sup> August is observed as ASEAN Day.
- ASEAN Secretariat – Jakarta, Indonesia.

### India and ASEAN

- India-ASEAN trade and investment relations have been growing steadily, with **ASEAN being the second largest trading partner** of India, after China, with a total bilateral merchandise trade of USD 81.33 billion, i.e. **10.58% in India's overall trade**.
- India and ASEAN represent **fast moving economies**.
  - According to the recently published **United Nations' World Economic Situation and Prospects Report 2019**, India and ASEAN are set to **outpace the global growth (3.0% in 2019)**.
- India continues to be the fastest growing major economy and is expected to grow at 7.2% in 2019 and ASEAN at 5.2%.
- This is a manifestation of the **new emerging world economic order**, wherein India and ASEAN have a significant place.
- India currently is working with ASEAN on **multiple connectivity projects, through land, water, and air**. E.g.:
  - India-Myanmar-Thailand Highway, Kaladan Multinational Transit Transport Project,
  - Project Development Fund for **CLMV countries (Cambodia, Laos, Myanmar and Vietnam)**.
- ASEAN remains central to the economic integration of the Indo-Pacific region through **Regional Comprehensive Economic Partnership (RCEP)**.

#### Regional Comprehensive Economic Partnership (RCEP)

- The RCEP is a mega-regional free trade agreement (FTA) which aims to cover goods, services, investments, economic and technical cooperation, competition and intellectual property rights.
- It is being negotiated amongst 16 countries, comprising 10 ASEAN countries plus six ASEAN FTA partners – India, China, Japan, South Korea, Australia, and New Zealand.

### Way Forward

- Both sides need to **explore opportunities through connectivity projects** in order to remove physical

impediments to trade and further **integrate the two regions for better economic and trade relations.**

- Increasing the **rate of technology adoption and providing financing mechanisms** is another option to expand growth.

## Argentina's President Visit to India

President of Argentina Mauricio Macri paid a state visit to India.

- 2019 is the **70<sup>th</sup> year of establishment of diplomatic relations** between the two countries.



### India-Argentina Relations

- **Political Ties**
  - During the visit, both countries decided to elevate cooperation to a strategic partnership with a focus on key areas for the prosperity of both countries.
- **Counter-Terrorism**
  - India and Argentina **issued a separate joint declaration to fight terrorism.**
  - Argentina condemned the recent terrorist attack in Pulwama, Jammu and Kashmir in the strongest terms.
  - India also urged to implement the **11-point agenda of 'Hamburg Statement on countering terrorism'** which was agreed during G-20 Summit in 2018.
- **Economic and Commercial Engagement**
  - In the last 10 years, the bilateral trade has more than doubled and is around the US \$ 3 billion.
  - There are possibilities for a significant increase of trade in many sectors such as agriculture, metals, and minerals, oil and gas, pharmaceutical, chemicals, motor vehicles and services.

- India and Argentina **decided to work together to further enhance and diversify trade and investment** by eliminating impediments, facilitating greater market access and promoting trade and investment.

#### ➤ Agriculture

- India sees Argentina as an important partner for its food security.
- During the visit, both countries decided to enhance the scope of agricultural cooperation, including the exchange of technology to increase productivity, reduce post-harvest losses and build climate resilience.

#### ➤ Mining

- Argentina is a part of the **Lithium Triangle** (Argentina, Chile and Bolivia), and it has approximately **54% of the world's lithium reservoir.**
  - India's public sector mining company, Khanij Bidesh India Limited (KABIL), has decided to establish a joint venture for the lithium mining in Argentina.

#### ➤ India-Mercosur

- India was the first country to sign a Preferential Trade Agreement with MERCOSUR in 2004.
- Argentina and India agreed to expand the PTA.

### MERCOSUR

The Southern Common Market (MERCOSUR for its Spanish initials) is a regional integration process, initially established by Argentina, Brazil, Paraguay, and Uruguay, and subsequently joined by Venezuela and Bolivia.

#### ➤ International Cooperation

- Argentina has played a **major role in India's accession to the various non-proliferation regimes**, including the **Missile Treaty Control Regime, Wassenaar Arrangement, and Australia Group.**
- India and Argentina reaffirmed their commitment to globalization and reformed multilateralism.
- Both sides agreed to work together for **reforms in World Trade Organization (WTO) and comprehensive reform of the UN Security Council.**

#### ➤ South-South Cooperation

- India will be participating in the second high-level conference of the **United Nations on South-South Cooperation in Buenos Aires in 2019 (BAPA+40) Buenos Aires plan of Action.**

Note:

- Other Memorandum of Understanding (MoU) cover the areas like Defence Cooperation, Space Cooperation, Nuclear Energy, Oil and Gas, Renewable Energy, Education, Culture, People to People Exchanges etc.

## Saudi Arabia's Crown Prince Visit to India

Recently, **Crown Prince of Saudi Arabia Mohammed bin Salman** visited India.

- This was the **first state visit** of crown prince in India.



### Outcome of Visit

- A number of memorandum of understandings (MoUs) were signed during the visit on investing in the **National Investment and Infrastructure Fund of India**, cooperation programme between **Invest India** and **Saudi Arabia General Investment Authority (SAGIA)**.
- Other MoUs include tourism, housing, exchange of Audio-Visual Programmes.
- Saudi Arabia also agreed to join the **International Solar Alliance (ISA)**.
- The two sides called for early adoption of the UN **Comprehensive Convention on International Terrorism (CCIT)**.

#### National Investment and Infrastructure Fund of India (NIIF)

- The NIIF is a sovereign fund owned by the government of India (49% ownership) along with global and domestic institutional players. The size of fund is ₹40,000 crore.
- The fund has an investment "mandate to invest in infrastructure assets and related businesses" that are projected to see "long term growth trajectory".

## India-Saudi Arabia Relations

- **Strategic Partnership**
  - Saudi Arabia is a **strategic partner of India** since the signing of the **Riyadh Declaration in 2010**.
- **Economic Relations**
  - Saudi Arabia is India's 4<sup>th</sup> largest trading partner and bilateral trade stood at around US\$ 28 billion during 2017-18.
- **Energy Security**
  - India imports more than 17% of crude oil and 32% of Liquefied Petroleum Gas (LPG) requirements from Saudi Arabia.
  - Recently, Saudi ARAMCO in partnership with UAE has agreed to invest US\$ 44 billion to build an integrated refinery and petrochemicals complex at Ratnagiri in Maharashtra.
  - Saudi Arabia also has a major role in India's **Strategic Petroleum Reserves (SPRs)**.

### Strategic Petroleum Reserves

- Strategic petroleum reserves are huge stockpiles of crude oil to deal with any crude oil-related crisis like the risk of supply disruption from natural disasters, war or other calamities.
- India's strategic crude oil storages are currently located at Visakhapatnam (Andhra Pradesh), Mangaluru (Karnataka), and Padur (Karnataka)
- Recently, the government had announced setting up of two additional facilities at Chandikhol (Odisha) and Padur (Karnataka).

## Diaspora Relations

- There are about **2.7 million Indians living in Saudi Arabia**. They send **remittance of over US\$ 11 billion** annually. Saudi Arabia also facilitates Hajj pilgrimage to over 1,75,000 Indians every year, which is the largest number of pilgrims from any country.

## Challenges to the India-Saudi relationship

- **The Saudi-Pakistan and India-Iran relationship:** Saudi Arabia's relation with Pakistan and India's relation with Iran are two important factors affecting the India-Saudi Arabia relationship.
  - **India expects Saudi Arabia to restrain Pakistan** from allowing its territory being used by terrorists targeting India.



- **Diaspora-related issues:** This includes the treatment of Indian workers in Saudi Arabia and **Saudi Arabia's Nitaqat Programme**, which aims at increasing the employment of Saudi nationals in the private sector, might limit employment opportunities for Indian expatriates.
- **Radicalization in India:** Many Saudi Arabia based agencies have been blamed for **funding spread of fundamentalist Wahhabi and Salafist ideology in India.**
  - Saudi Arabia is considered to be the **primary supporter of a supposedly more rigid interpretation of Islam.** This has implications for how Islam functions in India.

- **Wahhabism:** It is an austere form of Islam that insists on a **literal interpretation of the Koran.** Strict Wahhabis believe that all those who don't practice their form of Islam are heathens and enemies.
  - Wahhabism is named after an eighteenth-century preacher and activist, Saudi Arabian Muhammad ibn Abd al-Wahhab.
- **Salafism:** it is a reform branch or **revivalist movement within Sunni Islam** that developed in Egypt in the late 19<sup>th</sup> century as a response to Western European imperialism with roots in the 18<sup>th</sup>-century Wahhabi movement that originated in Saudi Arabia.

## 60 Years of 1959 Tibetan Uprising

Recently China has **banned foreign tourists from visiting Tibet** until April, 2019.

- The restriction is imposed due to security reasons ahead of the **60<sup>th</sup> anniversary of 1959 uprising against China** on March 10.

### Tibet

- Tibet is a region on the **Tibetan Plateau in Asia**, spanning about 2.4 million km<sup>2</sup> – nearly **a quarter of China's territory.**
- It is the traditional homeland of the Tibetan people as well as some other ethnic groups.
- Tibet is the **highest region on Earth**, with an **average elevation of 4,900 metres.** The highest elevation in Tibet is **Mount Everest**, Earth's highest mountain, rising 8,848 m above sea level.



### Tibet Uprising of 1959

- From 1912 until the founding of the People's Republic of China in 1949, no Chinese government exercised control over what is today China's Tibet Autonomous Region (TAR).
- Many Tibetans insist they were essentially independent for most of that time and have protested what they regard as China's rule imposed after the People's Liberation Army occupied TAR in 1950.
- The Dalai Lama's government alone ruled the land until 1951 when **Mao Zedong's People's Liberation Army (PLA)** marched in.
- This has often been described by the Tibetan people and third party commentators as **"a cultural genocide"**.
- The unsuccessful Tibetan Uprising of 1959, in which Tibetans rebelled in an attempt to overthrow the Chinese government, led to the fleeing of the 14<sup>th</sup> Dalai Lama to India.

### Aftermath of the 1959 Tibetan Uprising

- Since the 1959 Uprising, the central government of China has been steadily tightening its grip on Tibet.
- Now there is no freedom of speech, religion, press and arbitrary detentions continue.
- **Forced abortion, sterilisation of Tibetan women**, and the **transfer of low-income Chinese citizens** threaten the survival of Tibetan culture.
- Although China has invested in infrastructure improvements for the region, particularly in Lhasa itself, it has also encouraged thousands of ethnic Han Chinese to move to Tibet resulting into **demographic shift.**
- The **14<sup>th</sup> Dalai Lama**, continues to head the **Tibetan government-in-exile** from McLeod Ganj, a suburb



of **Dharamsala** in India which coordinates political activities for Tibetans in India.

- Dalai Lama advocates increased autonomy for Tibet, rather than full independence, but the Chinese government generally refuses to negotiate with him.
- Periodic unrest still sweeps through Tibet, especially around important dates such as March 10 to 19 - the anniversary of the 1959 Tibetan Uprising.

### ***Sino-Indian Conflict Over Dalai Lama***

- Apart from the border disputes, another major irritant for China has been over the **Dalai Lama**, who enjoys a **spiritual status in India**.
- **China considers Dalai Lama a separatist**, who has great influence over Tibetans.
  - It must be mentioned that Dalai Lama **gave up his support for Tibetan independence in 1974**, and **only wants China to stop repression** against the community.
- Former Prime Minister **Jawaharlal Nehru agreed to provide all assistance to the Tibetan refugees to settle in India** until their eventual return.
- The Government of India has built special schools for Tibetans that provide free education, health care, and scholarships. There are a few medical and civil engineering seats reserved for Tibetans.
- While India's role in the **rehabilitation of Tibetan refugees** has been criticised by China, it has drawn **praise from international bodies** and human rights groups.

## **UNSC Condemns Pulwama Attack**

**United Nations Security Council (UNSC)** has condemned the suicide bombing in Pulwama, Jammu & Kashmir, in which over 40 Indian paramilitary forces personnel martyred.

- Pakistan-based terrorist organization **Jaish-e-Mohammad (JeM)** has claimed responsibility for the attack.
- The attack has received global condemnation from a number of countries including the United States, Russia, France.

### ***Significance of Condemnation***

- The condemnation of the attack by UNSC is a **diplomatic win for India** and can be seen as a part of **India's efforts to isolate Pakistan** at International level.

- There may also be a shift in China's stand against Jaish-e-Mohammad Chief Masood Azhar as the statement by UNSC names JeM as the perpetrator of the attack.
- Though JeM has been under sanction by UNSC since 2010, China has continuously vetoed resolution listing JeM chief Maulana Masood Azhar as a "global terrorist" at the **UN Security Council Resolution 1267 sanctions committee** for the last 10 years.
- However, recently China withdraw its hold from UNSC Resolution 1267 and Masood Azhar was listed as global terrorist.

### ***UNSC Resolution 1267 Sanctions Committee***

- This committee oversees the implementation of sanctions pursuant to UNSC resolutions 1267, 1989 and 2253.
- It is one of the most important and active **UN subsidiary bodies working on efforts to combat terrorism**, particularly in relation to Al Qaeda and the Islamic State group.
- It discusses UN efforts to **limit the movement of terrorists, especially those related to travel bans, the freezing of assets and arms embargoes for terrorism**.

#### **About UNSC**

- The United Nations Charter established six main organs of the United Nations, including the Security Council.
- It gives primary responsibility for maintaining international peace and security to the Security Council, which may meet whenever peace is threatened.
- All members of the United Nations agree to accept and carry out the decisions of the Security Council.
- While other organs of the United Nations make recommendations to member states, only the Security Council has the power to make decisions that member states are then obligated to implement under the Charter.
- UNSC has 15 members of which 5 are permanent and 10 are non-permanent members. Non-permanent members elected for two-year terms by the UN General Assembly.
- Five permanent members are- US, UK, France, Russia, and China.
- India has served in UNSC as non-permanent members for seven terms (a total of 14 years), with the most recent being the 2011–12 term.

## Prime Minister's Visit to South Korea

Recently, the Prime Minister of India visited South Korea (Republic of Korea).



- Prime Minister was honored with the **Seoul Peace Prize** during the visit.

### Outcome of Visit

- During the visit, a number of agreements were signed
  - MoU on the release of commemorative **postal stamp on Queen Hur (Suriratna)**, a legendary **Princess of Ayodhya, who went to Korea in AD 48** and married King Kim-Suro.
  - MoU was signed to continue operations of **Korea Plus** (an organization that facilitates investments by Korean companies in India).
    - Korea Plus was operationalized in June 2016, and comprises representatives from the Ministry of Industry, Trade & Energy of South Korea, Korea Trade-Investment and Promotion Agency (KOTRA) and **Invest India**.
  - MoU on Start-up Cooperation, Cooperation in Broadcasting, cooperation in road and transport infrastructure development was signed.
  - MoU on Combating Transnational Crime And Developing Police Cooperation was also signed.

### Seoul Peace Prize

- The Seoul Peace Prize was established in 1990 to commemorate the success of the 24<sup>th</sup> Olympic Games held in Seoul, Republic of Korea – an event in which 160 nations from across the world took part, creating harmony and friendship and a worldwide atmosphere of peace and reconciliation.

- The Seoul Peace Prize has been awarded biennially to those individuals who have made their mark through contributions to the harmony of mankind, reconciliation between nations and to world peace.

### India-South Korea Relations

- **Political**
  - During the Korean War (1950- 53), **India has played a major role in cease-fire agreement** signed between both the warring sides and the ceasefire was declared on 27 July 1953.
  - Relations between India and South Korea were raised to the level of **Strategic Partnership in January 2010**.
  - In May **2015**, the bilateral relationship was upgraded to '**special strategic partnership**'.
  - India has a major role to play in **South Korea's Southern Policy** under which Korea is looking at expanding relations beyond its immediate region.
  - Similarly, South Korea is a major player in **India's Act East Policy**.
- **Economic**
  - The current bilateral trade between India and South Korea is at USD 21 billion and the target that has been set is USD 50 billion by the year 2030.
  - India and South Korea have signed the **Comprehensive Economic Partnership Agreement (CEPA), 2010** which has facilitated the **growth of trade relations**.
  - To facilitate investment from Korea, India has launched "**Korea Plus**" **facilitation cell under 'Invest India'** to guide, assist and handhold investors.
- **Cultural**
  - Korean Buddhist **Monk Hyecho** (704–787 CE) or Hong Jiao visited India from 723 to 729 AD and wrote travelogue "**Pilgrimage to the five kingdoms of India**" which gives a vivid account of Indian culture, politics & society.
  - Nobel Laureate Rabindranath Tagore has composed a short but evocative poem – '**Lamp of the East**' in 1929, **about Korea's glorious past and its promising bright future**.
  - During the current visit, Highlighting the common Buddhist linkages, **India gifted a sapling of the sacred Bodhi Tree to South Korea**.

Note:

## Indus Water Treaty 1960

Recently the **Union Water Resources Minister** has said that the government, **under the Indus Water Treaty 1960**, has decided to **stop its share of water** which earlier used to flow to Pakistan.

### Indus Waters Treaty

- The Indus system comprises of main Indus River, Jhelum, Chenab, Ravi, Beas and Sutlej. The basin is mainly shared by India and Pakistan with a small share for China and Afghanistan.
- Under the treaty signed between India and Pakistan in 1960, all the waters of three eastern rivers, namely Ravi, Sutlej and Beas were allocated to India for exclusive use.
- While, the waters of Western rivers - Indus, Jhelum, and Chenab were allocated to Pakistan except for specified domestic, non-consumptive and agricultural use permitted to India as provided in the Treaty.
- India has also been given the right to generate hydroelectricity through run of the river (RoR) projects on the Western Rivers, which is subjected to specific criteria for design and operation.

### Present Developments

- To utilize the waters of the Eastern rivers which have been allocated to India for exclusive use, India has constructed following dams:
  - Bhakra Dam on Satluj,
  - Pong and Pandoh Dam on Beas and
  - Thein (Ranjit Sagar) on Ravi.
- Other works like Beas-Sutlej Link, Madhopur-Beas Link, Indira Gandhi Nahar Project etc. have helped **India utilize nearly entire share (95%) of waters of Eastern rivers.**
- However, about **2 Million Acre Feet (MAF)** of water **annually from Ravi** is reported to be still flowing **unutilized to Pakistan below Madhopur.**
- To stop the flow of these waters that belong to India for its utilization in India, following steps have been taken:
  - **Shahpurkandi Project:** This project will help in utilizing the waters coming out from powerhouse of Thein dam for irrigation and power generation

in J&K and Punjab. The construction work is being undertaken by the Govt of Punjab under monitoring of Govt of India.

- **Construction of Ujh multipurpose project:** This project will create a storage of water on river Ujh, a tributary of Ravi for irrigation and power generation in India. This project is a National Project whose completion period will be 6 years from beginning of the implementation.
- **The 2nd Ravi Beas link below Ujh:** This project is being planned to tap excess water flowing down to Pakistan through river Ravi, even after construction of Thein Dam, by constructing a barrage across river Ravi for diverting water through a tunnel link to Beas basin. Govt. of India declared this project as National Project.

## International Mother Language Day

- International Mother Language Day has been observed every year on **21<sup>st</sup> February** since 2000 **to promote linguistic and cultural diversity and multilingualism.**
- The idea to celebrate International Mother Language Day was the **initiative of Bangladesh.** It was approved at the **1999 UNESCO General Conference** and has been observed throughout the world since 2000.
- International Mother Language day 2019 **theme** is: **"Indigenous languages matter for development, peace building, and reconciliation".**
- The UNESCO states that at least 43% of the estimated 6,000 languages spoken in the world are endangered.
- It recognizes **any language** that is **spoken by less than 10,000 people** as potentially **endangered.**

## Chabahar Port

- **Afghanistan**, for the first time, has **begun exports to India through Iran's Chabahar port.**
- The delivery of the cargos will be carried out under the **International Road Transports' TIR (Transports Internationaux Routiers)** convention.
- The port is crucial for India's connectivity to Afghanistan apart from an air corridor that becomes operationalized in 2017.

Note:



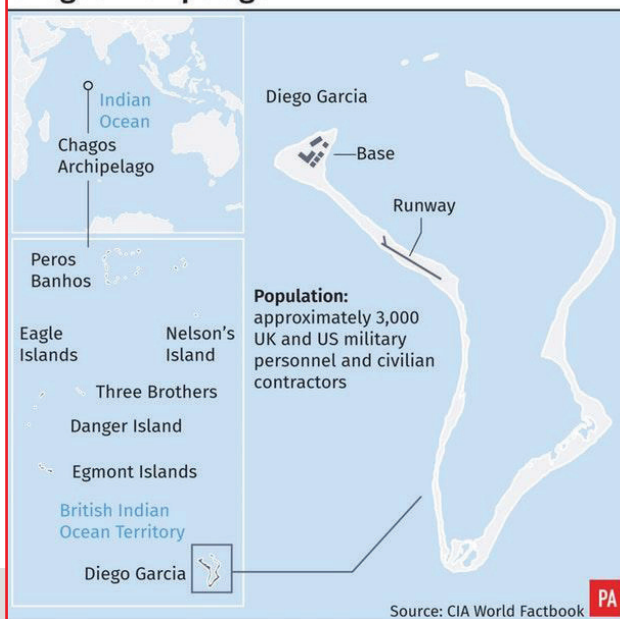
- For India, Chabahar provides access to Central Asia and **International North-South Transport Corridor** that connects Mumbai to Moscow.
- The port is also **important for landlocked Afghanistan** which is keen to **get connect itself with international markets**.
- The **bilateral trade** between India and Afghanistan **jumped by 40% in 2018-19** and has crossed USD 1 billion, with imports from Afghanistan accounting for USD 740 Million.
- Afghanistan has a huge trade surplus with India, the only country with which Afghanistan has a trade surplus.

## UK asked to return Chagos Islands to Mauritius

**International Court of Justice (ICJ)** has asked the United Kingdom to return the Chagos Archipelago back to Mauritius.

- ICJ in its advisory opinion has said that:
  - The process of **decolonization of Mauritius** was **not complete** when the country was **given independence in 1968** as the Chagos Archipelago was separated.
  - The UK should **give up its administrative control** over the Chagos Archipelago as rapidly as possible.

## Chagos Archipelago



### International Court of Justice (ICJ)

- The International Court of Justice (ICJ) is the principal judicial organ of the United Nations (UN).
- It was established in June 1945 by the Charter of the United Nations and began work in April 1946.
- The seat of the Court is at the Peace Palace in The Hague (Netherlands).
- The Court's role is to settle, in accordance with international law, legal disputes submitted to it by States and to give advisory opinions on legal questions referred to it by authorized United Nations' organs and specialized agencies.

### Background

- In its submission to the ICJ last year, Mauritius argued it was **coerced into giving up the Chagos Islands**.
  - That separation was in breach of **UN resolution 1514, passed in 1960**, which specifically **banned the breakup of colonies before independence**.
- **The UK government** argued that the **court did not have jurisdiction to hear the case**.

### Likely Impact

- **The United Kingdom:** Although the decision by the ICJ is **only advisory**, the judgment is a blow to the UK's prestige on the world stage.
- **Mauritius:** The government of Mauritius has welcomed the decision and said that it is a **"historic moment"**.

Note:



in efforts to bring colonialism to an end, and to promote human rights, self-determination and the international rule of law”.

- **On US Military Base:** The opinion is unlikely to impact the U.S. military base as Mauritius has said in the UN General Assembly that it is committed to the continued operation of the base in Diego Garcia under a long-term framework.

#### Chagos Archipelago

- The Chagos Archipelago, island group in the central Indian Ocean, located about 1,000 miles (1,600 km) south of the southern tip of the Indian subcontinent.
- In the 19<sup>th</sup> century, Chagos were governed from Mauritius, which was a British Colony.
- The UK retained possession of the Chagos archipelago, which includes the strategic US airbase of Diego Garcia, after Mauritius gained its independence in 1968, by paying Mauritius more than £4mn for the islands.
- The U.K. government refers to it as British Indian Ocean Territory or BIOT.
- About 1,500 native islanders were deported from the Diego Garcia island in Chagos archipelago so that it could be leased to the US for the airbase in 1971.
- Mauritius claimed that it was forced to give up the islands in 1965 in exchange for independence, which it gained in 1968.

#### India's Stand

- India has supported Mauritius stand on the Chagos Archipelago.
- India in its submission to ICJ has said that the Chagos Archipelago has been and continues to be with Mauritius and demanded sovereignty over the Chagos Archipelago from Britain.
- India stayed committed to its Indian Ocean neighbor Mauritius, as well as its anti-colonial credentials.

## India bombs Jaish-e-Muhammad Camp in Pakistan

Twelve days after the Pulwama attack, in an aerial surgical strike, the Indian Air Force (IAF) has bombed the Jaish-e-Mohammad's (JeM) terror-training camp in Balakot in the Pakistani province of Khyber Pakhtunkhwa.

- The operation was carried out by 12 Mirage-2000 fighter jets, after intelligence inputs that the said JeM facility is crowded with 200-325 terrorists.

#### India's Statement

- India has said that the strike was based on hard intelligence inputs about the presence of terrorists in the camp.
  - By calling it an intelligence-led operation, the government was trying to send a message to the global audience that the airstrikes were not done at some arbitrarily chosen place but were part of a well-considered action.
- India said that strike, a “non-military preemptive action” was important for two reasons:
  - By calling it non-military, India wanted to reassure everyone that it is not an act against the Pakistani military.
  - The words “preemptive action” were to suggest that the airstrike was not an act of revenge or retribution but an act of self-defense to prevent a likely terror attack in the future.

#### International Response

- India has received support for its air strike from several countries like Australia and France.
  - The countries recognized India's right to self-defense, and asked Pakistan to put an end to operations of terrorist groups established on its territory.
- The US said that India and Pakistan should exercise restraint, and avoid escalation at any cost and avoid further military activity.
- China has said that the two countries should keep restraint and do more to improve bilateral relations.
- With the exception of the Organisation of Islamic Cooperation, there has been no global criticism of India's statement on the strikes.

#### Analysis

- The Indian Air Force's strike on a Jaish-e-Mohammad terror training camp in Pakistan's Balakot delivers a robust but calibrated message that India can strike deep inside Pakistan for its self-defense.
- Airstrikes by the Indian Air Force establishes a new threshold between the two nuclear neighbors for an Indian response to a terror attack.



- This was the **first time Indian fighter jets have crossed Line of Control, since 1971**. Even during the **Kargil war in 1999**, Prime Minister Atal Bihari Vajpayee had drawn a **red line over the IAF crossing the LoC**, to **avoid international recrimination**.
- Along with these surgical strikes, India is also **working diplomatically to isolate Pakistan**.
  - UN Security Council has condemned the Pulwama Attack.
  - Pakistan has been listed in the Financial Action Task Forces (FATF) greylist.
  - India has also withdrawn Most Favoured Nation Status of Pakistan.
  - India has also taken Pakistan to **International Court of Justice** against **death sentence** given to Indian citizen **Kulbhushan Jadhav**.

#### What is a Surgical Strike?

- A surgical strike is a swift and targeted attack on a specific target that aims to neutralize it while ensuring minimum collateral damage to the surrounding areas and civilians.
- India has conducted surgical strikes in 2015 in Myanmar against the insurgent groups and in 2016 in Pakistan-Occupied-Kashmir against terror launch pads along the line of control.
- These attacks can be carried out via air raids, airdropping special operations' teams or a ground operation.

#### The significance of Surgical Strike

- Neutralization of targets with surgical strikes also **prevents escalation to a full-blown war**.
- Surgical strikes are part of **India's Cold Start doctrine** and have proved effective in foiling infiltration bid by terrorist groups across the LoC.

#### Cold Start Doctrine

- The 'Cold Start' doctrine of the Indian Armed Forces envisages swift deployment of troops on the western border within days if a situation of a full-blown war arises.
- This doctrine aims to allow Indian forces to **conduct sustained attacks** while **preventing a nuclear retaliation from Pakistan**. The operation would be carried out by a unified battle group involving various branches of India's military.

- The Cold Start doctrine sought to prepare the army in such a manner that offensive operations could be undertaken within 48 hours of the orders being issued, enabling the Indian troops to take their Pakistani counterparts by surprise.

#### Way Forward

- **Pakistan has denied that the Indian strike caused any damage on the ground**. This may **obviate the need for retaliatory strikes**, or if Pakistan responds this could escalate the situation with a military response.
- Pakistan could also make a break from its past, and begin to **shut down the terror camps on its soil**, which would **win friends internationally** and ensure peace in the region.
- **Surgical strikes are not a one-stop solution**, uprooting terrorism will require sustained efforts by India diplomatically at the global level, which also includes the adoption of **Comprehensive Convention on International Terrorism (CCIT)**.

#### Mirage-2000

- **The Dassault Mirage 2000** is a **French** multirole, single-engine fourth-generation jet fighter manufactured by Dassault Aviation. It was designed in the late 1970s.

#### SPICE 2000

- SPICE stands for '**Smart, Precise Impact and Cost-Effective**' a kit which converts a conventional bomb into a smart munition and is manufactured by Rafael of Israel. The '2000' refers to a bomb of 2,000 pounds (about 1,000 kg).

#### Crystal Maze Mk2

- Crystal Maze Mk2 also called AGM 142 Popeye is a precision-guided munition (PGM).
- The PGM enable the aircraft to release them from stand-off distances while staying away from harm's way and the munitions glide to the target once launched.

#### NETRA AEW&C

- The IAF also deployed the **Israeli Phalcon and indigenous Netra** early warning aircraft to monitor the mission — to direct the aircraft
- IAF also used a **Heron long-range Unmanned Aerial Vehicle** that was used for monitoring and assessment.

## Geneva Convention for Prisoners of War

In response to **Indian action against terrorist's camp in Balakot**, Pakistani Airforce attacked Indian military installations.

- In this engagement, **India lost one MiG 21**. The pilot is missing in action in Pakistan.
- India has cited the **Geneva Conventions, 1949** while demanding the **release of Wing Commander Abhinandan**, who is in **Pakistan's custody**.

### Geneva Convention

- What are the Geneva Conventions?
  - The 1949 Geneva Conventions are a set of international treaties that ensure that **warring parties conduct themselves in a humane way** with **non-combatants** such as **civilians** and **medical personnels**, as well as with **combatants who are no longer actively engaged in fighting**, such as **prisoners of war (POW)**, and **wounded or sick soldiers**.
  - All countries are signatories to the Geneva Conventions.
- Does the captured pilot count as a prisoner of war?
  - The provisions of the conventions apply in **peacetime situations, in declared wars, and in conflicts that are not recognized as war by one or more of the parties**.
  - India has said **its airstrikes** were a **"non-military"** intelligence-led operation — both sides are bound by the Geneva Conventions. **This means the IAF officer is a prisoner of war, and his treatment has to be in accordance with the provisions for PoWs under the Geneva Conventions.**
- What rights is a PoW entitled to?
  - **Article 14 of the Convention** lays down that PoWs are "entitled to in all circumstances to respect for their persons and their honour".
  - **In captivity, a PoW must not be forced to provide information of any kind under "physical or mental torture, nor any other form of coercion".** Refusal to answer questions should not invite

punishment. A PoW must be protected from exposure to fighting.

- Use of PoWs as hostages or human shields is prohibited, and a PoW has to be given the same access to safety and evacuation facilities as those affiliated to the detaining power.
- **Access to health facilities, prayer, recreation, and exercise** are also written into the Convention. The detaining power has to facilitate correspondence between the PoW and his family and must ensure that this is done without delays. A PoW is also entitled to receive books or care packages from the outside world.
- What do the provisions say about the release of prisoners?
  - Parties to the conflict "are bound to send back" or repatriate PoWs, regardless of rank, who are seriously wounded or sick, after having cared for them until they are fit to travel". The conflicting parties are expected to write into any agreement they may reach to end hostilities the expeditious return of PoWs. Parties to the conflict can also arrive at special arrangements for the improvement of the conditions of the internment of PoWs, or for their release and repatriation.
  - At the end of the 1971 war, India had more than 80,000 Pakistani troops who had surrendered to the Indian Army after the liberation of Bangladesh. India agreed to release them under the Shimla Agreement of 1972.
- In such situations, **who monitors** whether the Geneva Conventions are being followed?
  - The **Geneva Conventions have a system of "Protecting Powers" who ensure that the provisions of the conventions are being followed by the parties in a conflict.** In theory, each side must designate states that are not the party to the conflict as their "Protecting Powers".
    - In practice, the International Committee of the Red Cross (ICRC) usually plays this role.
  - During the **Kargil War**, Pakistan **returned Flt Lt Nachiketa**, who was captured after ejecting from his burning Mi27, after keeping him for eight days. This was after **intense diplomatic efforts by India**. Another PoW, Squadron **Ldr Ajay Ahuja**, was **killed in captivity**.

## National Emergency Declared in the United States

On February 15, 2019, President of the United States Donald Trump declared a **National Emergency Concerning the Southern Border of the United States**.

- President Donald Trump, citing an “**invasion**” of **drugs and criminals**, declared a national emergency to fund construction of a border wall along US-Mexico Border.

- US President can now **bypass the opposition in Congress** (Parliament in the United States) and can **redirect billions of dollars in federal funds to build the wall**.

### *Emergency Powers in the United States*

- Neither the term “emergency” nor any comparable term appears in the text of the United States Constitution.
- The President in the United States has Emergency Powers derived from the **National Emergencies Act, 1976**.



# Science and Technology

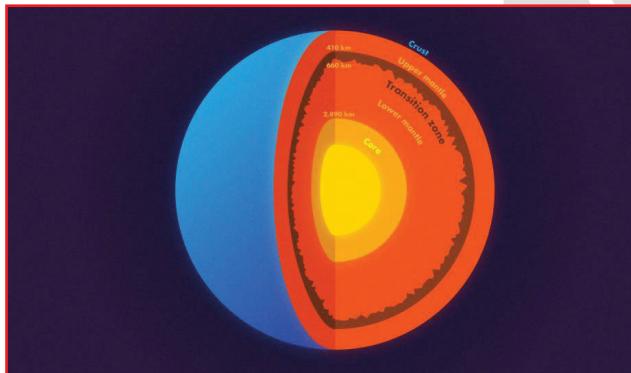
## Highlights

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## Massive Mountains Discovered under Earth's Crust

Scientists have discovered massive mountains in the Earth's mantle.

- The mountains were located **at the boundary of the outer and lower mantle at a depth of 660 km.**
- Lacking a formal name for this layer, the researchers simply call it **"the 660-km boundary."**



### How was it Discovered?

- Scientists have used the **earthquake data from the 8.2 magnitude earthquake which shook Bolivia in 1994.**
- This earthquake was the second-largest deep earthquake ever recorded, with a focal point estimated at a depth of 650 kilometers.
- **This earthquake was also the first big earthquake to be measured on a modern seismic network, providing researchers with unprecedented data.**
- Data was gathered from earthquakes waves that travel in all directions and can travel through the core to the other side of the planet.

### Findings

- From earthquake waves, the researchers came to know that the **upper and lower mantle boundary at 660 km depth is rough.**
- The researchers also examined a layer 410 km down, at the top of the mid-mantle "transition zone," and the surface is not similarly rough.

### Significance

- Due to technical limitations, scientists were not able to determine the height of these mountains, but there's a chance that these mountains are **bigger than anything on the surface of the Earth.**
- This discovery is also important for understanding **how the earth formed and continues to function.**

### Interior of the Earth

The Earth has three layers: **a crust, mantle, and core**, which is subdivided into an inner and outer core.

### Information about Interior of the Earth

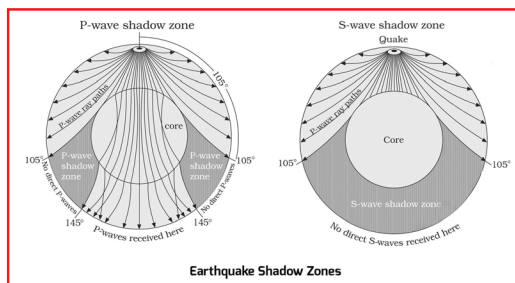
- There are two sources of information for scientists about the interior of the earth: Direct and Indirect.
- **Direct Sources**
  - **Surface rock** or the rocks from **mining.**
  - **Deep Ocean Drilling Projects:** The deepest drill is at Kola, in the Arctic Ocean, which has reached a depth of 12 km.
  - **Volcanic eruptions.**
- **Indirect Sources**
  - **Meteors** from space.
  - **Gravitation, magnetic field.**

Note:

- **Seismic activity:** Seismic activity is one of the most important sources of information about the interior of the earth.

### Earthquake

- An earthquake in simple words is **shaking of the earth**. It is a natural event. It is caused due to the release of energy, which generates waves that travel in all directions.
- **Focus and Epicenter**
  - The release of energy occurs along a fault. The **point where the energy is released** is called the **focus of an earthquake**.
  - The energy waves traveling in different directions reach the surface of the earth. The **point on the surface, nearest to the focus, is called Epicenter**.
- **Earthquake Waves**
  - Earthquake waves are basically of two types — body waves and surface waves.
  - **Body waves**
    - Body waves are generated due to the release of energy at the focus and move in all directions traveling through the body of the earth. Hence, the name body waves.
    - There are **two types of body waves**. These are called P and S-waves.
    - **P-waves:** P-waves move faster and are the first to arrive at the surface. These are also called **primary waves**.
    - The P-waves are similar to sound waves. **They travel through gaseous, liquid and solid materials.**



- **S-waves:** S-waves arrive at the surface with some time lag. These are called **secondary waves**.
- An important fact about S-waves is that they **can travel only through solid materials**.
- This characteristic of the S-waves is quite important. It has **helped scientists to understand the structure of the interior of the earth**.

### Surface waves

- The **body waves interact with the surface rocks** and generate a new set of waves called surface waves.

### Shadow Zones

Earthquake waves get recorded in seismographs located at far off locations. However, there exist some specific areas where the P and S waves are not reported. Such a zone is called the 'shadow zone'.

## China's Solar Power Station in Space

- China is planning to build a solar power station in space.
- China has started construction of an experimental base in the **western Chinese city Chongqing**.
- Initially, China plans to develop a smaller power station in the stratosphere between 2021 and 2025, a 1 megawatt-level solar facility in space by 2030, and eventually larger generators.
- China is also planning to build its **own space station by 2022**.
- The space station is named as **Tiangong**, or Heavenly Palace, which will have a core module and two other modules for experiments.
- The space station will be able to carry three people, with a designed life cycle of at least 10 years.
- The facility would be used for scientific research in a dozen areas including biology, physics, and material sciences.

### New-Universe Map

- The scientists have published a **new map of the night sky** and discovered hundreds of thousands of galaxies which were previously unknown.
- The discovery was made using the **Low-frequency Array (LOFAR) telescope**.
- LOFAR can detect light sources which optical instruments **cannot see using radio astronomy**.
- The discovery will shed new light on some of the Universe's secrets, including the physics of black holes and how clusters of galaxies evolve.
- **Radio Astronomy:** Radio astronomy allows scientists to detect radiation **produced when massive celestial objects interact**.

Note:



**LOFAR Telescope**

- The LOFAR telescope is made up of a network of radio antenna across seven countries in Europe, forming the equivalent of a 1,300-km diameter satellite dish.
- LOFAR is developed by a consortium of knowledge institutes, universities and industrial parties, led by ASTRON-Netherlands Institute for Radio Astronomy.

**Digital India Awards**

- The **National Informatics Centre (NIC)** to organize the **fifth edition** of Digital India Awards on February 22, 2019.
- The Digital India Awards recognize the digital presence and e-Governance efforts of various Government institutions across the country.
  - Central Government Ministries/Departments/ Offices/Institutions, State Government Departments/ Offices/Institutions, District Administrations and Indian Missions Abroad are eligible to apply for the Digital India Awards.
- The awards instituted in 2009 are one of a kind in India for honoring the efforts of different Government entities in the digital realm.
- Since its inception the Digital India Awards have seen four editions, beginning from 2010, and biennially being conferred in 2012, 2014 & 2016.

**National Portal of India**

- The Portal has been developed as a Mission Mode Project (MMP) under the National E-Governance Plan (NEGP) of the Government. The portal was launched in November 2005.
- It is designed, developed and hosted by the National Informatics Centre (NIC), a premier ICT organization of the Government of India under the aegis of the Ministry of Electronics & Information Technology.
- The objective behind the Portal is to provide a single window access to the information and services being provided by the Indian Government for citizens and other stakeholders.

**National Informatics Centre**

National Informatics Centre (NIC) is a premiere S&T institution of the Government of India, established in 1976, for providing e-Government / e-Governance Solutions adopting best practices, integrated services and global solutions in Government Sector.

**National e-Governance Plan (NeGP)**

- The Government approved the National e-Governance Plan (NeGP), comprising of 27 Mission Mode Projects and 8 components in 2006.
- In the year 2011, 4 projects - Health, Education, PDS and Posts were introduced to make the list of 27 MMPs to 31 Mission Mode Projects (MMPs).
- Within NeGP, "mission mode" implies that projects have clearly defined objectives, scopes, and implementation timelines and milestones, as well as measurable outcomes and service levels.
- The 31 mission mode projects (MMPs) are further classified as state, central or integrated projects. Each state government can also define five MMPs specific to its individual needs.

**BharatNet**

- Recently the **Digital Communications Commission (DCC)**, the inter-ministerial panel of the **Department of Telecommunications (DoT)**, has given in-principle nod for **monetisation of fibre assets of BharatNet**.
- **These assets** will be **offered to the private telcos** through auction, **lease for 20 years** or by outright sale.
- This comes against the backdrop of concerns over **poor utilization of digital infrastructure** that has been **created across more than 100,000 gram panchayats** in the country.
- Earlier, the Telecom Regulatory Authority of India (TRAI) had also urged the government to sell off these fibre assets to private players.
- **BharatNet** is a **flagship mission to connect 250,000 gram panchayats with broadband** being implemented by Bharat Broadband Network Ltd (BBNL), a special purpose vehicle set up under DoT in February 2012.
- National Optical Fibre Network (NOFN) which was launched in October, 2011 was renamed as Bharat Net Project in 2015.

**DNS Server to be Launched**

The government will launch a **public Domain Name Server (DNS)** aimed at providing a **faster and more secure browsing experience** for Internet users in the country, while ensuring that **citizens' data is stored locally**.

- The main objective of bringing country's own public DNS is to **ensure availability, particularly for smaller**

**Internet Service Providers (ISPs) who don't have credible DNS.**

- A user will be **free to choose any DNS** and they need **not compulsorily need to shift to India public DNS.**
- The DNS roll out will be **completed in the next four to six months and it will be executed by National Informatics Centre (NIC).**

#### Domain Name Server

- DNS is a system which translates the domain names entered in a browser to the Internet Protocol (IP) addresses required to access the respective sites. E.g.:
  - When one types a web address (say drishtiias.com), the Internet Service Provider views the DNS associated with the domain name, translates it into a machine friendly IP address (for example 296.199.224.70 is the IP for drishtiias.com) and directs the Internet connection to the correct website.
- It can also be termed as Internet's equivalent of a phone book.
- The Centre has also launched a **new email platform for all government employees** including those in states and Union Territories.
- The new platform is an **upgraded version with enhanced inbuilt security features** compared to the earlier created by the **National Informatics Centre (NIC)** and has a capability to host as many as 5 million users that can be scaled up further if needed.
- These initiatives are a part of the Government's initiatives for a new and robust platform in the wake of critical digital services being delivered online requiring enhanced security to discourage cyber-attacks and a quicker site loading time.

## Space Flight of First UAE Astronaut

- The **first astronaut from the United Arab Emirates (UAE)** will head to the **International Space Station (ISS)** via the **Russian Soyuz rocket** on **25<sup>th</sup> September, 2019.**
- After this UAE will join the list of **eighteen countries that have sent their people to ISS.**
- The **pioneering mission** to the ISS is part of the **UAE Astronaut Programme** that aims to fulfil the UAE's **aspirations** in taking part in **scientific missions** and **manned space exploration missions.**

- In 2018, UAE launched its **first locally made satellite KhalifaSat** from Japan.
  - It has planned a **Mars probe** named as **Hope Mars Mission**, for the next year.

#### International Space Station (ISS)

- ISS is a habitable artificial satellite - the single largest man-made structure in low earth orbit.
- It circles the Earth in roughly 92 minutes and completes 15.5 orbits per day.
- The ISS programme is a joint project between five participating space agencies: NASA (United States), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada) but its ownership and use has been established by intergovernmental treaties and agreements.
- Its first component was launched into orbit in 1998 and its development and assembly continues, with components scheduled for launch this year.
- It serves as a microgravity and space environment research laboratory in which crew members conduct experiments in biology, human biology, physics, astronomy, meteorology, and other fields.
- Continuous presence at ISS has resulted into the longest continuous human presence in the low earth orbit.
- It is expected to operate until 2030.

## Gynandromorphs

- According to Scientists, the **study of gynandromorphs** could offer clues as to **why some human diseases strike one gender more than the other.**
- **Gynander** or **gynandromorphs** are the **organisms** in which the **body consists of both male and female parts.**
- The term is derived from the **Greek words (gyne = woman; aner = man and morphe = form).** Thus, in these animals one part of the body shows female and the other part male features. The phenomenon has been **documented in birds, crustaceans and butterflies.**
- However, it still remains a mystery as to how gynandromorphs are born. **Gynandromorphs occur naturally, usually resulting from a random genetic error.**
- These instances of **split-sex animals and insects** could offer clues to why some human diseases strike one sex more than the other.

- Diseases like **multiple sclerosis**, **obesity**, metabolic syndrome, autoimmune disease, Alzheimer's, even ageing **differs by sex**. **Few decades back**, **scientists** did not think that **sex chromosomes** played any **role** in causing sex differences in these **diseases**.

## Climate-Smart Varieties of Rice

- Recently, the **National Rice Research Institute (NRRI)**, has released **four new rice varieties**, including **two high-protein** and **two climate-smart varieties**.
- The four new varieties comprises of:
  - **Two high-protein rice varieties (CR Dhan 310 and CR Dhan 311)** and
  - **Two climate-smart varieties (CR Dhan 801 and CR Dhan 802)**, which are **tolerant** to both **submergence** and **drought** and few biotic stresses to face the challenges of climate change.
- NRRI also developed a **Mobile App 'riceXpert'** to provide **information** to farmers in real time besides facilitating the **flow of information from scientist to farmers**.

### National Rice Research Institute (NRRI)

- NRRI is the nodal agency for planning, implementation and monitoring of the Bringing Green Revolution in Eastern India programme.

- It was established in 1946 and subsequently the administrative control of the Institute was transferred to the Indian Council of Agricultural Research (ICAR) in 1966.
- It is located at Cuttack in the state of Odisha.

## National Science Day

- **Every year 28<sup>th</sup> of February** is celebrated as **National Science Day in India**.
- On this day in **1928**, **Sir C V Raman** discovered a **phenomenon of scattering of photons** which was **later known as 'Raman Effect'** after his name.
- In 1930, he received **Nobel Prize** for this remarkable discovery. This was the **first Nobel Prize for India** in the **field of Science**.
- The theme for the **National Science Day 2019** is **"Science for people and people for science"**.

### Raman Effect

- Raman effect is the inelastic scattering of a photon by molecules which are excited to higher vibrational or rotational energy levels. It is also called Raman scattering.
- The Raman effect forms the basis for Raman spectroscopy which is used by chemists and physicists to gain information about materials.



# Environment and Ecology

## Highlights

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- Grid-Connected Rooftop Solar Programme (30)
- Great Barrier Reef (31)
- The First 'Climate Change Extinction' (32)
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- Stratocumulus Clouds (33)
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## Western Disturbance

- According to India Meteorological Department (IMD), this winter season's most powerful Western Disturbance (WD) is all set to hit north India.
- Already, six to seven WDs have affected north India in February 2019, while a few more western disturbances are expected by March 1.
- WD or the areas of **"disturbed air pressure"** traveling to India from the **west** are a **regular feature through the winter season**.
- These are basically **"extra-tropical storms"** or **low pressure systems** originating **outside the tropical regions**.
- Unlike a tropical cyclone which is formed in the lower atmosphere, a temperate cyclone (like WDs) is **usually formed in the upper atmosphere**. Therefore, they can **travel greater distances and can hence affect large areas of land** (sometimes can travel eastwards along the sub-Himalayan belt and reach up to Arunachal Pradesh).
- The factors that determine the strength of WDs are the **location and intensity of the jet stream** and the **amount of moisture being carried by the low-pressure system**.
- The **westerly jet streams (massive fast winds traversing the earth from west to east)** carry them.
- The rain and snow they bring in their wake to north India and neighbouring regions is formed from the **moisture they carry from the Atlantic Ocean or the Mediterranean Sea**.
- They help **sustain Himalayan glaciers** and the local ecology and **provide nourishment to winter**

**crops (Rabi Crops- wheat, barley, mustard, gram, lentil, etc.).**

- They are also **associated with cloudy skies** and an **increase in night-time temperatures** in parts of north India. They can also cause strong winds that help **disperse suspended pollutants** in the smog-filled cities of the region, including New Delhi.

## Grid-Connected Rooftop Solar Programme

The union cabinet has approved **Phase-II of Grid Connected Rooftop Solar Programme** for achieving a cumulative capacity of 40,000 MW from Rooftop Solar Projects by the year 2022

- Central Financial Assistance (CFA) under residential category will be provided for 4000 MW capacity and the same will be provided on the basis of benchmark cost or tender cost, whichever is lower.
- Central financial support will not be available for other categories i.e., institutional, educational, social, government, commercial, industrial, etc.
- **The increased role of Distribution Companies**
  - Under Phase-II Programme, performance-based incentives will be provided to DISCOMs based on capacity achieved in a financial year.
  - DISCOMs and its local offices shall be the nodal points for implementation of the programme.

### Benefits of Programme

- **Environment:** The Programmes will have a substantial environmental impact in terms of savings of CO<sub>2</sub>

Note:



emission. The addition of 38 GW solar rooftop plants under Phase-II by the year 2022 will result in a CO<sub>2</sub> emission reduction of about 45.6 tonnes per year.

- **Employment Generation:** The programme is likely to generate employment opportunity for skilled and unskilled workers for the addition of 38GW by the year 2022.

### Grid-Connected

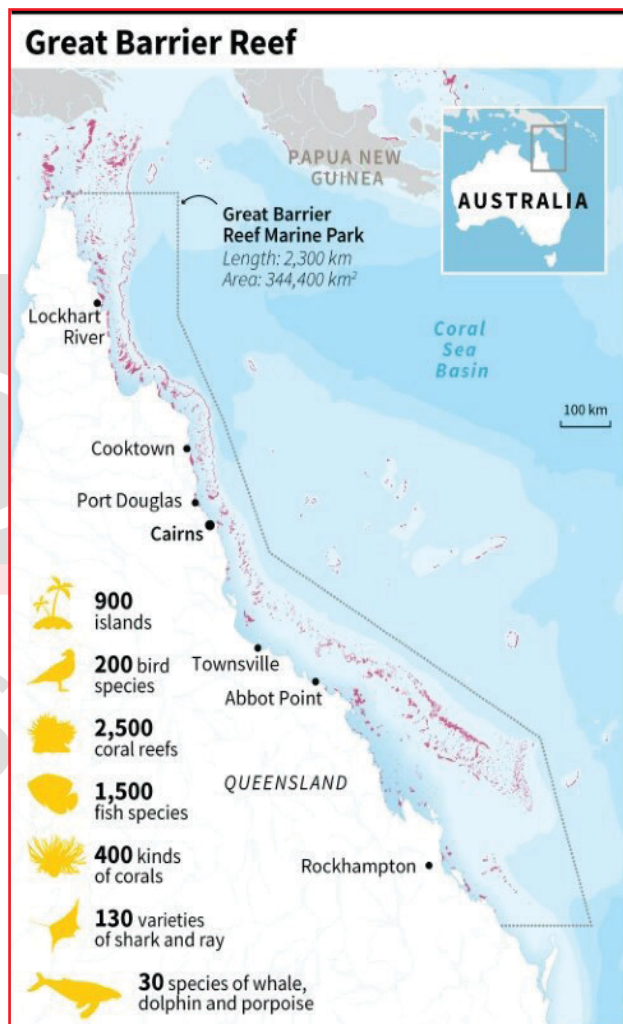
#### Rooftop Solar Programme

- In grid-connected rooftop or small SPV (Solar PhotoVoltaic) system, the DC power generated from the SPV panel is converted to AC power using the power conditioning unit and is fed to the grid.
- The major objective of the programme includes:
  - To promote the grid-connected SPV rooftop and small SPV power generating plants among the residential, community, institutional, industrial and commercial establishments.
  - To mitigate the dependence on fossil fuel based electricity generation and encourage environment-friendly Solar electricity generation.
  - To create an enabling environment for investment in the solar energy sector by the private sector, state government and the individuals.
  - To create an enabling environment for the supply of solar power from rooftop and small plants to the grid.

## Great Barrier Reef

- Recent runoff from floods in **northern Australia** is flowing onto parts of the Barrier Reef, **starving coral of light** and providing fodder for the **predatory crown-of-thorns starfish**.
- The predatory crown-of-thorns starfish, which eat coral, have also proliferated on the reef **due to pollution and agricultural runoff**.
- Further, these floods are **causing algae to grow** in some areas which provides a brilliant food source to **allow the population of starfish to thrive**.
- Coral reef and seagrass need **light to maintain their growth and health**. The floods have spilled sediment onto the reef which has reduced water quality and much-needed sunlight.

- It can be noted that the reef has already suffered from **back-to-back coral bleaching in 2016 and 2017**, where swathes have been killed by rising sea temperatures linked to climate change.
- The Great Barrier Reef is the **world's largest coral reef system** composed of over 2,900 individual reefs and 900 islands stretching for over 2,300 kilometres over an area of approximately 344,400 square kilometres (133,000 sq mi).



- The reef is located in the Coral Sea, off the coast of Queensland, Australia.
- The Great Barrier Reef can be seen from outer space and is the world's biggest single structure made by living organisms. This reef structure is composed of and **built by billions of tiny organisms, known as coral polyps**.
- It supports a wide diversity of life and was selected as a **World Heritage Site in 1981**.

Note:



## The First 'Climate Change Extinction'

Recently the government of **Australia** has **officially declared the first known extinction of a mammal** as a result of human-induced climate change.



- The **rat-like Bramble Cay melomys**, whose only known habitat was a **tiny sand island in the Torres Strait**, near the coast of Papua New Guinea (PNG) has not been spotted in a decade.
- The key factor in its disappearance was the **dramatic habitat loss because of repeated ocean inundation of the cay** (a small, low-elevation, sandy island on the surface of a coral reef).
- The Melomys, considered the **Great Barrier Reef's** only endemic mammal species, **was first discovered on the cay in 1845** by Europeans who shot them for sport.

## Punjab's Blackbuck Under Threat

- **Blackbuck** is fighting for its existence at the **Abohar Wildlife Sanctuary (AWS)** located in the Fazilka District of Punjab which is an open sanctuary, spread across private land in several villages.
- Blackbuck's status is '**Least Concern**' species (IUCN Red List) but it faces a severe threat from **stray cattle, attacks by stray dogs, barbed wire** and **habitat fragmentation** due to change in land use and cropping patterns over the past few years.

### The IUCN Red List

- The International Union for Conservation of Nature (IUCN)'s Red List of Threatened Species was established in 1964.
- It is a critical indicator of the health of the world's biodiversity.

- The blackbuck was notified as the **State animal of Punjab** in 1989 and its presence in the State is confined to AWS due to the unique habitat of semi-arid plains consisting agricultural fields, intermittent fallow-barren lands, scattered sand dunes, sand mounds, and ridges.

## Super-Efficient Air Conditioning programme launched by EESL

**Energy Efficiency Services Limited (EESL)**, a joint venture of four **National Public Sector Enterprises under Ministry of Power**, Government of India, launched its **Super-Efficient Air Conditioning Programme** for residential and institutional consumers.

- These Super-Efficient Air Conditioners are **40% more efficient than**, but priced comparably with, the **3-star ACs currently available in the market**.
- Besides promoting energy efficiency, the Super-Efficient AC programme will also help to **reduce the peak power demand** enabling energy security and sustainability.
- The programme directly addresses the prospect of the nearly **four-fold increase in energy consumption from buildings and cooling appliances in India by 2032**, while also enabling achievement of India's targets under the **Kigali and Paris Agreements**.

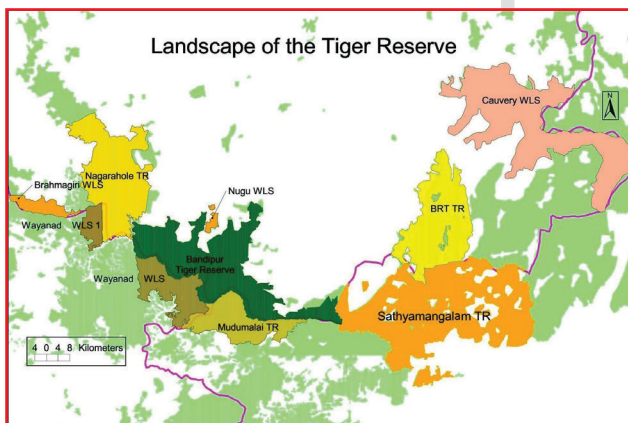
### Energy Efficiency Services Limited

- Energy Efficiency Services Limited (EESL), is a joint venture of four National Public Sector Enterprises—NTPC Limited, Power Finance Corporation Ltd (PFC), REC and POWERGRID, and was set up under Ministry of Power.
- EESL aims to create market access for efficient and transformative solutions that create a win win situation for every stakeholder.
- EESL has distributed over 29 crore LED bulbs and retrofitted 50 lakh LED streetlights across India through self-sustaining commercial models.
- It aims to explore new opportunities in overseas market for diversification of its portfolio.
  - EESL has begun its operations in UK, South Asia and South-East Asia.

- This programme is partially supported by a grant from the **Global Environment Facility (GEF)**.
  - Further, **Asian Development Bank (ADB)** is providing necessary grant support and loan while **United Nations Environment (UNEP)** is providing technical assistance support to the Super-Efficient AC programme.

## Bandipur National Park

- Recently, **NASA's Fire Information for Resource Management System (NASA-FIRMS)** has detected 32 fire incidents in **Himavad Gopalaswamy Betta** range of Bandipur National Park.
- **Bandipur National Park** is located between where the **Deccan Plateau** meets the **Western Ghats** in **Karnataka**.
- It is **part** of the **Nilgiri Biosphere Reserve** with the **adjoining Nagarhole National Park, Mudumalai National Park, and Wayanad Wildlife Sanctuary**.
- It has a **variety of biomes** including dry **deciduous forests** **moist deciduous forests** and **shrublands**.
- The park is **flanked by the Kabini river** in the north and the **Moyar river** in the south. The **Nugu river** runs through the park.



### NASA's Fire Information for Resource Management System (FIRMS)

FIRMS distributes Near-Real-Time (NRT) active fire data within 3 hours of satellite overpass from NASA's Moderate Resolution Imaging Spectroradiometer (MODIS) and NASA's Visible Infrared Imaging Radiometer Suite (VIIRS).

## Stratocumulus Clouds

- A recent study has **warned** that **increasing Carbon Dioxide levels** can **warm the Earth dramatically** and can lead to **hothouse conditions**.
- The **Stratocumulus clouds** that **reflects sunlight back into space** could break up and **vanish** if **CO<sub>2</sub>** in the **atmosphere triples**.
- Stratocumulus clouds cover about **20% of subtropical oceans** and **when they disappear**, Earth **warms** dramatically, by about **eight degrees**. This is in addition to the global warming that comes from enhanced greenhouse concentrations alone.
- A temperature increase of that magnitude **would melt polar ice and lift sea levels dozens of meters**.

### Types of Clouds

- According to their height, expanse, density and transparency or opaqueness clouds are grouped under four types:
  - **Cirrus:** Cirrus clouds are formed at high altitudes (8,000 - 12,000m). They are thin and detached clouds having a feathery appearance. They are always white in colour.
  - **Cumulus:** Cumulus clouds look like cotton wool. They are formed at a height of 4,000 - 7,000 m. They exist in patches and can be seen scattered here and there. They have a flat base.
  - **Stratus:** These are layered clouds covering large portions of the sky. These clouds are generally formed either due to loss of heat or due to the mixing of air masses with different temperatures.
  - **Nimbus:** Nimbus clouds are black or dark gray. They form at middle levels or very near to the surface of the earth. These are extremely dense and opaque to the rays of the sun.
- A combination of these four basic types can give rise to the following types of clouds:
  - High clouds – cirrus, cirrostratus, cirrocumulus;
  - Middle clouds – altostratus and altocumulus;
  - Low clouds – stratocumulus and nimbostratus and clouds with extensive vertical development – cumulus and cumulonimbus.

Note:

## Looming Threat to Food Security

A recent report titled “State of the World’s Biodiversity for Food and Agriculture” has warned of a **growing threat to global food security** as a result of **severe loss of biodiversity** — that is, **plants, animals and microorganisms** that **contribute to food production**.

- It is **released** by the **Food and Agriculture Organisation (FAO)** of the United Nations.

### Findings

- **India** was placed **among** the countries with a **very high threat to soil biodiversity** on an index that was created by combining eight stressors of soil biodiversity, which include loss of **above-ground diversity, overgrazing**, among others.
  - Soil biota is critical for release of nutrients to the crops as well as organic matter formation. **With climate change soil biota** will be impacted even more and there will be further **loss of nutrients** causing collapse of agriculture in some places.
- The global map shows almost all of India falls in the highly stressed zone along with some parts of Africa, Americas and Asia.
- The report also highlights the loss of **biological control agents (BCAs)** — **insects and pests** — as an important factor in declining biodiversity.
  - India has noted a decline of **parasitoid wasps and parasitoid flies**, which play an important role in biological pest control.
  - **Bangladesh** has reported a **decline in spiders and predatory insects in fields**.
  - **Nepal** has mentioned a general **decline** in the diversity of the **natural enemies of pests**.
  - The United States has reported a **decline of almost 40% in its grassland bird** index between 1968 and 2014.
- **On climate change**, it notes that **extreme weather events** are causing major disruptions to species distribution and yields.
  - For example, **rising temperatures in the tropics** are **pushing coffee growing** towards **higher elevations** in mountainous areas.
  - **Frequent cold or windy days** in spring can also **disrupt pollination process**.

- **Egypt** has reported that **rising temperatures** will lead to **northwards shifts in the range of fish species**, with **impacts on fishery production**.

### Background

- **Biodiversity in agriculture** is crucial to **adapting to climate change**.
  - E.g.: **Livestock diversity** is a **buffer against crop failure**.
    - In India, **Small land holders and landless** rural dwellers manage **75% of livestock resources** and obtain nearly **half of their income** from them.
- Risk can be reduced, for example, by **raising species, breeds or varieties that are well adapted to coping with shocks** such as **droughts or disease outbreaks** or by raising a number of different types of crops, livestock or aquatic organisms so as to increase the likelihood that at least some will survive such events.
- **Before the Green Revolution [of the 1960s], India** was **growing a large biodiversity of crops** on a landscape level. There were **different cropping and tree systems** at a farm level. **Even if there was a failure, all crops would not be affected at the same time**.
- However, **specialisation of crops** for high yields has made **farmers vulnerable**. Crop failures are common when there is natural disaster or pest attack.

### Food and Agriculture Organization (FAO)

- FAO is an agency of the United Nations that leads international efforts to defeat hunger.
- It is also a source of knowledge and information, and helps developing countries and countries in transition modernize and improve agriculture, forestry and fisheries practices, ensuring good nutrition and food security for all.
- Formation: 16 October 1945, in Quebec City, Canada
- Headquarters: Rome, Italy
- Every year, World Food Day (Theme for 2018-Zero Hunger) is celebrated on October 16 to commemorate the founding of the Food and Agriculture Organisation (FAO) of United Nations in the year 1945.
- The Sustainable Development Goal (SDG-2) also aims to “End hunger, achieve food security and improved nutrition and promote sustainable agriculture” by 2030.





# Art & Culture

## Highlights

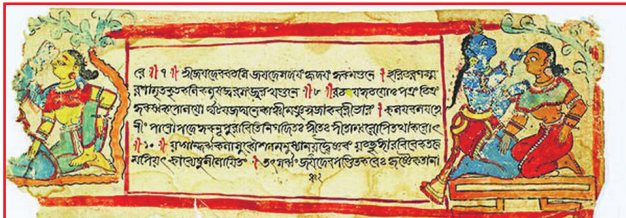
- Birth Anniversary of Guru Ravidas (35)
- Attukal Pongala (35)
- 18th Century Copy of Gita Govinda (35)
- Tagore Cultural Harmony Award (36)
- National War Memorial (36)
- Angkor, Cambodia, a City of Towering Temples in the Forest (37)
- Apatani Tribes in Arunachal Pradesh (37)

## Birth Anniversary of Guru Ravidas

- Recently, birth anniversary of **Guru Ravidas** was observed in the country.
- Ravidas Jayanti is celebrated on Magh Purnima, the full moon day in the month of Magh according to the Hindu lunar calendar.
- Guru Ravidas was a 14<sup>th</sup> century saint and reformer of the **Bhakti movement** in North India.
- It is believed that he was born in Varanasi in a cobbler's family.
- He gained prominence due to his belief in one God and his unbiased religious poems.
- He dedicated his whole life to the abolition of the caste system and openly despised the notion of a Brahminical society.
- His devotional songs made an instant impact on the Bhakti Movement and around **41 of his poems** were included in '**Guru Granth Sahib**', the religious text of the Sikhs.

## Attukal Pongala

- The Attukal Pongala held in **Attukal Temple, Thiruvananthapuram, Kerala** and is the largest congregation of women for a festival in the world.



- Pongala, which means 'to boil over', is the ritual in which women prepare sweet payasam (a pudding made from rice, jaggery, coconut and plantains cooked together) and offer it to the Goddess or 'Bhagavathy'.
- The ritual can **only be performed by women** and the streets of the city are known to be jam-packed with faithful devotees during the time of the festival.
- The Goddess-fondly referred to as 'Attukalamma' is said to be appeased by this ritual.
- The Attukal Pongala entered the **Guinness Book of Records as the largest gathering of women in 2009.**

## 18<sup>th</sup> Century Copy of Gita Govinda

- **Victoria Memorial Hall in Kolkata** has put on display one of its oldest manuscripts, a **handwritten 18<sup>th</sup>-century copy of Gita Govinda**, to mark the **International Mother Language Day on 21 February**.
- Gita Govinda, an important text of the Bhakti Movement, **depicts the relationship between Lord Krishna and his consort Radha**.
- **Jayadeva** (12 century A.D.) is the last great name in **Sanskrit poetry**, who wrote the **lyric poetry** Gitagovinda to **describe every phase of love between Krishna and Radha – longing, jealousy, hope, disappointment, anger, reconciliation and fruition – in picturesque lyrical language**.
- **The songs describe the beauty of nature**, which plays a prominent part in the description of human love.
- Like many medieval texts, Gita Govinda was translated for centuries. These manuscripts were copied by hand in **beautiful handwriting much before the advent of the printing press**.

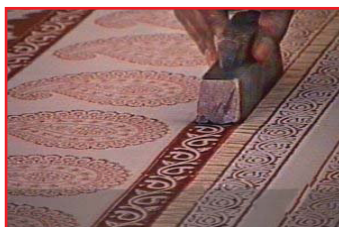
- The form of imagery in the illustrated texts is very similar to the **Bengal Pat Paintings** and the **Bengal School of Art**, which evolved a century after the manuscripts were written.

### Bengal Pat Paintings

- Pata Painting (pattachitra) is a traditional art form characterised by religious and social motifs and imageries.
- Pata is a Bangla word evolved from the Sanskrit patta meaning cloth.
- An artwork drawn on a piece of silk or cotton or any other fabric portraying traditional motifs of religion and society is called pat art.
- Pattachitras are made in two formats: the vertically scrolled paintings and the horizontally scrolled ones, both referred to as Jodano or Gutano Pata and the smaller square or rectangular formats, known as Chouko Pata. Chouko Pata are painted on square pata or canvas.
- An urban incarnation of the Chouko Pata in nineteenth century Kolkata (in the neighbourhood of the famous Kali temple at Kalighat) was the Kalighat Pata or Kalighat paintings.
  - Kalighat Pata is an interesting example of how a rural folk art form reinvents itself in an urban milieu.
- As a folk art it makes an important element of Bengal cultural heritage.

### Bagru Block Printing

- **Union Council Minister Smriti Irani** inaugurated the '**Titanwala Museum**' in Bagru village of **Rajasthan** that showcases the **Chippa community's** (literally meaning people who stamp or print) **Hand-block printing**.
- **Bagru printing** is one of the **traditional techniques of printing with natural colour followed by the chippas** of a remote place of Rajasthan.
- Bagru printers use a technique called dabu in which a mixture of **black clay, acacia gum, spoiled wheat flour, limestone** is printed onto the fabric. The fabric can then be dyed and left in the sun to dry.



## Tagore Cultural Harmony Award

- Recently, the President of India has presented the Tagore Award for Cultural Harmony.
- The award was given to **Shri Rajkumar Singhajit Singh (scholar of Manipuri dance)**, **Chhayanaout (a cultural organization of Bangladesh)** and **Shri Ram Sutar Vanji (a renowned sculptor)** for the years 2014, 2015 & 2016 respectively.
- The Tagore Award for Cultural Harmony was **instituted by the Government of India from 2012 recognizing the contributions made by Rabindranath Tagore to humanity** at large with his works and ideas, as part of the Commemoration of his 150<sup>th</sup> Birth Anniversary in 2012, for promoting values of Cultural Harmony.
- The Award is **open to all persons regardless of nationality**, race, language, caste, creed or gender.

## National War Memorial

- Recently, Prime Minister has **inaugurated National War Memorial in New Delhi**.
- The memorial is located at the **India Gate complex in New Delhi**.
- The **layout of the structure comprises** four concentric circles, named:
  - the "**Amar Chakra**" or Circle of Immortality,
  - the "**Veerta Chakra**" or Circle of Bravery,
  - the "**Tyag Chakra**" or Circle of Sacrifice and
  - the "**Rakshak Chakra**" or Circle of Protection.
- The busts of **21 awardees of the Param Veer Chakra** are also installed at the Param Yoddha Sthal.
- The **National War Memorial also commemorates the soldiers** who participated and made supreme sacrifices in **United Nations peace-keeping missions, Humanitarian Assistance Disaster Relief (HADR) operations, counterinsurgency operations and Low-Intensity Conflict Operations (LICO)**.
- Since Independence, more than **25,000 personnel** have been martyred during the **India-China War in 1962, the Indo-Pakistan wars in 1947, 1965 and 1971, the Indian Peace Keeping Force operations in Sri Lanka and the conflict in Kargil in 1999**.
- The **proposal** for a National War Memorial was first **made in the 1960s**.

Note:



- In 2015, the cabinet gave in-principle approval for war memorial construction at India Gate Complex, New Delhi.
- In 2016, after an international competition to design the Memorial, **Chennai-based architecture company WeBe Design Lab** was selected.



## Angkor, Cambodia, a City of Towering Temples in the Forest

### Angkor City in Cambodia

- A study has suggested that the **Angkor, the ancient capital of the Khmer empire**, appears to have **suffered a gradual decline** rather than a catastrophic collapse.
- Previously many archaeologists and historians have said that the **abandonment of Angkor in 15<sup>th</sup>-century, was due to 1431 invasion by the Thai Kingdom from Ayutthaya.**
- The city of Angkor is also home to **UNESCO World Heritage Site, Angkor Vat.**
- **Angkor Archeological Park**
  - Angkor is one of the most important archaeological sites in South-East Asia.

- Stretching over some 400 km<sup>2</sup>, including forested area, **Angkor Archaeological Park contains the magnificent remains of the different capitals of the Khmer Empire, from the 9<sup>th</sup> to the 15<sup>th</sup> century.**
- They include the famous **Temple of Angkor Wat and, at Angkor Thom, the Bayon Temple** with its countless sculptural decorations.

### Angkor Vat Temple

- Angkor Wat is a temple complex in Cambodia and one of the largest religious monuments in the world.
- It was originally constructed as a Hindu temple dedicated to the god Vishnu for the Khmer Empire, it was gradually transformed into a Buddhist temple towards the end of the 12<sup>th</sup> century.
- It was built by the Khmer King Suryavarman II in the early 12<sup>th</sup> century in Yaśodharapura (present-day Angkor), the capital of the Khmer Empire, as his state temple and eventual mausoleum.

## Apatani Tribes in Arunachal Pradesh

- Apatani are a **tribal group** of people living in the **Ziro valley in Arunachal Pradesh.**
- They speak a **local language** called **Tani** and **worship the sun and the moon.**
- They follow a **sustainable social forestry system.**
- They celebrate major festivals – **Dree** with prayers for a **bumper harvest and prosperity** of all humankind and **Myoko** to **celebrate Friendship.**
- The Apatanis **practice aquaculture along with rice farming** on their plots. **Rice-fish culture** in the valley is a unique practice in the state, where two crops of **rice** (Mipya and Emoh) and one crop of **fish** (Ngihi) are **raised together.**



Note:

# Social Issues

## Highlights

- Women Safety Initiatives (38)
- New Initiative SWAYATT (38)
- Operation Digital Board (39)
- International Conference on the Vision Zero (39)
- Forest Dwellers Face Eviction (40)
- Global Digital Health Partnership Summit (41)
- Global Leaders Adopt 'Delhi Declaration' on Digital Health (41)
- SHREYAS Scheme (41)
- Indian Sign Language Dictionary (42)

## Women Safety Initiatives

**Ministry of Women and Child Development** has launched three important initiatives on women's safety.

- The Ministry of Women and Child Development has conceptualized these initiatives to promote the safety of women in their living spaces, working spaces, and public spaces.

### Panic Button

- The Ministry of Telecom mandated a physical panic button on all mobile phones in the country in 2015.
- It was noted that such a panic button must be backed by an emergency response mechanism through the local police when the panic button message would alert the specified family members etc. of a woman in distress situation.
- Now a dedicated Emergency Response Centre has been established through which the entire system will be operated.

### SCIM portal under Safe City Project

- An online Safe City Implementation Monitoring (SCIM) portal has been developed by The Ministry of Home Affairs. SCIM will facilitate online tracking of deployment of assets and infrastructure created under the Safe City projects.
- The Government has identified eight cities for implementation of Safe City project. The projects include creation on ground assets & resources and behaviour change programs for safety of women.

### DNA Analysis Facilities in States

- Timely testing of DNA samples from the crime scene is the quickest process of obtaining forensic evidence in cases of sexual assault on women.
- Due to delay in cases of sexual assault investigations, dedicated DNA analysis facilities will be created in the forensic science laboratories on a mission mode.

## New Initiative SWAYATT

Recently the Union Minister of Commerce & Industry has launched an initiative termed SWAYATT.

- SWAYATT is an initiative to promote **Start-ups, Women and Youth Advantage through e-Transactions (SWAYATT)** on **Government e Marketplace (GeM)**.
- This will bring together the key stakeholders within the Indian entrepreneurial ecosystem to Government e-Marketplace the national procurement portal.
- The government also launched **GeM Start-up Runway- an initiative of GeM in association with Start -up India to facilitate Start-ups registered with Start -up India to access the public procurement market** and sell innovative products and services to government buyers.
- GeM Start-up Runway seeks to support **technology development, spur research and innovation** by ensuring a conducive policy environment for industrial diversification and value addition to commodities.
- GeM Start-up Runway will address goals and objectives under **United Nations Sustainable Development Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.**

Note:

### Government e-Marketplace (GeM)

- GeM is an **Online Market platform** was setup in 2016 to facilitate procurement of goods and services by the government ministries, departments, public sector undertakings (PSU) etc.
- It has been envisaged as **National Procurement Portal of India**.
- It has been developed by **Directorate General of Supplies and Disposals (Ministry of Commerce and Industry)** with technical support of **National e-governance Division (Ministry of Electronic and Information Technology)**.
- It functions under **Directorate General of Supplies and Disposals (DGS&D), Ministry of Commerce and Industry**.
- GeM is a completely **paperless, cashless and system driven e-market place** that enables procurement of common use goods and services with minimal human interface.

### Operation Digital Board

The **Ministry of Human Resource Development (MHRD)** has launched **Operation Digital Board (ODB)** to leverage technology in order to boost **quality education in the country**.

- ODB aims to have digital and interactive boards in every classroom, which is on the **lines of Operation Blackboard** which was **started in 1987** to supply the **bare minimum crucial facilities to all primary schools in the country**.

#### Features

- The digital board will be introduced all over the country in **government and government aided schools** from **class 9<sup>th</sup> onwards as well as in higher education institutions**, from the coming session of 2019 itself.
- **University Grants Commission (UGC)** will be the implementing agency for ODB in Higher Education Institutions (HEIs). It will be implemented as a Central scheme, as a loan from **Higher Education Financing Agency (HEFA)**.
- At school level, Digital / SMART board will be provided in all Government and Government – aided schools by the Central Government in collaboration with the State and UTs.

- It aims at **converting a classroom into a digital classroom**.
- Ensure **availability of e-resources** at any time and at any place to students.
- Help in provisioning of **personalised adaptive learning** as well as **Intelligent Tutoring** by exploiting emerging technologies like **Machine Learning, Artificial Intelligence & Data Analytics**.

#### Higher Education Financing Agency

- Higher Education Financing Agency (HEFA) was incorporated in 2017 as a joint venture of MHRD and Canara Bank with an agreed equity participation in the ratio of 91% and 9% respectively.
- Its objective is to finance the creation of capital assets in premier educational institutions in India.
- It is registered under Section 8 [ Not-for-profit] under the Companies Act 2013 as a Union Govt company and as Non-deposit taking NBFC-ND with RBI.
- Recently, HEFA's scope has been expanded to cover school education, educational institutes under Ministry of Health, etc.

#### Benefits

- It will help in **improving the quality of learning** by providing adequate content of high quality which can be taken to every classroom.
- Such technology enabled learning can also **inspire teachers across the country** to raise their own standards of teaching.
- Apart from this, **other initiatives** like e-Pathshala, DIKSHA, National Repository of Open Educational Resources (NROER), National Programme on Technology Enhanced Learning (NPTEL), e-PG Pathshala, SWAYAM and SWAYAM-Prabha DTH Channels etc. have also provided adequate content of high quality which can be taken to every classroom, and thereby facilitating blended learning and flip class learning.

### International Conference on the Vision Zero

- **International Conference** on the 'Vision Zero' and its relevance to **Occupational Safety and Health (OSH)**, is being held from 15<sup>th</sup> to 17<sup>th</sup>, March 2017 in **New Delhi**.

- It is organized by **Directorate General Factory Advice and Labour Institutes (DGFASLI)**, **Ministry of Labour and Employment** and **German Social Accident Insurance (DGUV)**, **Germany** in association with International Social Security Association - Manufacturing, Construction and Mining.
- 'Vision Zero' is based on the belief that all accidents, diseases and harm at work are preventable by promoting the three core values of safety, health and wellbeing.
- The recommendations of the conference would be vital in achieving sustainable economic progress, in consonance with the changing requirements of safety, health and environment aspects in the country.

## Forest Dwellers Face Eviction

The Supreme Court has ordered the **forced eviction of more than 1,000,000 tribal and other forest-dwelling households** from forestlands across **16 states** after their claim as forest dwellers have been **rejected under the Forest Rights Act of 2006**.

- A three-judge Bench of **Supreme Court** has **ordered the Chief Secretaries of many of these States to evict those whose claims as forest dwellers have been finally rejected under the law**.

### Background

- **Forest Rights Act**, passed in **2006**, requires the **government to give back rights over traditional forestlands to tribals and other forest-dwellers**.
- **Tribals and other forest-dwellers** are **permitted to lay claims** before authorities through a laid down process in the Act.
- These authorities, **based on criteria set in the law and regulations**, are required to either **approve or reject the claims** with several layers of appeals being available to claimants.
- The court's orders came while **hearing a case filed by wildlife groups** and retired forest officers in 2009 raising a legal challenge on the constitutional validity of the law.
- The petition, besides challenging the constitutional validity of the law, also demanded that those whose claims had been rejected be evicted as 'encroachers'.
- Hearing the case, back in March 2018 the **Supreme Court** had asked **states to report on the status of**

**eviction** of those claimants whose claims have been rejected and the total extent of the areas from which they have been evicted.

### Concerns

- **Several activists** have pointed to the **inaction from the forest department officials in granting forest rights** to these tribal and forest dwellers, issuing land rights documents and other identity cards. For example,
  - According to activists the tribal settlements in the **Eastern Ghats** have not been granted forest rights patta due to the **apathy from forest department officials** and hence face the risk of eviction.
- Tribals and other forest-dwellers have been living in the forest area for centuries. Their livelihood depends on non-timber forest products they harvest, such as food. Hence, the forest department must ensure that they get community rights documents.

### Forest Rights Act, 2006

- The Forest Rights Act (FRA) was introduced to address the "historic injustice" and decades of rights denied to the tribals and forest dwellers due to the colonial forest laws in the country.
- FRA recognises that forest dwelling communities have three kinds of rights:
  - Individual rights (occupation and cultivation);
  - Community rights (grazing, fuel-wood collection, fishing, ownership and disposal of non-timber forest produce ); and
  - Rights to protect, regenerate, conserve and manage community forest resource (CFR) areas.
- The recognition of CFR rights is the most empowering provision of the Act because it restores Gram Sabha's control over governance of forests from the forest department, thereby democratising the country's colonial forest governance as a whole.
- The Act has given executive and judicial power to Grama Sabhas in recognising the rights of the tribals. There are sabhas (committees) in the ward level that is the primary tier to recognise and recommend the rights of tribal hamlets. Then there are Sub-Divisional Level Committees (SDLC), followed by District-Level Committees (DLCs).



## Global Digital Health Partnership Summit

- **Union Minister of Health and Family Welfare** has inaugurated the '**4<sup>th</sup> Global Digital Health Partnership Summit**' in **New Delhi**.
- The **global intergovernmental meeting on digital health** is being hosted by the Ministry of Health and Family Welfare in collaboration with **World Health Organization (WHO)** and the **Global Digital Health Partnership (GDHP)**.

### Global Digital Health Partnership (GDHP)

- The GDHP is an international collaboration of governments, government agencies and multinational organisations dedicated to improving the health and well-being of their citizens through the best use of evidence-based digital technologies.
- It was established in February 2018, to provide an opportunity for transformational engagement between its participants.
- Australia was the host country for the inaugural summit in 2018.

## Global Leaders Adopt 'Delhi Declaration' on Digital Health

Recently, as part of the **high-level summit**, the ministers and delegation adopted the **Delhi Declaration on digital health for sustainable development**.

- It was adopted at the concluding session of the '**4<sup>th</sup> Global Digital Health Partnership Summit**'.
- The declaration calls for **World Health Organization's (WHO's) leadership** in digital health and for it to **establish a specific mechanism** to centrally coordinate digital health to assist its Member States.
- An example of application of Digital Health for sustainable development is **telemedicine, remote care and mobile health delivering care in people's homes, instead of in hospitals and clinics**.
- The **global intergovernmental meeting on digital health** was hosted by the **Ministry of Health and Family Welfare** in collaboration with **World Health Organization (WHO)** and the **Global Digital Health Partnership (GDHP)**.

### World Health Organisation (WHO)

- The WHO is a specialized agency of the United Nations that is concerned with international public health.
- It is headquartered in Geneva, Switzerland and the WHO's constitution came into force on April 7, 1948—a date now celebrated every year as World Health Day.
- The World Health Assembly is the supreme decision-making body in WHO. The assembly meets annually and is attended by delegations from 194 member states.

## SHREYAS Scheme

Recently, the **Ministry of Human Resource Development** has launched the "**Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)**".

- The objective of scheme is to provide **industry apprenticeship opportunities** to the **general graduates** exiting in April 2019 through the **National Apprenticeship Promotion Scheme (NAPS)**
- It aims to **enhance the employability of Indian youth** by providing '**on the job work exposure**' and earning of stipend.
- The scheme is for students in **degree courses, primarily non-technical**, to introduce employable skills into their learning, promote apprenticeship as integral to education.

### National Apprenticeship Promotion Scheme (NAPS)

- NAPS was launched on 19 August 2016 to promote apprenticeship training and increase the engagement of apprentices.
- It has replaced Apprentice Protsahan Yojna (APY).
- The scheme has the following two components:
  - Reimbursement of 25% of prescribed stipend subject to a maximum of ₹1500/- per month per apprentice by the Government of India to all employers who engage apprentices.
  - Reimbursement of cost of basic training ( upto a limit of ₹7500/- for a maximum of 500 hours/3 months) by the Government of India to Basic Training Providers (BTPs) in respect of apprentices who come directly for apprenticeship training without any formal training.

- **SHREYAS portal** will enable educational institutions and industry to log in and provide their respective demand and supply of apprenticeship. The matching of students with apprenticeship avenues will take place as per pre-specified eligibility criteria.
- These courses will be available to them from **Academic year April-May, 2019**. More than **40 higher educational institutions have already been tied up** for taking up embedded apprenticeship courses.

The scheme would be operationalised by coordination of **Ministry of Skills Development and Entrepreneurship (MSDE)** and the **Ministry of Labour**.

### Objectives of the Scheme

- To improve employability of students by introducing employment relevance into the learning process of the higher education system.
- To forge a **close functional link between education and industry/service sectors on a sustainable basis**.
- To provide **skills which are in demand**, to the students in a dynamic manner.
- To establish an **'earn while you learn' system** into higher education.
- To help business/industry in securing **good quality manpower**.
- To **link student community with employment facilitating efforts** of the Government.

### Stakeholders

- **Institutions:** The higher education institutions would explain the scheme along with **various options to the students who are in the final year**, and elicit their interest in participation.
- **Sector Skill Councils (SSCs):** SSCs would **identify industries for apprenticeship**, and would **also conduct assessment leading to certification**. Whereas the certification is not a guarantee for placement, it is expected to vastly enhance a candidate's choice of securing employment.
- **Ministry of Skills Development and Entrepreneurship (MSDE):** MSDE would not only **monitor** the programme, progress of the apprentices, but would **finance** the programme by disbursing the claims from the business enterprises towards stipend reimbursement as per the NAPS.

### Sector Skill Councils (SSCs)

- SSCs are set up as autonomous industry-led bodies by National Skill Development Corporation (NSDC), which are responsible for the defining the skilling needs, concept, processes, certification, and accreditation of their respective industry sectors in accordance with National Skill Qualification Framework.
  - They create Occupational Standards and Qualification bodies, develop competency framework, conduct Train the Trainer Programs, conduct skill gap studies and Assess and Certify trainees on the curriculum aligned to National Occupational Standards developed by them.
- The ongoing **efforts of the SSCs** would be **monitored by MSDE**, which would also **periodically introduce new SSCs into the SHREYAS fold**. The entire programme would progress with dynamic interface & information sharing between MHRD and MSDE.

## Indian Sign Language Dictionary

- Recently, the government has released **second edition of the Indian Sign Language dictionary**, which aims to give **deaf people** the constitutional **right to speech and opportunity of freedom of expression (Article 19)** and also **bringing them into the mainstream of the society**.
- The **first edition of the dictionary** was launched with **3,000 words on March 23, 2018**.
- With the **second edition**, the dictionary **now comprises 6,000 Hindi and English words** and their

### Indian Sign Language Research and Training Centre (ISLRTC)

- The ISLRTC is an autonomous organization under the administrative and financial control of Department of Empowerment of Persons with Disabilities (Divyangjan), Ministry of Social Justice & Empowerment, Government of India.
- It was established on **26<sup>th</sup> September, 2015** in accordance with the provisions of Societies Registration Act, 1860.

corresponding **graphic representation** under the **categories of academic, legal, medical, technical and everyday terms.**

- The dictionary has been developed by the **Indian Sign Language Research and Training Centre (ISLRTC)**, under the **Department of Empowerment of Persons**

**with Disabilities (DEPwD), Ministry of Social Justice and Empowerment.**

- According to **Census 2011**, there are **50.71 lakh hearing impaired persons** in India and most of them **use Indian Sign Language to communicate.**



# Security

## Highlights

- Regional Maritime-Safety Conference (44)
- Exercise Sampriti 2019 (44)
- Quick Reaction Surface-to-Air Missile (44)

## Regional Maritime-Safety Conference

- 'Regional Maritime-Safety Conference' (RMSS) was organised for the **first time in India (Mumbai)** by the **National Maritime Foundation (NMF)** in coordination with the **Ministry of Shipping** and the **Ministry of External Affairs** to focus on security and trade.

### NOTE:

- The National Maritime Foundation (NMF), New Delhi, was **established in 2005** as the nation's **first maritime think-tank** for conducting independent and policy-relevant research on 'matters maritime'.
- Safeguarding the shores and promoting **India-Asean trade** along the sea route is the theme for RMSS.
- The volume of maritime traffic within the India-ASEAN sub-region is very dense. The Straits of Malacca-and-Singapore alone account for about 90,000 ship movements every year. So, security strengthening could help in boosting trade and maritime connectivity.
- Today, over 80% of global trade by volume and 70% by value is conducted via the maritime space. In the Indian context, 95% of trade by volume and 77% by value flows on the sea.
- Maritime transport provide cost effectiveness, which is why it is the preferred choice for transportation of bulk commodities such as oil and coal, among others.

## Exercise Sampriti 2019

- The **8<sup>th</sup> edition of India-Bangladesh** joint military exercise, '**Exercise Sampriti 2019**' will be conducted at **Tangail, Bangladesh** from March 2-15.
- The exercise will involve tactical level operations in a **counter insurgency and counter terrorism environment** under the **mandate of the United Nations**.

- The Exercise Sampriti is hosted alternately by both the countries. The **7<sup>th</sup> edition was held in India at Mizoram**.
- The exercise aims to **build, strengthen and promote positive relations** between the **Armies of India and Bangladesh**.

## Quick Reaction Surface-to-Air Missile

- Defence Research and Development Organisation (DRDO) test fired **indigenously** developed **Quick Reach Surface-to-Air missiles (QRSAM)** from **Integrated Test Range (ITR) Chandipur**, in Odisha.
- QRSAM is a state-of-the-art missile with **all weather weapon system**, a strike **range of 30 km** and **capable of engaging multiple targets**.
- The test flights **successfully demonstrated the robust Control, Aerodynamics, Propulsion, Structural performance and high manoeuvring capabilities** thus proving the design configuration.

### Defence Research & Development Organisation (DRDO)

- DRDO was formed in 1958 from the amalgamation of the then already functioning Technical Development Establishment (TDEs) of the Indian Army and the Directorate of Technical Development & Production (DTDP) with the Defence Science Organisation (DSO).
- It works under Department of Defence Research and Development of Ministry of Defence.
- It is dedicatedly working towards enhancing self-reliance in Defence Systems and undertakes design & development leading to production of world class weapon systems and equipment in accordance with the expressed needs and the qualitative requirements laid down by the three services.





# Miscellaneous

## Highlights

- Academy Award-2019 (45)
- Khelo India App (45)
- VIVID 2019 (46)

## Academy Award-2019

- Recently, the **91st Academy Awards** ceremony, presented by the **Academy of Motion Picture Arts and Sciences (AMPAS)**, honored the best films of 2018.
- It took place at the Dolby Theatre in **Hollywood, Los Angeles, California**.



## Khelo India App

- Khelo India app helps **create awareness about sports and fitness**, especially among youngsters.
- The emphasis is on **developing the sporting ecosystem in India** and turning the country into a **global sporting superpower** in the years to come.
- Khelo India App is **developed by the Sports Authority of India**.

- The App has **three features** which will help to **make it convenient for youngsters to take up sport, identify potential champions among children, across the country**.
- The **first section of App** gives information about the **basic rules and regulations of 18 sports disciplines**.
- Its **second section** includes data of **sporting facilities across the country**.
- The third section has **eight tests** which can be taken to **ascertain a young athlete's level of fitness**.

### Sports Authority of India (SAI)

- The SAI was setup in 1984 as a Society registered under Societies Act, 1860 by the Department of Sports of Ministry of Youth Affairs And Sports.
- The objective of SAI is the promotion of Sports and Games in the country.
- It is also entrusted with the responsibility of maintaining and utilizing, on the behalf of Ministry of Youth Affairs & Sports, the following Stadiums in Delhi which were constructed/renovated for the IX Asian Games held in New Delhi in 1982:
  - Jawaharlal Nehru Sports Complex
  - Indira Gandhi Sports Complex
  - Major Dhyani Chand National Stadium
  - Dr. Shyam Prasad Mookherjee Swimming Pool Complex
  - Dr. Karni Singh Shooting Ranges
- The erstwhile Society for National Institutes of Physical Education & Sports (SNIPES) consisting of NSNIS Patiala at its centers and the two LNCPEs (Lakshmibai National College of Physical Education) located at Gwalior and Thiruvananthapuram were merged with SAI in 1987.
  - The LNCPE Gwalior was however, delinked from SAI in 1995 on attaining the status of a "Deemed University".

## VIVID 2019

- **VIVID-Vision Insight and Voices as India goes Digital-** the District Informatics Officer (DIO) meet, was organised by **National Informatics Centre (NIC)**.
- The meet is held as an initiative to interact with the DIO's and to share their experiences as well as contribution, as the digital changemakers at the grassroot level in the States.

### National Informatics Centre (NIC)

NIC provides nationwide ICT infrastructure to support e-Governance services and various initiatives of Digital India. It is part of the Ministry of Electronics and Information Technology's Department of Electronics & Information Technology.

- **VIVID started in 2017, as an annual event**, with the objective to empower NIC officials in the field of technology.



**Key Points**

**Details**


**Summary**

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**Key Points**

**Details**


**Summary**

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# Current Affairs (CONSOLIDATION)

**MARCH 2019**  
**(PART – I & II)**

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# Polity and Governance

## Highlights

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## Supreme Court on VVPATs

The Supreme Court (SC) is hearing a plea filed by some political parties for random verification of at least 50% Electronic Voting Machines (EVMs) using their Voter Verifiable Paper Audit Trail (VVPAT) slips in the upcoming general elections.

### Background

- VVPAT is an independent verification printer machine and is attached to electronic voting machines. It allows voters to verify whether if their vote has gone to the intended candidate.
- When a voter presses a button in the EVM, a paper slip is printed through the VVPAT. The slip contains the poll symbol and name of the candidate. It allows the voter to verify his/her choice.
- After being visible to the voter from a glass case in the VVPAT for seven seconds, the ballot slip is cut and dropped into the drop box in the VVPAT machine.

### Key Points

- Supreme Court in Subramanian Swamy case gave utmost importance to the functioning of EVMs by referring VVPATs as an 'indispensable requirement for free and fair elections'.
- The Election Commission (EC) started to verify VVPAT slips of only one randomly selected polling station in an Assembly constituency (in case of election of State Legislative Assembly) and each Assembly segment (in case of Lok Sabha election).

- Petitioners argue that the 50% randomised verification, of EVMs using their VVPAT slips, is a reasonable sample size to be statistically significant to ensure that EVMs are working properly. It will be in the interest of free and fair elections, which is part of the basic structure of the Constitution.

## RTI vs. OSA

Recently, the government has sought action against some media houses under the Official Secrets Act (OSA), 1923 for publishing documents related to India's deal to buy 36 Rafale fighter jets from France. The issue brought to light the controversy regarding transparency in governance structures.

### Key Points

- **Legal Position**
  - Whenever there is a conflict between the two laws, the provisions of the Right to Information (RTI) Act override those of the OSA.
  - Section 22 of the RTI Act states that its provisions will have effect notwithstanding anything that is inconsistent with them in the OSA.
  - Similarly, under Section 8(2) of the RTI Act, a public authority may allow access to information covered under the OSA, 'if the public interest in disclosure outweighs the harm to the protected interests'.
- **Issues with OSA**
  - **Colonial Legacy** – The OSA was enacted in 1923 by the British to keep certain kinds of information confidential including information involving the

affairs of state, diplomacy, national security, espionage, and other state secrets.

- **Vague Terms:** The OSA has provisions that are too broad and vague, often leaving room for arbitrariness. For instance, under Section 2(8)(d) of the Act defining a 'prohibited place', 'any railway, road, way or channel or other means of communication by land or water...' can be notified by the Central government as a 'prohibited place'.
- **Punishment:** It punishes the communication of any information obtained in contravention of the Act, which could prejudice the security of the state or friendly relations with foreign states. This provision targets whistle-blowing and investigative journalism, no matter how critically important it might be to have the information public.
- **Against the Constitutional Values:** OSA is against the constitutional principles of democratic republic, where the state is supposed to be transparent to its citizens.
- **Reforms within OSA**
  - The Second Administrative Reforms Commission recommended repeal of the Official Secrets Act. But the government rejected the recommendation, saying 'the OSA is the only law to deal with cases of espionage, wrongful possession and communication of sensitive information detrimental to the security of the State'.
  - In 2006, the Home Ministry recommended substantial changes to the OSA, in line with the privacy regime established by the RTI.
  - There are calls to repeal the OSA and replace it with a National Security Act that is more consistent with the aspirations of an open, democratic republic.

## New Mineral Policy 2019

The Union Cabinet has approved the **National Mineral Policy (NMP), 2019**.

### Key Points

- The aim of National Mineral Policy 2019 is to have a more effective, meaningful and implementable policy that brings in further transparency, better regulation, and enforcement, balanced social and economic growth as well as sustainable mining practices.
- The Policy proposes to grant the **status of industry** to mining activity to boost financing for mining

activities and for acquisitions of mineral assets in other countries by the private sector.

- The Policy also envisages rationalisation of reserved areas given to PSUs which have not been used and to put these areas to auction.
- The Policy aims to harmonize taxes, levies and royalty with world benchmarks to help the private sector.
- The new policy focuses on the use of coastal waterways and inland shipping for evacuation and transportation of minerals and encourages dedicated mineral corridors to facilitate the transportation of minerals.
- NMP 2019 proposes a long term export-import policy for the mineral sector to provide stability and as an incentive for investing in large scale commercial mining activity.
- The 2019 Policy also introduces the concept of inter-generational equity that deals with the well-being not only of the present generation but also of the generations to come.
- It also proposes to constitute an inter-ministerial body to institutionalize the mechanism for ensuring sustainable development in mining.

### Benefits

- The Policy includes provisions which will give a boost to the mining sector such as
  - encouraging the private sector to take up exploration,
  - auctioning in virgin areas for composite RP cum PL cum ML (reconnaissance permit cum prospective licensing and mining lease) on revenue sharing basis
  - encouraging merger and acquisition of mining entities
  - transfer of mining leases and creation of dedicated mineral corridors to boost private sector mining areas

## National Policy on Software Products 2019

Recently, the Union Cabinet has approved the **National Policy on Software Products (NPSP) 2019**.

### Key Points

- The NPSP 2019 seeks to create a robust software product ecosystem, which aims to develop India as the **global software product hub**.



- Further, the Policy aims to align with other Government initiatives such as Start-up India, Make in India and Digital India, Skill India etc. so as to help the industry reach \$70-80 billion by 2025.
- The policy has the following **five missions**:
  - Promote the creation of a sustainable Indian software product industry, driven by intellectual property (IP), leading to a ten-fold increase in India share of the global software product market by 2025.
  - To nurture technology start-ups in software product industry, including those in Tier-II and Tier-III towns & cities and generating direct and in-direct employment for 3.5 million people by 2025.
  - To create a talent pool for software product industry through up-skilling of IT professionals, motivating school and college students and promoting specialized professionals that can provide leadership.
  - To build a cluster-based innovation driven ecosystem by developing 20 sectoral and strategically located software product development clusters having integrated ICT infrastructure, marketing, incubation, R&D/test beds and mentoring support.
  - In order to evolve and monitor scheme & programmes for the implementation of this policy, National Software Products Mission will be set up with participation from Government, Academia and Industry.

## Income-Tax Details of Election Candidates

Recently, Form 26 was amended to make it mandatory for election candidates to reveal their income-tax (I-T) returns of the last five years, as well as the details of their offshore assets.

### What is Form 26?

- A candidate in an election is required to file an affidavit called Form 26 that furnishes information on her assets, liabilities, educational qualifications, criminal antecedents and public dues, if any.
- The affidavit has to be filed along with the nomination papers and should be sworn before an Oath Commissioner or First Class Magistrate or before a Notary Public.

- Earlier, a candidate had to only declare the last I-T return (for self, spouse and dependents). Details of foreign assets were not sought.
- Now it is also mandatory for candidates to reveal their own income-tax returns of the last five years rather than only one, and the details of offshore assets, as well as the same details for their spouse and dependents.
- As per the new rules, offshore assets mean details of all deposits or investments in foreign banks and any other body or institution abroad and details of all assets and liabilities in foreign countries.
- The objective behind Form 26 was that it would help voters make an informed decision. The affidavit would make them aware of the criminal activities of a candidate. With the recent amendment, voters will know the extent to which a serving MP's income grew during his five years in power.

## SHREYAS Scheme

Recently the **Ministry of Human Resource Development** launched the '**Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)**'.

### Key Points

- The Scheme seeks to provide **industry apprenticeship opportunities** to the general graduates through the **National Apprenticeship Promotion Scheme (NAPS)**.
- The Scheme aims to **enhance the employability of Indian youth** by providing '**on the job work exposure**' and earning of stipend for students in **degree courses, primarily non-technical**.
- The courses will be available to students from academic year April-May 2019.
- SHREYAS portal will enable educational institutions and industry to provide their respective demand and supply of apprenticeship.
- **Sector Skill Councils (SSCs)** would identify industries for apprenticeship, and would also conduct assessment leading to certification. Whereas the certification is not a guarantee for placement, it is expected to vastly enhance a candidate's chance of securing employment.
- **The objectives of the Scheme:**
  - **Improve employability of students** by introducing employment relevance into the learning process of the higher education system.

Note:

- Forge a **close functional link between education and industry** on a sustainable basis.
- Provide **skills which are in demand** to the students in a dynamic manner.
- Establish an **'earn while you learn' system** into higher education.
- Help businesses in securing good quality manpower.
- The scheme would be operationalised by coordination of **Ministry of Skills Development and Entrepreneurship (MSDE) and the Ministry of Labour.**
- **Ministry of Skills Development and Entrepreneurship (MSDE)** would monitor the progress of the apprentices and disburse the claims from the business enterprises towards stipend expenses.

#### National Apprenticeship Promotion Scheme (NAPS)

- National Apprenticeship Promotion Scheme (NAPS) was launched on **19<sup>th</sup> August 2016** to promote apprenticeship training and increase the engagement of apprentices.
- The scheme has the following **two components**:
  - **Reimbursement of 25% of prescribed stipend** subject to a maximum of ₹1500/- per month per apprentice by the Government of India to all employers who engage apprentices.
  - **Reimbursement of cost of basic training** (upto ₹7500/- for a maximum of 500 hours/3 months) by the Government of India to basic training providers (BTPs) in respect of apprentices who come directly for apprenticeship training without any formal training.

#### Sector Skill Councils (SSCs)

- Sector Skill Councils are set up as **autonomous industry-led bodies by National Skill Development Corporation (NSDC).**
- SSCs are responsible for defining the skilling needs, concept, processes, certification, and accreditation of their respective industry sectors in accordance with National Skill Qualification Framework.
- They create Occupational Standards and Qualification bodies, develop competency framework, conduct train the trainer programs, conduct skill gap studies and Assess and Certify trainees on the curriculum aligned to National Occupational Standards developed by them.

## SATAT Scheme

Recently, the Minister of Petroleum and Natural Gas handed over the 100<sup>th</sup> Letter of Intent (LoI) to the **Compressed Bio-Gas (CBG) Entrepreneur (producer)** under the **Sustainable Alternative Towards Affordable Transportation (SATAT) scheme.**

### Key Points

- SATAT has following **four objectives**:
  - **Utilising** more than 62 million metric tonnes of **waste** generated every year in India,
  - Cutting down **import dependence**,
  - **Supplementing job creation** in the country, and
  - **Reducing vehicular emissions and pollution from burning of agricultural/organic waste.**
- **Compressed bio-gas**
  - Compressed bio-gas is similar to the commercially available natural gas in its composition and energy potential.
  - It is produced naturally through a process of anaerobic decomposition from waste/bio-mass sources like agriculture residue, cattle dung, municipal solid waste etc. After purification, it is compressed and called CBG, which has pure methane content of over 90%.
  - CBG can be used as an alternative, renewable automotive fuel.
- **Advantages of CBG**
  - Responsible waste management, reduction in carbon emissions and pollution
  - Additional revenue source for farmers
  - Boost to entrepreneurship, rural economy and employment
  - Support to national commitments in achieving climate change goals
  - Reduction in import of natural gas and crude oil
  - Buffer against crude oil/gas price fluctuations

## Pradhan Mantri JI-VAN Yojana

Recently, the Cabinet Committee on Economic Affairs (CCEA) approved **Pradhan Mantri JI-VAN (Jaiv Indhan – Vatavaran Anukool fasal awashesh Nivaran) Yojana.**

### Key Points

- The scheme will be supported financially by Viability Gap Funding (VGF) to Second Generation (2G) Integrated bio-ethanol projects using Lignocellulosic biomass and other renewable feedstock.
- The objective of the scheme is to create an ecosystem for setting up commercial projects and boost to research and development in 2G ethanol sectors.
- The ethanol produced by the scheme beneficiaries will be mandatorily supplied to Oil Marketing Companies (OMCs) to further enhance the blending percentage under Ethanol Blending Programme (EBP).
- Centre for High Technology (CHT), under the Ministry of Petroleum and Natural Gas (MoP&NG), will be the implementation agency for the scheme.

### Key Terms

- **Viability Gap Funding (VGF)** means a grant one-time or deferred, provided to support infrastructure projects that are economically justified but fall short of financial viability.
- **Lignocellulosic biomass** (or LC biomass) refers to plant biomass that is composed of cellulose, hemicellulose, and lignin. For examples, cereal straw, bagasse, forest residues etc.

### Benefits

- The scheme seeks to promote Second Generation (2G) bio-fuels technology moving away from food crops used in First Generation (1G) to feedstocks, non-food crops agricultural residues or waste.
- The progressive blending/substitution of fossil fuels are a step towards achieving Green House Gas emission reduction targets.
- It will stop burning of biomass/crop residues and thus improve the health of citizens and farmers' income. By disposing of non-food bio-fuel feedstock it will also contribute towards Swachh Bharat Mission.
- It will also create employment opportunities in 2G ethanol projects and biomass supply chain.

### Background

- The Government launched Ethanol Blended Petrol (EBP) programme in 2003 for undertaking blending of ethanol in petrol to address environmental concerns due to fossil fuel burning, provide remuneration to farmers, subsidise crude imports and achieve forex savings.

- Under the EBP programme, OMCs (Oil Marketing Companies) are to blend up to 10% of ethanol in Petrol.
- Presently, EBP is being run in 21 States and 4 UTs.
- Despite efforts such as higher ethanol prices and simplification of ethanol purchase system, the highest ever ethanol procurement stands around 150 crore litres during 2017-18 which is hardly sufficient for around 4.22% blending on pan India basis.
- To enhance blending up to 10% of ethanol in Petrol, an alternate route viz. Second Generation (2G) Ethanol from biomass and other wastes is being explored by MoP&NG to bridge the supply gap for EBP programme.
- Therefore, 'Pradhan Mantri JI-VAN Yojana' is being launched as a tool to create 2G ethanol capacity in the country and attract investments in this new sector.

### Bio-fuels

- Bio-fuels are fuels manufactured from biomass.
- Biomass resources are the biodegradable fraction of products, wastes, and residues from agriculture, forestry and related industries as well as the biodegradable fraction of industrial and municipal wastes.
- **Advantages**
  - Renewable energy source
  - Non-toxic & biodegradable
  - Contains no sulphur that causes acid rain
  - Environment-friendly
  - Rural employment potential

Generation	Characteristics	Remarks
FIRST	Produced from food crops like maize, corn, sugar cane, into ethanol and bio-diesel, using a similar process to that used in beer and wine-making.	Imposes significant costs on food security by demanding a share of staple crops, resulting in a conflict between fuel and food security.
SECOND	Produced from non-food crops and organic agricultural waste, which contain cellulose.	Grasses, non-edible oil seeds like jatropha, castor seed can be transformed into bio-fuels.

Note:

THIRD	Derived from algae. Also known as green hydrocarbons	The list of fuels that can be derived from algae includes: Bio-diesel, Ethanol, and Jet-fuel.
FOURTH	Produce sustainable energy as well as capture and store CO <sub>2</sub> by converting biomass materials, which have absorbed CO <sub>2</sub> while growing.	Rather than simply being carbon neutral, the fourth generation bio-fuel production is carbon negative.

## India's First Lokpal

The President appointed the former Supreme Court judge Pinaki Chandra Ghose as India's first anti-corruption ombudsman or Lokpal.

### Key Points

- Most of the anti-corruption agencies are hardly independent. The Supreme Court has even termed the Central Bureau of Investigation (CBI) as a 'caged parrot' and 'its master's voice'.
- Many of these agencies are advisory bodies. There is also the problem of internal transparency and accountability. There is no effective mechanism to put checks on these agencies.
- In this context, an independent institution of Lokpal has been a landmark move in the history of Indian polity which offered a solution to the never-ending menace of corruption.
- The Lokpal and Lokayukta Act, 2013 provides for the establishment of Lokpal for the Union and Lokayukta for States. These institutions are **statutory bodies** without any constitutional status.
- They function as an 'ombudsman' and inquire into allegations of corruption against certain public functionaries and for related matters.

### Background

- In 1809, the institution of ombudsman was inaugurated officially in Sweden.
- In 1967, Great Britain adopted the institution of the ombudsman and became the first major nation in the democratic world to have such a system.

- In India, the concept of constitutional ombudsman was first proposed by the then law minister Ashok Kumar Sen in Parliament in the early 1960s. The term Lokpal and Lokayukta were coined by Dr. L. M. Singhvi.
- In 1966, the **First Administrative Reforms Commission** recommended the setting up of two independent authorities – at the central and state level – to look into complaints against public functionaries, including MPs.
- In 1968, Lokpal bill was passed in Lok Sabha but lapsed with the dissolution of Lok Sabha. Till 2011 eight attempts were made to pass the Bill, but all met with failure.
- In 2002, the **Commission to Review the Working of the Constitution** headed by M.N. Venkatachaliah recommended the appointment of the Lokpal and Lokayuktas. It also recommended that the Prime Minister be kept out of the ambit of the authority.
- In 2005, the **Second Administrative Reforms Commission** chaired by Veerappa Moily recommended that the office of Lokpal should be established without delay.
- In 2011, the government formed a Group of Ministers, chaired by Pranab Mukherjee to suggest measures to tackle corruption and examine the proposal of a Lokpal bill.
- '**India Against Corruption**' movement led by Anna Hazare put pressure on the government which resulted in the passing of the Lokpal and Lokayuktas Act, 2013. It received assent from President on 1 January 2014.

### Lokpal and Lokayuktas Act, 2013

- The Act provides for the establishment of a body of **Lokpal for the Union** and **Lokayukta for States** to inquire into allegations of corruption against certain public functionaries.
- It extends to the whole of India. It applies to public servants in and outside India.
- The Lokpal shall inquire or cause an inquiry to be conducted into any matter that involves any allegation of corruption made in a complaint in respect of the following, namely:
  - Any person who is or has been a Prime Minister (except for certain exceptions with respect to matters related to security, international relations etc.)
  - Any person who is or has been a Minister of the Union or a Member of Parliament.



- Group A to D officers as defined in Prevention of Corruption Act, 1988.
- The Act also mandates that all public officials should furnish the assets and liabilities of themselves as well as their respective dependents.
- It shall be the duty of the Lokpal to present annually to the President a report to be laid before each House of the Parliament.
- Every State shall establish a body to be known as the Lokayukta for the State by a law made by the State Legislature. Thus, establishment of the institutions of **Lokayukta** including any appointment therein falls within the **domain of the States**.
- To some extent, the need for functional **independence of the CBI** has also been catered to by a change brought forth in the **selection process of its Director**, by this Act.
- Lokpal has the power of superintendence over, and to give direction to CBI. If Lokpal has referred a case to CBI, the investigating officer in such case cannot be transferred without the approval of Lokpal.
- The Inquiry Wing of the Lokpal has been vested with the **powers of a civil court**.
- Lokpal has the power to recommend transfer or suspension of public servant connected with allegation of corruption.

### Structure of Lokpal

- Lokpal is a **multi-member body** that consists of one chairperson and a maximum of 8 members.
- The **Chairperson** should be either the former Chief Justice of India or a former Judge of Supreme Court or an eminent person with impeccable integrity, having special knowledge and expertise of minimum 25 years in the matters like anti-corruption policy, public administration, vigilance, finance including insurance and banking, law and management.
- Out of the maximum eight members, half will be judicial members and minimum 50% of the members shall be SCs/STs/OBCs/minorities and women.
- The judicial member of the Lokpal shall be either a former Judge of the Supreme Court or a former Chief Justice of a High Court.
- The non-judicial members should be eminent persons with impeccable integrity, having special knowledge and expertise of minimum 25 years in the matters like anti-corruption policy, public administration and vigilance.

- The **term of office** for Lokpal Chairman and members is 5 years or till the age of 70 years.
- The members are **appointed by the President** on the recommendation of a Selection Committee. The **oath of office** of the Chairperson (Lokpal) is administered by the President while that of other members of the Lokpal is administered by the Chairperson himself.
- The **Selection Committee** is composed of the Prime Minister (as the Chairperson); Chief Justice of India or a judge nominated by him, Speaker of the Lok Sabha, Leader of Opposition in the Lok Sabha and one eminent jurist.
- For selecting the chairperson and the members of the Lokpal, the selection committee constitutes a search committee of at least eight persons.
- **Lokpal Search Committee**
  - The Department of Personnel and Training (DoPT) prepares a list of candidates which is placed to the search committee.
  - The search committee shortlists the names and places them before the selection committee headed by the Prime Minister.
  - The selection committee may or may not pick names suggested by the search committee.

### Limitations

- It took five years to appoint a Lokpal since the Lokpal and Lokayuktas Act was passed in 2013. This indicates the lack of political will.
- The Lokpal act also called upon states to appoint a Lokayukta within a year of its coming to force, but only 16 states have established the Lokayukta till now.
- Lokpal is not free from political influence as the appointing committee itself consist of members from political parties.
- The appointment of Lokpal can be manipulated in a way as there is no criterion to decide who is an 'eminent jurist' or 'a person of integrity'.
- The 2013 Act did not provide concrete immunity to the whistle blowers. The provision for initiation of inquiry against the complainant if the accused is found innocent will only discourage people from complaining.
- Another major lacuna is the exclusion of judiciary from the ambit of the Lokpal.
- The Lokpal is not given any constitutional backing and there is no adequate provision for appeal against the Lokpal.

Note:



- The specific details in relation to the appointment of Lokayukta have been left completely on the States.
- The complaint against corruption cannot be registered after a period of seven years from the date on which the complaint is alleged to have been committed.

### Suggestions

- In order to tackle the problem of corruption, the institution of the ombudsman should be strengthened both in terms of functional autonomy and availability of manpower.
- Greater transparency, more right to information and empowerment of citizens and citizen groups is required along with a good leadership that is willing to subject itself to public scrutiny.
- Appointment of Lokpal in itself is not enough. The government should address the issues based on which people are demanding a Lokpal. Merely adding to the strength of investigative agencies will increase the size of the government but not necessarily improve governance.
- Moreover, Lokpal and Lokayukta must be financially, administratively and legally independent of those whom they are called upon to investigate and prosecute.
- Lokpal and Lokayukta appointments must be done transparently so as to minimize the chances of the wrong sorts of people getting in.
- There is a need for a multiplicity of decentralized institutions with appropriate accountability mechanisms, to avoid the concentration of too much power, in any one institution or authority.

## Model Code of Conduct

With the announcement of elections to the 17<sup>th</sup> Lok Sabha, the Model Code of Conduct (MCC) has come into effect immediately.

### Key Points

- The Model Code of Conduct (MCC) is a consensus document. It is intended to help the poll campaign maintain high standards of public morality and provide a level playing field for all parties and candidates.
- The MCC is a set of guidelines issued by the Election Commission (EC) to regulate political parties and candidates prior to elections. Basically, the code spells out the do's and don'ts for elections.

- This is in keeping with Article 324 of the Constitution, which mandates EC to conduct free and fair elections to the Parliament and State legislatures.
- It is **not statutory** but political parties, candidates and polling agents are expected to observe the norms, on matters ranging from the content of election manifestos, speeches and processions, to general conduct etc.
- The code comes into force on the announcement of the poll schedule and remains operational till the process is concluded.
- **What is permitted and what is not?**
  - The MCC forbids ministers from using official machinery for election work and from combining official visits with electioneering.
  - Advertisements extolling the work of the incumbent government using public money are to be avoided.
  - The government cannot announce any new schemes or financial grants, and make any ad hoc appointments.
  - MCC also applies to content posted by political parties and candidates on the Internet, including on social media sites.
  - Ministers cannot enter any polling station or counting centre except in their capacity as a voter or a candidate.
  - The Code does not stand in the way of ongoing schemes of development work or welfare, relief and rehabilitation measures meant for people suffering from calamities. However, use of these works for election propaganda is forbidden.
- The EC has devised several mechanisms to take note of the violation of the code, which include joint task forces of enforcement agencies and flying squads. The latest is the introduction of the cVIGIL mobile app through which audio-visual evidence of malpractices can be reported.
  - The cVIGIL App provides time-stamped, evidence-based proof of the Model Code of Conduct/ Expenditure Violation, having live photo/video with auto location data.
  - Any citizen can lodge a complaint through the app. Flying Squads will then investigate the matter and the Returning Officer takes the decision.

### MCC: Legal Enforcement

- Though MCC does not have any statutory backing, it has come to acquire teeth in the past decade because

Note:

of its strict enforcement by the EC. The Commission usually uses moral sanction to get political parties and candidates to fall in line.

- Certain provisions of the MCC may be enforced through invoking corresponding provisions in other statutes such as the Indian Penal Code, 1860, Code of Criminal Procedure, 1973, and Representation of the People Act, 1951.
  - For example; inciting hatred through political speeches, appealing to caste and community feelings of voters, intimidating or bribing voters in the 48 hours preceding the close of polling, are offences for which candidates can be tried under the statutes.
- In 2013, the Standing Committee on Personnel, Public Grievances, Law and Justice, recommended making the model code of conduct legally binding. The committee observed in a report on electoral reforms that most provisions of the code are already enforceable through corresponding provisions in other statutes. It recommended that the MCC be made a part of the Representation of the People Act, 1951.
- The EC argues against making it legally binding. According to it, elections must be completed within a relatively short time but judicial proceedings typically take longer, therefore it is not feasible to make it enforceable by law.

## Nine Science and Technology Missions

Prime Minister's Science, Technology and Innovation Advisory Council (PM-STIAC) has identified nine national science missions.

- The missions seek to address major scientific challenges to ensure India's sustainable development.
- Each mission will be led by a lead Ministry and will engage international and national institutional partners, young scientists and industry.

### The Nine Missions

#### Mission 1: Natural Language Translation

- The mission seeks to make science and technology accessible to all by removing the barrier that the requirement of high-level of facility in English poses today.

- Using a combination of machine and human translation, the mission will eventually enable access to teaching and research material bilingually i.e. in English and one's native Indian language.

#### Lead agencies:

- Ministry of Electronics and Information Technology
- Ministry of Human Resource Development
- Department of Science and Technology

#### Mission 2: Quantum Frontier

- It seeks to initiate work in control of the quantum mechanical systems, with a large number of degrees of freedom, as one of the great contemporary challenges in fundamental science and technology.
- Building excellence in the quantum frontier will also be essential for national security and in the development of quantum computers, quantum chemistry, quantum communication, new materials, quantum sensors and quantum cryptography.

#### Lead agencies:

- Department of Science and Technology
- Department of Space
- Department of Atomic Energy
- Defence Research and Development Organisation
- Ministry of Electronics and Information Technology

#### Mission 3: Artificial Intelligence (AI)

- It will focus on addressing societal needs in areas such as healthcare, education, agriculture, smart cities and infrastructure, including smart mobility and transportation.

#### Lead agencies:

- NITI Aayog
- Department of Science and Technology
- Ministry of Electronics and Information Technology
- Department of Biotechnology

#### Mission 4: National Biodiversity Mission

- It will include the following
  - A comprehensive documentation of India's biodiversity including the associated cultural and traditional practices,
  - Development of a cadre of professionals adept at handling large sets of environmental data for management and monitoring of biodiversity
  - Establishment of a vibrant biodiversity based economy on a solid foundation of reliable information

- Engagement with the public
- Enhanced options for agricultural production and livelihood security and the general well-being of society

➤ **Lead agencies:**

- Ministry of Environment, Forests and Climate Change
- Department of Biotechnology

**Mission 5: Electric Vehicles (EVs)**

- It will develop vehicle sub systems and components for Indian requirements including Li-ion batteries, power electronics etc., using academia-industry collaboration.
- This mission is critical for India to reduce fossil fuel consumption and mitigate emissions. Vehicles need to be energy efficient, use light and efficient batteries that function well in India specific conditions with materials that are recyclable.

➤ **Lead agencies:**

- Department of Science and Technology
- Department of Heavy Industries
- Ministry of New and Renewable Energy
- Ministry of Power
- NITI Aayog

**Mission 6: Bio-science for Human Health**

- It aims to construct comprehensive reference maps of genomes and to understand the dynamics of how exposures to different environments impact our bodies.
- The diversity of Indians and of its environment requires a large-scale study of human genomes specific to our lifestyle and how this impact health and disease patterns.
- The mission will focus on the genomic study of populations of humans to identify and unravel the genetic basis and prevalence of rare and inherited diseases.
- The outcome will help stimulate better diagnosis and treatment that can feed into the health care system of the country.
- **Lead agencies:**
  - Department of Biotechnology
  - Department of Health Research
  - Department of Health
  - Department of Science and Technology
  - Department of Atomic Energy

**Mission 7: Waste to Wealth**

- It aims to identify, develop and deploy technologies to treat waste to generate energy, recycle materials and extract worth.
- The mission will also work to identify and support development of new technologies that hold promise in creating a clean and green environment.
- The mission will assist and augment the Swachh Bharat and Smart Cities project by leveraging science, technology and innovation to create circular economic models that are financially viable for waste management to streamline waste handling in India.

➤ **Lead agencies:**

- Department of Biotechnology
- Department of Science and Technology
- Ministry of Environment, Forest and Climate Change
- Ministry of Urban Development
- Swachh Bharat Abhiyan

**Mission 8: Deep Ocean Exploration**

- It aims to scientifically explore the deep oceans towards improving India's understanding of the blue frontier.
- It will address issues arising from long term changes in the ocean due to climate change.
- The focus areas cover the following:
  - Development of technologies for deep sea exploration and exploitation of living (biodiversity) and non-living (minerals) resources
  - Development of underwater vehicles and underwater robotics
  - Development of ocean climate change advisory services
  - Technological innovations and conservational methods for sustainable utilisation of marine bio-resources
  - Offshore based desalination techniques and renewable energy generation
- **Lead agencies:**
  - Ministry of Earth Sciences
  - Department of Biotechnology
  - Department of Space
  - Ministry of New and Renewable Energy
  - Oil and Natural Gas Corporation
  - Defence Research and Development Organisation
  - Geological Survey of India
  - National Hydrographic Office
  - National Biodiversity Authority

Note:

### **Mission 9: AGNI (Accelerating Growth of New India's Innovations)**

- The mission aims to support the national efforts to boost the innovation ecosystem in the country by connecting innovators across industry, individuals and the grassroots to the market and help commercialise innovative solutions.
- The mission includes services across the techno-commercialisation chain required to support and upscale market-ready indigenous innovations.
- The initiative includes
  - working with government R&D laboratories and academia to help commercialise their innovations;
  - collaborate and value add to existing innovation programs;
  - training and capacity building of scientists, innovators, technology transfer offices and technology license offices
  - Linking specific needs of industry to research laboratories to enable development of cost-effective marketable solutions
- **Lead agency:**
  - Invest India

### **Other major projects of the Office of the Principal Scientific Adviser**

- **Earth Museum:** A state-of-the-art museum which will serve as a national repository for specimen fossil preservation and conservation.
  - It will also be designed as a major centre for research in geological and other natural sciences.
  - This will help to educate students and citizens about the exploration, conservation and preservation of India's natural heritage.
- **I-STEM- Indian Science Technology, and Engineering Facilities Map:** A regularly updated national portal of publicly funded R&D facilities and equipment, installed and working in R&D and academic institutions across the country.
- **Energy Security:** An expert committee for exploration and procurement of critical minerals required for the National Mission of Electric Mobility has been set up in consultation with Ministry of Mining to examine the reserves of Lithium, Cobalt, etc. in the country as well as possible tie-up with mining sector of other countries for sourcing these.

- KABIL, a joint venture of MECL, NALCO and HCL has initiated preliminary discussions for possible agreement on sourcing Lithium and Cobalt from countries like Australia, Argentina and Bolivia.
- In February 2019, KABIL team visited Argentina to conduct a primary survey of different mines in Argentina.

### **Prime Minister's Science, Technology and Innovation Council (PM-STIAC)**

- The PM-STIAC is an overarching body which assesses the status of specific S&T domains, comprehends challenges, formulates immediate, mid and long term interventions and presents a roadmap to the Prime Minister.
- The Principal Scientific Adviser coordinates to facilitate and ensure implementation of major interventions by concerned Government Departments, Agencies and Ministries.
- Amongst the terms of reference of the Council are to formulate, converge, collaborate, coordinate and implement multi-stakeholder policy initiatives, mechanisms, reforms and programmes aimed at:
  - synergising S&T covering fundamental to applied research in collaboration with multiple stakeholders both in central and state governments
  - enabling future preparedness in emerging domains of science and technology
  - formulating and coordinating major inter-ministerial S&T missions
  - providing an enabling ecosystem for technology led innovations and techno entrepreneurship
  - driving innovation and technology delivery towards solving socio-economic challenges for sustainable growth
  - fostering effective public-private linkages for driving research and innovation
  - developing science, technology and innovation clusters with multiple stakeholders including academia, industry and government
  - skilling in current and futuristic technologies

### **BOLD-QIT Project**

The Union Home Minister has inaugurated the project BOLD-QIT (Border Electronically Dominated QRT Interception Technique).

Note:



**Key Points**

- Under the **CIBMS** (Comprehensive Integrated Border Management System) the project is being implemented on India-Bangladesh border in Dhubri District of Assam.
- BOLD-QIT is the project to install technical systems which enable BSF to equip Indo-Bangla border with different kind of sensors in the unfenced riverine area of the Brahmaputra and its tributaries.
- Now, the entire span of river Brahmaputra is covered with data network generated by microwave communication, optical fiber cable (OFC), digital mobile radio (DMR) communication, day and night surveillance cameras, and intrusion detection system.
- These modern gadgets provide feeds to BSF Control Rooms on the border and enable BSF Quick Reaction Teams to thwart any possibility of illegal cross border crossing/crimes.
- The implementation of this project will not only help BSF to curb all type of cross border crimes but also provide respite to the troops from round the clock human surveillance.

**Background**

- Border Security Force (BSF) is responsible for the safeguarding of around 4,000 km long International Border with Bangladesh. At various places, it is not possible to erect border fence due to the geographical barriers.
- The border area in Dhubri (Assam) where River Brahmaputra enters into Bangladesh consists of vast char lands and innumerable river channels thus making border guards in this area, a tough task especially during rainy season.

**Comprehensive Integrated Border Management System (CIBMS)**

- The CIBMS is a robust and integrated system that is capable of addressing the gaps in the present system of border security by seamlessly integrating human resources, weapons, and high-tech surveillance equipment.
- CIBMS has three components which are using a number of different devices for surveillance, efficient and dedicated communication network and data storage for a composite picture.
- Sensors like thermal imager, unattended ground sensor, fiber optical sensors, radar, sonar, satellite imagery are used in CIBMS.

- To overcome this problem, in the year 2017, the Ministry of Home Affairs decided to go for a technological solution besides the physical presence of BSF.
- In January 2018, Information and Technology Wing of BSF undertook the project BOLD-QIT (Border Electronically Dominated QRT Interception Technique).

**Flood Management and Border Areas Programme (FMBAP)**

The Union Cabinet has approved the Flood Management and Border Areas Programme (FMBAP) for the period 2017-18 to 2019-20.

**Key Points**

- The Scheme has been framed by merging the components of two continuing XII Plan schemes titled Flood Management Programme (FMP) and River Management Activities and Works related to Border Areas (RMBA).
- FMBAP will be implemented throughout the country for effective flood management, erosion control and anti-sea erosion.
- The proposal will benefit towns, villages, industrial establishments, communication links, agricultural fields, infrastructure etc. from floods and erosion in the country. The catchment area treatment works will help in reduction of sediment load into rivers.
- The Scheme will assist the State Governments to provide reasonable degree of protection against floods in critical areas by adopting optimum combination of structural and non-structural measures and enhancing capabilities of government officials in related fields.
- The Scheme also caters to hydro-meteorological observations and flood forecasting on common rivers with the neighbouring countries.
- The Scheme also includes survey and investigations of water resources projects on the common rivers with neighbouring countries like Pancheshwar Multipurpose Project, Saptakosi-Sunkosi Projects in Nepal.
- The funding pattern will be 50% (Centre) : 50% (State) for general category States and 70% (Centre) : 30% (State) for North Eastern States, Sikkim, J&K, Himachal Pradesh and Uttarakhand.





# Economic Scenario

## Highlights

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## SBI links savings bank deposits, short-term loans to Repo rate

State Bank of India, the largest commercial bank in the country, has decided to link interest rates on savings bank deposits and short term loans, including personal loans, to the Repo rate of the Reserve Bank of India (RBI).

### Key Points

- The new interest rate system is expected to speed up interest rate transmission and transparency in the banking system.
- It will result in any rate change by the RBI being instantly passed on to depositors and borrowers.
- With effect from May 1, savings bank deposits, with balances of above ₹1 lakh, will earn a return equivalent to 2.75% below the prevailing repo rate.
- In addition to deposits, all cash credit accounts and overdrafts with limits of above ₹1 lakh will be at the repo rate plus a spread of 2.25%. In addition to this, the bank will add a spread based on the risk profile of the borrower.
- In order to insulate small deposit holders and small borrowers from the movement of external benchmarks, SBI has decided to exempt savings bank account holders with balances up to ₹1 lakh and borrowers

with Cash Credit/Overdraft Account (CC/OD) limits up to ₹1 lakh from linkage to the Repo rate.

- In its December 2018 monetary policy meet, the RBI had proposed benchmarking of fresh floating-rate retail loans and loans to micro and small enterprises to an external benchmark like Repo rate or Treasury Bills rate

## Open Acreage Licensing Policy

The government has deferred by one month the last date for bidding for the 14 oil and gas exploration blocks offered in the second round of Open Acreage Licensing Policy (OALP).

### Key Points

- Under OALP, companies are allowed to put in an expression of interest (EoI) for prospecting of oil and gas in an area that is presently not under any production or exploration licence. The EoIs can be put in at any time of the year but they are accumulated twice annually.
- The blocks or areas that receive EoIs at the end of a cycle are put up for auction with the originator or the firm that originally selected the area getting a 5-mark advantage.
- Blocks are awarded to the company which offers the highest share of oil and gas to the government as

Note:

well as commits to doing maximum exploration work by way of shooting 2D and 3D seismic survey and drilling exploration wells.

- The new policy replaced the old system of government carving out areas and bidding them out. It guarantees marketing and pricing freedom and moves away from production sharing model of previous rounds to a revenue-sharing model, where companies offering the maximum share of oil and gas to the government are awarded the block.
- OALP is a part of Hydrocarbon Exploration and Licensing Policy (HELP), which itself was a replacement to the New Exploration and Licensing Policy (NELP).
- HELP was brought out in June 2017 and marked a departure from the previous regime in terms of the geographical area that could be explored, the number of licenses required, the manner in which proceeds are to be shared with the government, and the procedure to sell what is extracted.

### Hydrocarbon Exploration and Licensing Policy

To reduce import dependency on oil and gas by 10% by 2022, the Government of India announced HELP to replace the New Exploration Licensing Policy that has been applicable since 1997-98. Four main facets of this policy are:

- Uniform license for exploration and production of all forms of hydrocarbon.
- An open acreage policy.
- Easy to administer revenue sharing model.
- Marketing and pricing freedom for the crude oil and natural gas produced.
- While the uniform licence enables the contractor to explore conventional as well as unconventional oil and gas resources like shale gas and gas hydrates under a single license, the Open Acreage Policy enables companies to choose the blocks from the designated area.
- The policy shifts production linked payment system to administer revenue sharing model under which the government will receive a share of the gross revenue from the sale of oil, gas etc.

## Report on EASE Reforms Index

The Ministry of Finance recently released the first report on Enhance Access & Service Excellence (EASE) Reforms Index. The publication of the Report was commissioned by Indian Banks' Association (IBA).

### Key highlights

- **Punjab National Bank has been ranked first** among Public Sector Banks (PSBs) in the implementation of 'reforms agenda', followed by Bank of Baroda and State Bank of India.
- The Report found that reforms in the insolvency and bankruptcy framework and recovery process are leading to large scale NPA resolution and recovery.
- The six PSU banks, which continue to be under the RBI's Prompt Corrective Action (PCA) framework, too have been ranked in the report. These are Indian Overseas Bank, UCO Bank, United Bank of India, IDBI Bank, Central Bank of India and Dena Bank.
- The Report also shows visible progress made on each of 4 elements of Government's **4R's strategy** including **recognition, recovery, recapitalisation and reforms**.

### Prompt Corrective Action (PCA)

- PCA norms allow the RBI to place certain restrictions such as halting branch expansion and stopping dividend payment. It can even cap a bank's lending limit to one entity or sector. Other corrective actions that can be imposed on banks include special audit, restructuring operations and activation of recovery plan. Banks' promoters can be asked to bring in new management, too. The RBI can also supersede the bank's board, under PCA.
- The provisions of the revised PCA framework became effective from April 1, 2017 based on the financials of the banks for the year ended March 31, 2017. The framework will be reviewed after three years.

### When is PCA invoked?

- The PCA is invoked when banks breach certain regulatory requirement like minimum capital, return on asset and quantum of non-performing assets.

### EASE Reform Index

- The EASE Reform Index measures progress on the PSBs Reforms Agenda on 140 objective metrics across 6 themes, including customer responsiveness, credit off-take and digitalisation.
- The Index provides all PSBs a comparative evaluation showing where banks stand vis-à-vis benchmarks and peers on the Reforms Agenda.
- The Index follows a fully transparent scoring methodology, which enables banks to identify precisely their strengths as well as areas for improvement.

Note:

- The goal is to continue driving change by spurring healthy competition among PSBs and also by encouraging them to learn from each other.
- The Index will be published every year to monitor the performance of PSBs.

## **Society for Worldwide Interbank Financial Telecommunications (SWIFT)**

The Reserve Bank of India (RBI) has imposed a penalty on seven banks for delayed implementation of SWIFT-related operational controls.

- Earlier in February 2018 RBI had directed banks on time-bound implementation and strengthening of SWIFT-related operational controls following the ₹14,000- crore fraud in Punjab National Bank.

### **SWIFT**

- The Society for Worldwide Interbank Financial Telecommunication (SWIFT) provides a network that enables financial institutions worldwide to send and receive information about financial transactions in a secure, standardized and reliable environment.
- Established in 1973, SWIFT uses a standardized proprietary communications platform to facilitate the transmission of information about financial transactions.
- SWIFT neither holds funds on its own nor manages external client accounts.
- SWIFT is headquartered in La Hulpe, Belgium.
- Prior to SWIFT, the only reliable means of message confirmation for international funds transfer was Telex. It was discontinued due to a range of issues such as low speed, security concerns, and a free message format.

## **Scheme for developing Knitwear Sector**

The Union Minister of Textiles has launched a comprehensive scheme for development of Knitting and Knitwear Sector under **PowerTex India**.

### **Key Points**

- The Ministry has approved a combined Standing Finance Component (SFC) of PowerTex India Scheme and Knitwear Scheme.

- The main components of the scheme are as follow:
  - **Creation of new service centres** on Public-Private Partnership (PPP) model by industries and associations in the knitting and knitwear clusters.
  - **Modernization and upgradation of existing Powerloom service Centers (PSCs)** and institutions run by Textile Research Associations (TRAs) and Export Promotion Councils (EPCs) Association in knitting and knitwear clusters.
  - Facilitation, IT, awareness, studies, surveys, market development and publicity for knitting and knitwear units.

### **PowerTex India**

- PowerTex India was launched in 2017 by the Ministry of Textile.
- It is a three-year all-inclusive scheme focused on the development of country's Powerloom Sector.
- The Scheme embraces branding, subsidies, new markets, new research and development in power loom textiles, and also welfare schemes for the power loom workers.

## **Panel on Offshore Rupee Market**

The Reserve Bank of India (RBI) has recently formed an eight-member task force on the offshore rupee market.

### **Key Points**

- It will be **headed by former Deputy Governor Usha Thorat** and would submit its report by the end of June 2019.
- The task force will assess the causes behind the development of the offshore Rupee market.
- It will study the effects of the offshore markets on the Rupee exchange rate and market liquidity in the domestic market.
- The task force will also recommend measures to address concerns, if any, arising out of offshore Rupee trading.
- It will propose measures to generate incentives for non-residents to access the domestic market and examine the role that International Financial Services Centres (IFSCs) can play in addressing these concerns.
- Any other relevant issue(s) the Task Force considers relevant to the context.

### **International Financial Services Centres (IFSCs)**

- An IFSC caters to customers outside the jurisdiction of the domestic economy. Such centres deal with flows of finance, financial products and services across borders.
- An IFSC is thus a jurisdiction that provides world-class financial services to non-residents and residents, to the extent permissible under the current regulations, in a currency other than the domestic currency of the location where the IFSC is located.
- The Special Economic Zone Act, 2005 allows setting up an IFSC in an SEZ or as an SEZ in India after approval from the central government.
- Some of the IFSCs are Shanghai and Dubai.
- India's first International Financial Services Centre (IFSC) at Gujarat International Finance Tec-City (GIFT City) became operational in 2015.

### **FSDC Panel on Credit Ratings**

Recently the Financial Stability and Development Council (FSDC) panel has discussed ways to address challenges pertaining to the quality of credit ratings.

- It expressed concerns over the inability of rating agencies' to assess credit risk and take timely rating actions. Example: Recent IL&FS defaults crisis which had AAA rating just before it started defaulting.

### **Financial Stability and Development Council (FSDC)**

- FSDC is a non-statutory apex council under Ministry of Finance constituted by Executive Order of Union Govt in 2010.
- The **Chairman of the Council is the Finance Minister** and its members include the heads of financial sector Regulators (RBI, SEBI, PFRDA, IRDA), Finance Secretary, Secretary, Department of Economic Affairs; Secretary, Department of Financial Services, Chief Economic Adviser etc.
- It aims to strengthen and institutionalize the mechanism of financial stability and development.
- It monitors macro-prudential supervision of the economy and assesses the functioning of the large financial conglomerates. It also addresses intra-regulatory coordination issues.

- The **Raghuram Rajan committee (2008)** on financial sector reforms **recommended for the creation of FSDC.**

### **Credit Rating Agencies**

- A Credit Rating Agency (CRA) is a company that assigns credit ratings, which rate a debtor's ability to pay back the debt by making timely principal and interest payments and the likelihood of default.
- The assessed entities may be companies, special purpose entities, State Governments, local governmental bodies, non-profit organizations and even countries.
- There are six credit rating agencies registered under SEBI namely, CRISIL, ICRA, CARE, SMERA, Fitch India and Brickwork Ratings.

## **Cabinet Approves Proposal to Align with Global Trademark System**

Recently, the Government has approved the proposal for the accession of India to:

- The **Nice Agreement** on the International classification of goods and services for the purposes of registration of trademarks.
- The **Vienna Agreement** for setting up an International classification of the figurative elements of trademarks.
- The **Locarno Agreement** for establishing an International classification for industrial designs.
- All three agreements are administered by the World Intellectual Property Organization (WIPO).

### **Benefits of the Accession**

- Accession to the Nice, Vienna and Locarno Agreements will help the Intellectual Property (IP) Office in India to **harmonize the classification systems for examination of trademark and design applications**, in line with the classification systems, followed globally.
- It would give an opportunity to include Indian designs, figurative elements, and goods in the international classification systems.
- The accession is expected to instill confidence in foreign investors in relation to the protection of IPs in India.
- The accession would also facilitate in exercising rights in decision-making processes regarding review and revision of the classifications under the agreement.



**World Intellectual Property Organization (WIPO)**

- WIPO was created in 1967 “to encourage creative activity, to promote the protection of intellectual property throughout the world”.
- WIPO is one of the oldest specialized agencies of the United Nations and currently administers 26 international treaties.
- It is headquartered in Geneva, Switzerland.
- Every year World Intellectual Property Day is being celebrated on 26<sup>th</sup> April.

**Intellectual Property**

- Intellectual property (IP) is a category of property that includes intangible creations of the human intellect, and primarily encompasses copyrights, patents, and trademarks.
- It also includes other types of rights, such as trade secrets, publicity rights, moral rights, and rights against unfair competition.

**Dollar-Rupee Buy/Sell Swap**

The first dollar-rupee buy/sell swap auction by Reserve Bank of India (RBI) has received more than \$16 billion in bids for the auction for a notified amount of \$5 billion.

**Key Points**

- The objective was to augment liquidity management and inject rupee liquidity through long term foreign exchange swap auction. The RBI has in return infused more than ₹34,000 crore rupee liquidity.
- Under the Swap, a bank would sell US dollars to the RBI and simultaneously agree to buy the same amount of US dollars at the end of the swap period. The RBI has conducted the dollar-rupee buy/sell swap auction for a three-year tenor.
- There is an expectation that RBI would conduct more such auctions as it will lower the dependence on Open Market Operations (OMO) which have been a significant amount of the overall borrowing as higher open market operations distort the interest rates curve.
- The dollar amount mobilized through the auction would reflect in the RBI's foreign exchange reserves for the tenor of the swap as also in the RBI's forward liabilities.

- Apart from diversifying liquidity-infusion efforts, this measure is expected to ease longer-tenor forward premia, helping to lower hedging costs.

**World Gold Council**

According to the latest report by the World Gold Council (WGC), India, which is the world's largest consumer of gold, has the 11<sup>th</sup> largest gold reserve, with the current holding pegged at 607 tonnes.

**Key Points**

- The U.S. tops the list with gold reserves of more than 8,000 tonnes, followed by Germany with more than 3,000 tonnes.
- Among Asian countries, China and Japan have more reserves when compared to India.
- The demand for gold was concentrated among emerging market central banks, with diversification, the key driver in the face of ongoing geopolitical and economic uncertainty.
- India's overall position in terms of total gold holding would have been tenth had the list included only countries.
  - International Monetary Fund (IMF) is included and is third on the list with total gold reserves of 2,814 tonnes.

**World Gold Council**

- The World Gold Council (WGC) is a nonprofit association of the world's leading gold producers. It was established to promote the use of and demand for gold through marketing, research and lobbying.
- Headquartered in London, the WGC covers the markets which comprise about three-quarters of the world's annual gold consumption.
- Founded in 1987, it is a market development organization for the gold industry which includes 25 members and many gold mining companies as well.

**Gold & Economy**

- **As currency:** Gold was used as the world reserve currency up through most of the 20<sup>th</sup> century. The United States used the gold standard until 1971.
  - The paper money has to be backed up by an equal amount of gold in their reserves.
  - Although the gold standard has been discontinued, some economists feel that we should return to it due to the volatility of the U.S. dollar and other currencies.



- **As a hedge against inflation:** The demand for gold increases during inflationary times due to its inherent value and limited supply. As it cannot be diluted, gold is able to retain value much better than other forms of currency.
- **Strength of currency:** When a country imports more than it exports, the value of its currency will decline. On the other hand, the value of its currency will increase when a country is a net exporter. Thus, a country that exports gold or has access to gold reserves will see an increase in the strength of its currency when gold prices increase, since this increases the value of the country's total exports.

## GI Website & Tutorial Video on IPR

The Union Minister of Commerce and Industry has launched a tutorial video on "Intellectual Property Rights (IPR)" for school students and the Geographical Indications (GI) website.

### Key Points

- The tutorial video, created by the Cell for IPR Promotion and Management (CIPAM), Department for Promotion of Industry and Internal Trade (DPIIT) in collaboration with Qualcomm, **deals with fundamentals of IPRs such as Patents, Copyrights and Trademarks.**
- **'IP Nani', India's first IP Mascot**, features in the video that aims to spread awareness about the importance of Intellectual Property Rights (IPRs) among people, especially children, in an interesting manner. The mascot was launched by the Ministry of Commerce and Industry in 2018.
- The tutorial video can be used in schools without any external intervention from teachers or experts and will aid in reaching a large number of schools and students, thereby overcoming issues of bandwidth and limited resources.
- The video is available on CIPAM's YouTube Channel and official website, which is freely available for the public.

### NOTE:

India is already a signatory to WTO's TRIPS Agreement and has enacted or amended the laws in harmony with the agreement.

## Intellectual Property Rights (IPR)

- These are the rights that are given to persons/agencies for their creativity/innovations.
- The laws that govern IPRs in India are: The Copyright Act, 1957, Patents Act, 1970, Trade Mark Act, 1999, The Designs Act, 2000, The Geographical Indications of Goods (Registration and Protection) Act, 1999, The Protection of Plant Varieties and Farmers' Rights Act, 2001 and The Semiconductor Integrated Circuits Layout Design Act, 2000.

## WTO's TRIPS Agreement

- The Agreement that came into force from January 1, 1995, **lays down minimum standards for protection and enforcement of intellectual property rights in WTO member countries** with a view to reduce distortions and impediments to international trade.
- The Agreement provides for norms and standards in respect of following areas of intellectual property: Patents, Trademarks, Copyrights, Geographical Indications, and Industrial Designs.

## GI Website

- The website showcases Indian GIs products, classified state wise as well as product category wise.
- It includes specific and comprehensive details of the geographical area, description of product, uniqueness, history, product process/processing in addition to enlisting GI authorized users.
- The website aims to promote creativity and motivate more of India's skilled artisans to apply for GI registration.

## Cell for IPR Promotion and Management

- The Cell for IPR Promotion and Management (CIPAM) was created in 2016 under the aegis of the Department of Industrial Policy & Promotion (DIPP), Ministry of Commerce & Industry to take forward the implementation of the National IPR Policy.
- Since then, CIPAM is working towards creating public awareness about IPRs in the country, promoting the filing of IPRs through facilitation, providing inventors with a platform to commercialize their IP assets and coordinating the implementation of the National IPR Policy in collaboration with Government Ministries/ Departments and other stakeholders.

Trademark	<ul style="list-style-type: none"> <li>➤ A trademark is a word, phrase, symbol, and/or design that identifies and distinguishes the source of the goods of one party from those of others.</li> <li>➤ The term “trademark” is often used to refer to both trademarks and service marks.</li> <li>➤ Unlike patents and copyrights, trademarks do not expire after a set term of years. Instead, a trademark can last forever, so long as the owner continues to use the mark in commerce to indicate the source of goods and services.</li> </ul>
Patent	A patent is a limited duration property right relating to an invention, granted by Trademark Office in exchange for public disclosure of the invention. Patentable materials include machines, manufactured articles, industrial processes, and chemical compositions. The duration of patent protection is 20 years in case of India.
Copyright	A copyright protects works of authorship that have been tangibly expressed in a physical form. Example – songs, books, movies, and works of art.

## GI Tag for Erode Turmeric

The Geographical Indication Registry of India has granted **Geographical Indication (GI) Tag to Erode Manjal Turmeric** under Spices Category.

### Key Points

- Erode Turmeric has been granted tag because of its uniqueness in terms of its size, colour, quality and its resistance to pests after boiling.
- With the GI Tag, turmeric cultivated in some districts of Erode, parts of Coimbatore and whole of Tirupur (Tamil Nadu) will be recognized for its unique qualities derived from its place of origin.
- It is a commercial spice crop which is sown in the months of June-July and is harvested in the months from January to March.

### Geographical Indication (GI) Tag

- A GI is a sign used primarily on agricultural, natural or manufactured products (handicrafts and industrial goods) originating from a definite geographical territory.

- Typically, a GI tag conveys an assurance of quality and distinctiveness, which is essentially attributable to the place of its origin.
- This tag gives protection to the producer of these genuine products, which commands premium pricing in the markets, both domestic and international.
- GI tags are given on the basis of the Geographical Indications of Goods (Registration and Protection) Act, 1999.
- The first product to be included in the list was Darjeeling Tea.

## RBI Deferred Ind AS Implementation by Banks

RBI has recently deferred the implementation of the **Indian Accounting Standards (Ind AS)** by banks as the requisite legislative amendments are still under consideration.

### Key Points

- In 2006, the Institute of Chartered Accountants of India (ICAI) initiated the process of shifting towards the **International Financial Reporting Standards (IFRS)**.
- The reason behind this step was to increase the acceptability and transparency of the financial statements of the Indian corporates on the global platform.
- In 2015, the Ministry of Corporate Affairs (MCA) notified **Companies (Indian Accounting Standard) Rules 2015**, which listed out the applicability and adoption of Ind AS.
- As per the initial plan, MCA was to implement Ind AS for banks, insurance companies and NBFCs from April 2018 onwards but in April 2018, RBI had deferred the implementation of Indian Accounting Standards by one year for banks.
- In March 2019, RBI again deferred the implementation of Ind AS by banks till further notice.

### NOTE:

The International Financial Reporting Standards (IFRS) are accounting standards that have been issued by the International Accounting Standards Board (IASB) with the **objective of providing a common accounting language to increase transparency in the presentation of financial information.**

- The reason cited is that certain legislative amendments in the Banking Regulation Act 1949 are under consideration of the government.

- It is expected that these amendments will help in making the current format of financial statements compatible with the requirements under Ind AS.

### Indian Accounting Standards (Ind AS)

- Indian Accounting Standards (Ind AS) are set of accounting standards that **govern the accounting and recording of financial transactions** as well as the presentation of statements such as profit and loss account and balance sheet of a company.
- The standards were **formulated by the Accounting Standards Board (ASB)**, which was **constituted as a body in the year 1977**. ASB is a committee under ICAI which consists of representatives from the government department, academicians, other professional bodies viz. ICAI, representatives from ASSOCHAM, CII, FICCI, etc.
- The Ind AS are named and numbered in the same way as the International Financial Reporting Standards (IFRS).

#### Institute of Chartered Accountants of India (ICAI)

- The Institute of Chartered Accountants of India (ICAI) is a statutory body established under the Chartered Accountants Act, 1949 for regulating the profession of Chartered Accountancy in the country.
- The ICAI is the second largest professional body of Chartered Accountants in the world, with a strong tradition of service to the Indian economy in public interest.
- The Council constitutes of 40 members of whom 32 are elected by the Chartered Accountants and remaining 8 are nominated by the Central Government generally representing the Comptroller and Auditor General of India, Securities and Exchange Board of India, Ministry of Corporate Affairs, Ministry of Finance and other stakeholders.
- The Institute functions under the administrative control of the Ministry of Corporate Affairs.
- Headquarters: New Delhi

#### International Accounting Standards Board (IASB)

- IASB is an independent body that was formed in 2001 for establishing the IFRS.
- It succeeded the International Accounting Standards Committee (IASC), which was earlier given the responsibility of establishing the international accounting standards.
- It is based in London.

## Disinvestment Exceeds Target

For the second year in a row, the government has exceeded the disinvestment target of ₹ 80,000 crore set for the Financial Year 2019.

### Key Points

- Apart from Power Finance Corporation acquiring government's stake in Rural Electrification Corporation, the launch of several tranches of Exchange Traded Fund (ETF) of Central Public Sector Enterprises (CPSE), and PSUs buying back their own shares were among the measures deployed by the government to achieve its target of stake sales.
- The largest chunk of disinvestment came from several tranches of Exchange Traded Funds (ETFs) launched by the government.
- Meeting the disinvestment target for the current fiscal year was crucial because of the uncertainty in revenue collection from direct taxes as well as from the Goods and Services Tax (GST).
- This will **enable the government to achieve the revised fiscal deficit target of 3.4%** of Gross Domestic Product (GDP).
  - The budgeted fiscal deficit target was 3.3% of Gross Domestic Product (GDP) at the beginning of 2018-19 and was later revised to 3.4% of gross domestic product in the interim budget, mainly because of an expectation of higher payout because of the direct income scheme for farmers (PM-KISHAN).

### Disinvestment

- Divestment is the opposite of an investment, and it is the process of selling an asset for either financial, social or political goals.
- In the case of Public Sector Undertakings (PSUs), disinvestment means Government selling/diluting its stake (share) in PSUs in which it has a majority holding.
- Disinvestment is carried out as a budgetary exercise, under which the Government announces yearly targets for disinvestment for selected PSUs.
- Department of Investment and Public Asset Management (DIPAM) is entrusted with the task to oversee:
  - All matters relating to the management of Central Government investments in equity including disinvestment of equity in Central Public Sector Undertakings.

- All matters relating to the sale of Central Government equity through offer for sale or private placement or any other mode in the erstwhile Central Public Sector Undertakings.
- DIPAM functions under the Ministry of Finance.

#### Exchange Traded Funds (ETF)

- ETFs are index funds that are listed and traded on stock exchanges just like regular shares. They are a basket of stocks with assigned weights that reflect the composition of an index.
- The ETFs trading value is based on the net asset value of the underlying stocks that it represents.
- They enable investors to gain broad exposure to entire stock markets in different countries and specific sectors with relative ease, on a real-time basis and at a lower cost than many other forms of investing.
- The ETF is aimed at helping speed up the government's disinvestment programme. Ex. Bharat 22 ETF.

#### Bharat 22 ETF

- Bharat 22 ETF comprises of stocks of 22 Central Public Sector Enterprises (CPSEs), Public Sector Banks (PSBs) and Specified Undertaking of Unit Trust of India (SUUTI).
- Bharat 22 ETF is managed by ICICI Prudential Mutual Fund.
- The foundation of Bharat 22 ETF was laid by the government in the Union Budget 2017.

## National Mission on Transformative Mobility and Battery Storage

Union Cabinet has approved setting up of a National Mission on Transformative Mobility and Battery Storage.

#### Key Points

- The objective is to promote clean, connected, shared, sustainable and holistic mobility initiatives; Phased Manufacturing Programme (PMP) valid for 5 years until 2024.
- The multi-disciplinary Mission will have an Inter-Ministerial Steering Committee chaired by CEO NITI Aayog.

- The Mission will recommend and drive the strategies for transformative mobility and Phased Manufacturing Programmes for Electric Vehicles (EV), their components and batteries.
- A Phased Manufacturing Program (PMP) will be launched to localize production across the entire EV value chain.
- The Mission will determine the PMP and will finalize the details of such a program.
- The Mission will coordinate with key stakeholders in Ministries/Departments and the states to integrate various initiatives to transform mobility in India.
- The Mission will prepare the roadmap that will enable India to leverage upon its size and scale to produce innovative, competitive multi-modal mobility solutions that can be deployed globally in diverse contexts.
- A phased roadmap to implement battery manufacturing at Giga-scale will be considered with an initial focus on the large-scale module and pack assembly plants by 2019-20, followed by integrated cell manufacturing by 2021-22.

#### Background

- Rapid urbanisation has increased the demand for energy and transport infrastructure. Mobility has the potential to drive the economy forward and positively impact the lives of citizens both in urban and rural areas.
- Affordable, accessible, inclusive and safe mobility solutions are primary strategic levers for rapid economic development and improving 'Ease of Living'.
- Given its commitment to climate goals, India needs to adopt effective strategies to place itself as a key driver of the mobility revolution in the world.
- High expenses on oil import in the changing geopolitical conditions require India to ensure its energy security by moving towards alternative energy sources.
- Advances in battery technology have led to higher energy densities, faster charging and reduced battery degradation from charging.

#### Factors that hinder EV industry in India

- Profit realisation becomes uncertain considering the high capital costs and the uncertainty in policies related to EV production. This discourages investment in the industry.

Note:



- The lack of clarity over AC versus DC charging stations, grid stability and range anxiety (fear that battery will soon run out of power) are other factors that hinder the growth of EV industry.
- India does not have any known reserve of lithium and cobalt and is dependent on countries like Japan and China for the import of lithium-ion batteries.
- With higher servicing costs EVs require higher levels of skills. India lacks dedicated training courses for such skill development.

## National Common Mobility Card

Recently, the Prime Minister launched the National Common Mobility Card (NCMC) to enable people to pay multiple kinds of transport charges across the country.

### Key Points

- The Ministry of Housing and Urban Affairs brought to the fore the National Common Mobility Card (NCMC) to enable seamless travel across the country besides retail shopping and purchases.
- Dubbed as 'One Nation One Card', the inter-operable transport card would allow the holders to pay for their bus travel, toll taxes, parking charges, retail shopping and even withdraw money.
- This payment eco-system for transport consists of NCMC Card, **SWEEKAR** (Swachalit Kiraya: Automatic Fare Collection System) and **SWAGAT** (Swachalit Gate – a gate and card-reader system).
- The three together will enable the use of the national mobility card across the country without a conflict with existing point-of-sale (PoS) machines.
- The cards can be issued by all public and private banks the same way credit, debit, and prepaid cards are issued.
- The initiative will help in higher digital payments penetration. The rich data insights may be used by operators for business intelligence leading to efficient operation.
- The NCMC ecosystem will further help government in digitisation of low value payments and reduced cost for the entire ecosystem.

## FAME India Phase II

Recently, the Union cabinet approved the proposal for implementation of Faster Adoption and Manufacturing

of Electric Vehicles in India Phase II (FAME India Phase II) for promotion of electric mobility in the country.

### Key Points

- Department of Heavy Industry (DHI) is the nodal department responsible for planning, implementation and review of the scheme.
- The scheme is proposed to be implemented through following verticals:
  - Demand Incentives
  - Establishment of network of charging infrastructure
  - Administration of scheme including publicity activities
- Demand Incentives seek to directly help in demand generation of electric vehicles. The incentives shall be available to consumers (buyers/end users) in the form of an upfront reduced purchase price of hybrid and electric vehicles, which will be reimbursed to the original equipment manufacturers (OEMs) by the Government of India.
- The scheme envisages setting up of adequate public charging infrastructure across the country. Inter-linking of renewable energy sources with charging infrastructure, smart grid, ICT etc. shall be encouraged.
- For smooth operation and implementation of the scheme, a suitable IEC (information, education and communication) programme shall be undertaken for creating awareness.
- Project Implementation and Sanctioning Committee (PISC) headed by Secretary (Heavy Industry) shall be constituted for overall monitoring, sanctioning and implementation of the scheme.
- The efforts of the Central Government to promote e-mobility need supplemental support from State Governments, in terms of fiscal and non-fiscal (concessional road tax/registration charges/parking fees etc.) incentives.
- By promoting faster adoption and manufacturing of electric vehicles, the scheme will help in addressing the issue of environmental pollution and fuel security.

### Background

- Department of Heavy Industry (DHI) had launched a scheme Faster Adoption and Manufacturing of Electric Vehicles in India (FAME India) for promotion of electric and hybrid vehicles.



- Phase I of FAME India was initially approved for a period of two years, commencing from April 1st, 2015. The scheme has been extended from time to time, with the present extension being up to March 31st, 2019.
- After review of Phase I, DHI has formulated FAME India Phase II, for implementation over a period of three years beginning April 1st, 2019.
- As a part of the National Electric Mobility Mission (NEMM), FAME aims at promoting eco-friendly vehicles in the country.

## **Transport and Marketing Assistance for Specified Agriculture Products**

The Ministry of Commerce and Industry has notified a scheme for Transport and Marketing Assistance (TMA) for Specified Agriculture Products.

### **Key Points**

- The scheme seeks to provide assistance for the international component of freight and marketing of agricultural produce which is likely to mitigate disadvantage of higher cost of transportation of export and to promote brand recognition for Indian agricultural products.
- The assistance, at notified rates, will be available for export of eligible agriculture products to the permissible countries, as specified from time to time. The assistance would be provided through direct bank transfer as part reimbursement of freight paid.
- All exporters of eligible agricultural products, who are duly registered with relevant Export Promotion Council under provisions of Foreign Trade Policy will be covered under this scheme.
- The assistance is available for most agricultural product exports with some exceptions such as live animals, products of animal origin, milk, cream, curd, butter, buttermilk, whey, rice, wheat, tobacco and garlic.



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# International Relations

## Highlights

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## Italy Joins Belt & Road Initiative

Italy has become the first G7 country to join China's Belt & Road Initiative [previously known as One Belt One Road (OBOR) Initiative].

- Italy's endorsement of the BRI is a potential game changer as it is one of the major economies in the world.
- Similarly other major economies may follow Italy's lead in joining BRI.

### What is the Group of Seven (G7)?

- The Group of Seven is a group consisting of **Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.**
- These countries, according to IMF are described as **advanced economies in the world**, representing 58% of the global net wealth.

### What is the Belt & Road Initiative (BRI)?

- Belt & Road Initiative (BRI) is an ambitious project of China that focuses on connectivity and cooperation among multiple countries spread across the continents of Asia, Africa, and Europe.
- The project involves building networks of roadways, railways, maritime ports, power grids, oil and gas pipelines, and associated infrastructure projects.
- The project comprises of two parts:
  - **Silk Road Economic Belt:** It is land-based and is expected to connect China with Central Asia, Eastern Europe, and Western Europe.
  - **21<sup>st</sup> Century Maritime Silk Road:** It is sea-based and is expected to connect China's southern coast to the Mediterranean, Africa, South-East Asia, and Central Asia.

### Significance of BRI For China

- The Belt and Road Initiative (BRI) is the most emblematic of China's economic and industrial might, as of its ambitions for global, political and strategic influence.
- As infrastructure spending in China itself became less sustainable, China has shifted the emphasis to boost the global competitiveness of its domestic businesses.
- The large infrastructure investments in the least developed and developing countries have enabled China to leverage its influence around the world, potentially altering the established rules of the global order and challenging the western powers.
- BRI will strengthen China's presence in the Eurasian region and put it in a commanding position in Asia's heartland.

### Criticism of BRI

- Western critics have attacked the BRI as neo-colonialism, or Marshal Plan for the 21<sup>st</sup> century.
- BRI is also being seen as a part of China's debt trap policy, wherein China intentionally extends excessive loans to another country with the intention of extracting economic or political concessions from the debtor country.

### Why India has not joined?

- China Pakistan Economic Corridor (CPEC) is one of the flagship projects of BRI which is seen by India as infringing upon its sovereignty.
- China is building roads and infrastructure in the disputed territory of Gilgit-Baltistan, which is under Pakistan's control but India claims it as a part of J&K.
- If the CPEC project gets implemented successfully, it would hamper India's strategic interests in the South Asian region while serving Beijing's strategic ambition to encircle India.

- CPEC can aid Pakistan's legitimacy in the Kashmir dispute.
- China's increasing footprints in the South Asian region is detrimental to India's strategic hold. For e.g., the construction of the Hambantota Port in Sri Lanka provided China critical strategic location in the Indian Ocean.

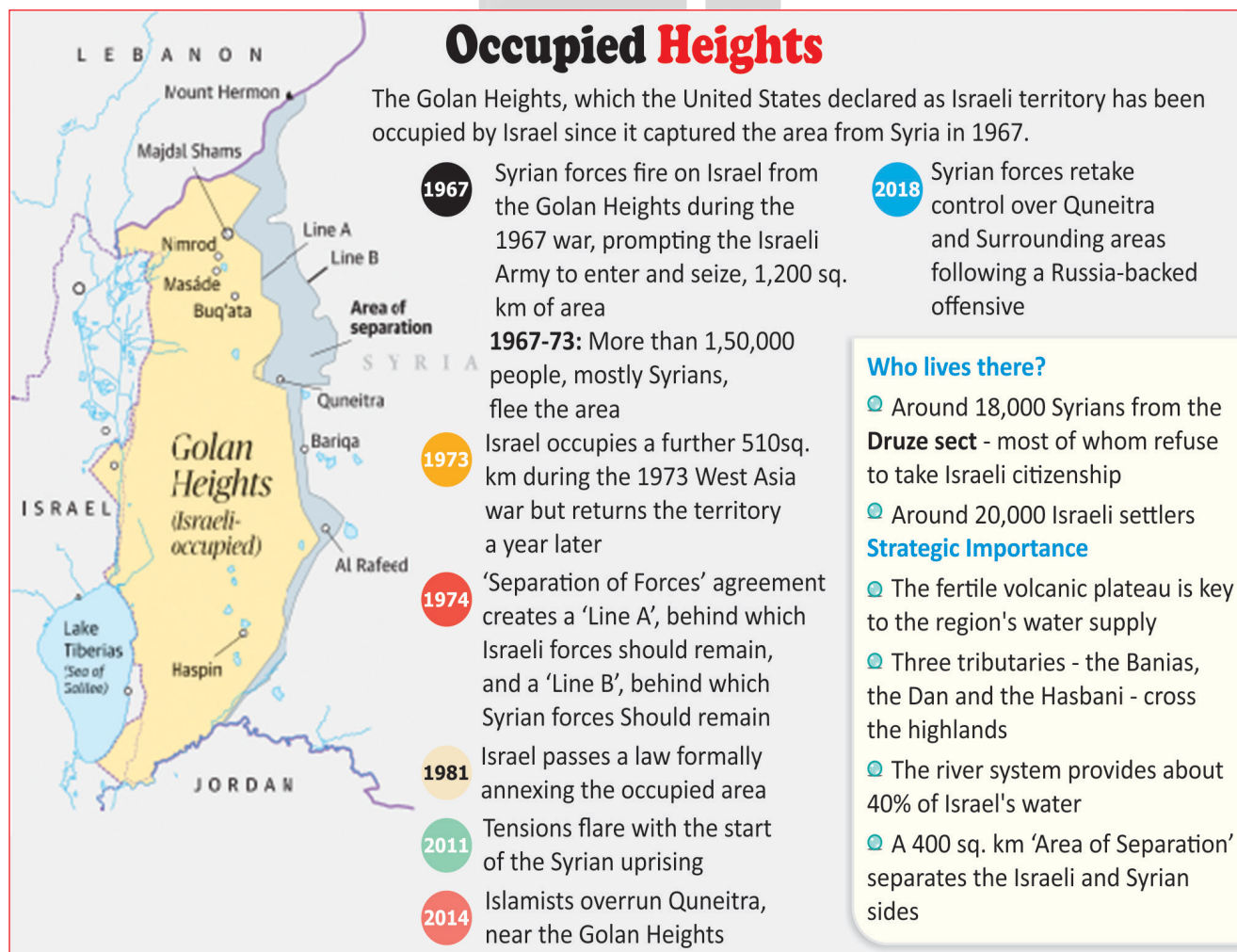
## US Recognises Golan Heights as Israel's Territory

Recently, the United States has recognised Israel's sovereignty of the Golan Heights. The US will be the first country to recognize Israeli sovereignty thereby marking a dramatic shift in US policy.

- The Golan Heights were captured by Israel from Syria in the 1967 conflict and annexed in 1981 – a move not recognized internationally.

### Background

- Israel captured Golan Heights, a strategically important plateau beside the Sea of Galilee, from Syria in the 1967 war.
- Among the territories it captured in the war, Israel has returned only the Sinai Peninsula, to Egypt.
- Israel annexed East Jerusalem and Golan Heights and continues to occupy the West Bank and the Gaza Strip.
- In 1981, as it passed the Golan annexation legislation, the Security Council passed a resolution that said, "the Israeli decision to impose its laws, jurisdiction and administration in the occupied Syrian Golan Heights is null and void and without international legal effect".
- The United States has already recognised Jerusalem as Israel's capital, a city it captured in parts in the 1948 and 1967 wars and which is claimed by both Israelis and Palestinians.



Note:

**Impact of the announcement**

- The US recognition of Israel's claim of sovereignty over the Golan Heights will change little for the territory itself. There is currently no challenge to Israeli authority there.
- As observed with the US decision to recognise Jerusalem as Israel's capital in 2017, few or if any countries are likely to follow the US lead; international consensus that the Golan Heights is occupied territory will remain unchanged.
- Also, the United States decision flouts international norms and consensus, and sets a dangerous precedent for nations involved in conflicts.

**Importance of Golan Heights for Israel**

- The Golan Heights give Israel an excellent point for monitoring Syrian movements. The topography of Golan Heights provides a natural buffer against any military adventure from Syria.
- The area is also a key source of water for an arid region. Rainwater from the Golan Heights catchment feeds into the Jordan River. The area provides a third of Israel's water supply.
- The land is fertile, and the volcanic soil is used to cultivate vineyards and orchards and raise cattle. The Golan Heights is also home to Israel's only ski resort.

**Impact on India**

- India and Israel have always shared amicable diplomatic relations. With summit level visits and increased trade & security agreements Indo-Israeli relations have only become stronger.
- However, India has also maintained an independent stand on issues related to Israel and the middle east.
- The public nature of such a controversial declaration could set a precedent for other disputed areas, such as Kashmir, Taiwan, and the South China Sea.
- In this context, India could potentially ask the US to recognise Kashmir as Indian territory. But this hinges on the extent of the relationship shared between the US, India and Pakistan.

**India Attends OIC Summit**

Recently, India's External Affairs minister (EAM) attended 46<sup>th</sup> Session of the Council of Foreign Ministers

of the Organisation of Islamic Cooperation (OIC) held in Abu Dhabi, United Arab Emirates (UAE).

- India was invited by the host UAE as the "Guest of Honour" to attend the inaugural session of the OIC.
- Even though Pakistan is a founding member of OIC. It absented itself during the session.
- The year 2019 was celebrated as the 50<sup>th</sup> anniversary of OIC.

**Key Points of India's address at OIC**

- India's fight is against terrorism and not a confrontation with any religion.
- Countries that provided shelter and funding to terrorists must stop and dismantle the infrastructure of terrorist camps within their soil.
- India is home to more than 185 million Muslims and they practice their respective beliefs and live in harmony with each other and with their non-Muslim brethren.

**Organisation of Islamic Cooperation (OIC)**

- The OIC was formed in 1969 after a summit in Rabat, the Kingdom of Morocco on 25 September 1969 following the fire in Al-Aqsa Mosque in Jerusalem.
- The Organisation of Islamic Cooperation (OIC) is among the largest inter-governmental organizations in the world.
- It has 57 member states and 12 observers including the United Nations.
- The Organization is the collective voice of the Muslim world. It endeavours to safeguard and protect the interests of the Muslim world in the spirit of promoting international peace and harmony among various people of the world.
- The OIC members constitute more than one-fourth of the members of the United Nations, and nearly a quarter of humanity. It is an organization, that has a key role in shaping our world.

**Significance of the Invitation (India-OIC relations)**

- Invitation for India is a welcome recognition of the presence of 185 million Muslims in India and of their contribution to its pluralistic ethos, and of India's contribution to the Islamic world.
- The OIC offers a platform for Pakistan and India to play out their respective positions on a number of



thorny issues and in the process that can involve the forum for de-escalation purposes.

- Both India and the member countries of OIC have shared an interest in blunting the edge of religious extremism and terrorism.
- Equally important has been the region's growing economic and energy interdependence with India, which is emerging as the world's third-largest economy and one of the biggest hydrocarbon importers and labour exporters.
- As the region's geopolitics enters a turbulent period, the potential for India as a military partner is also coming on the centrestage.

### **Critical analysis of India attending OIC**

- India is a secular country, regardless of all the religions here, India does not prefer religion above nationality. Thus, the government must carefully consider its engagement with OIC.
- The major basis of the OIC is of the Muslim Brotherhood and that Muslims everywhere can be clubbed together because of their faith. But, India does not support such a philosophy of a collective identity based on religion. Thus, if India decides to engage with OIC it should be on the basis of our national interest not on account of religion.
- There are issues with respect to OIC's stands on Kashmir in past.
- In past decades, India had to spend lots of diplomatic capital to counter OIC's stands at many international organizations. By attending it, we are validating the same organization.

## **India-Russia Nuclear Submarine Deal**

Recently, India and Russia have inked a \$3 billion nuclear submarine deal.

### **Key Points**

- The Indian Navy will get the submarine – re-christened as Chakra III – on lease from Russia and is expected to serve the Indian Navy for at least a decade.
- The submarine will be fitted with the indigenously-developed USHUS integrated sonar system as well as the Panchendriya sonar, a unified submarine sonar, and tactical control system.

- The submarine could be delivered to the Indian Navy by 2025.
- The Chakra-III is expected to give India an edge over its rivals in the Indian Ocean region given one of the major strengths of a nuclear submarine is its ability to remain underwater for months, making detection difficult.
- The addition of this submarine will be a major boost to India's role as the net security provider in the Indian Ocean region, which has some of the busiest shipping lanes.

### **India-Russia Defense Cooperation**

- Recently, India and Russia have also signed a deal for the S-400 Triumf air defense missile system for over \$5 billion.
- India and Russia have also signed agreements for construction of frigates under Project 1135.6 and formation of joint venture to manufacture Ka-226T helicopters in India.
- Russia is also establishing a manufacturing unit for AK-203 assault rifles under a joint venture in Amethi, Uttar Pradesh.

## **India & France Sign Agreement on Maritime Security**

Recently, the Indian Space Research Organisation (ISRO) and its French counterpart National Centre for Space Studies (CNES) signed an agreement to set up a joint maritime surveillance system in India by May 2019.

### **Key Points**

- The two nations will explore putting up a constellation of low-Earth orbiting satellites that will identify and track movement of ships globally – and in particular those moving in the Indian Ocean region where France has its Reunion Islands.
- It provides for a maritime surveillance centre to be set up in India by May 2019.
- For the next phase of the programme, studies for an orbital infrastructure to be operated jointly by the two countries are ongoing. CNES is working with its industry partners and with ISRO to devise the most appropriate technical solution.



- Earlier the two agencies have already put up two climate and ocean weather monitoring satellites **Megha-Tropiques (2011)** and **SARAL-ArcticKa (2013)**.
- This fleet will be augmented with the launch of Oceansat-3-Argos mission in 2020 and a future joint infrared Earth-observation satellite.

#### National Centre for Space Studies (CNES)

- CNES is the French government space agency.
- Its headquarters are located in central Paris and it is under the supervision of the French Ministries of Defence and Research.
- It was founded in 1961.

## President of India Visits Croatia

During the first leg of his three-nation tour to Croatia, Bolivia, and Chile, President of India completed his visit to Croatia.

### Key highlights

- During the visit, India and Croatia signed **four Memorandum of Understandings: two in culture, one each in tourism, and sports.**
- President of India was also **conferred with Croatia's highest civilian award – the Grand Order of the King of Tomislav.**
- The two countries also agreed to work together to **develop a strong global response to defeat terrorism in all its forms and manifestations.**

### India-Croatia Relations

- India-Croatian relations are characterized by historical connections links between India and Croatia dating back to the 16<sup>th</sup> century.
- Relations between India and Croatia have been friendly since the days of the former Yugoslavia. India and Yugoslavia were also pioneers of the **Non-Aligned Movement.**
- Disintegration of Yugoslavia (due to political upheavals & conflicts in the early 1990s) gave birth to six new countries namely: **Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia and Slovenia.**
- Croatia is an important Central European country because of its **geo-strategic location, membership of the European Union and the NATO**, as well as being a **significant gateway to Europe through the Adriatic coastline.**

### Non-Aligned Movement

- The Non-Aligned Movement was formed during the Cold War as an organization of States that **did not seek to formally align themselves with either of the two superpower blocs – United States and/or the Soviet Union but sought to remain independent or neutral.**
- Key role in this process was played by – **Egypt, Ghana, India, Indonesia & Yugoslavia.**
- The basic concept for the group originated in 1955 during discussions that took place at the **Asia-Africa Bandung Conference** held in **Indonesia.**
- The bilateral trade relations between India and Croatia are at around \$200 million in 2017.
- But there is a good scope for trade in sectors like textile, pharmaceuticals, chemicals, engineering goods, food processing among others.
- Croatia has a sound scientific and technological base in niche sectors, such as shipbuilding, vaccines, renewable energy, and defense.



## Vice President's Visit to Paraguay & Costa Rica

Recently, Vice President of India visited two countries Costa Rica and Paraguay. Both the countries are important partners of India in Latin American and the Caribbean region respectively.

### India-Paraguay Relations

- **Political**
  - Diplomatic relations between India and Paraguay were established in 1961.
  - Both countries decided to strengthen the relations further between the two countries.

- Paraguay has also condemned the terror attack on Indian security forces in Pulwama.
- **Economic**
  - Bilateral trade between India and Paraguay has been growing.
  - It was \$40 million ten years ago and today it stands close to \$375 million.
  - Efforts will be made to diversify and expand the trade basket.
  - Discussion on India's engagement in MERCOSUR also took place during the visit.
- **Cooperation & People-2-People Contact**
  - New areas for collaboration were identified between the two countries like renewable energy, health, ICT, space, biotechnology, railways, and tourism-related infrastructure.
  - To build people to people contacts there was a discussion on how to make travel easier between two countries.

#### MERCOSUR

- The Southern Common Market (MERCOSUR for its Spanish initials) is a regional integration process, initially established by Argentina, Brazil, Paraguay, and Uruguay, and subsequently joined by Venezuela and Bolivia.
- India has a preferential trade agreement with MERCOSUR.



#### India-Costa Rica Relations

- India appointed an Honorary Consul in San Jose, capital of Costa Rica in 1995. Costa Rica reciprocated by opening an Honorary Consulate in New Delhi in 1996.

- India and Costa Rica enjoy long-standing relations of friendship and cooperation, which are being strengthened by the growing commercial engagement between the two countries.
- Costa Rica is the 13<sup>th</sup> leading Trading Partner of India in the Latin American and Caribbean (LAC) region. Bilateral trade between India and Costa Rica is around \$200 million.
- Costa Rica has set a target to become a carbon-neutral country by 2021 and has decided to join the **International Solar Alliance**.



#### India-Latin American & Caribbean (LAC) Region

- **Importance of LAC**
  - **Food Security:** India is importing pulses and from South American countries.
  - **Mineral Import:** Latin America is also very rich in minerals such as copper, lithium, iron ore, gold, and silver. India has an opportunity to increase investments for its extraction as well as for its imports at cheaper rates.
  - **Energy Security:** Latin America has huge reserves of crude oil (20% of global reserves). Currently, India sources 15% of its crude oil from LAC countries. India which has emerged as the second largest importer of crude oil from the region is also important for Latin American countries.
- **Challenges**
  - **Political Challenges:** India has good relations with countries like Brazil, Mexico, Chile but other countries lag behind. Rivalries between countries like Brazil and Argentina for regional dominance is also affecting India's relations with the region.
  - **Economic Relations:** Though trade has reached \$46 billion in 2012-13, it is nothing compared to

Note:

the Chinese trade of \$250 billion. Bilateral investments between India and LAC are also relatively low. It is only 4% of India's total outward investment.

## Saudi Investment in Strategic Oil Storage

India has invited Saudi Arabia to partner in building strategic oil reserves and further invest in India's refining and Petrochemical sectors.

- India is concerned about global oil balance and supplies for the following reasons:
  - India's energy needs are primarily met through imports.
  - Concerns about rising international crude oil prices.
  - The need for uninterrupted supplies of crude oil and LPG to India in view of the OPEC+ cuts.
- Sanctions imposed by the US administration on state-owned oil company of Venezuela.

### Strategic Petroleum Reserves

- Strategic petroleum reserves are huge stockpiles of crude oil to deal with any crude oil-related crisis like the risk of supply disruption from natural disasters, war or other calamities.
- India's strategic crude oil storages are currently located at Visakhapatnam (Andhra Pradesh), Mangaluru (Karnataka), and Padur (Karnataka).
- Recently, the government had announced setting up of two additional facilities at Chandikhol (Odisha) and Padur (Karnataka).
- The concept of dedicated strategic reserves was first mooted in 1973 in the US, after the first oil crisis.
- The US pull-out from 2015 accord with energy-rich Iran has limited the options for India to meet its energy demands.

- The IEA predicts that by 2020, India could well be the largest oil importer, increasing the country's vulnerability to threats of physical supply disruptions leading to sharp price fluctuations.
- Besides the energy security, there is a commercial angle to it as well. Even as limited storage option would offer India the leverage to be a serious player in the international oil markets, with the option of releasing inventory when prices surge and recharging reservoirs whenever the crude is on a downcycle.

### Way forward

- Experts point to the option of storage being leased out to West Asian refiners, especially since it reduces their freight costs into Southeast Asian markets.
- The three storage facilities to be implemented in the first phase can hold 13 days of India's crude stock requirement while International Energy Agency (IEA) recommends 90 days.
- Therefore, there is a need to build more stockpiles before oil prices rise back given that OPEC nations have recently decided to reduce oil production to bring stability in global oil prices.



# Science and Technology

## Highlights

- Solar Tsunami can trigger the Sunspot Cycle (31)
- India Measures the Potential of a Thundercloud (31)
- Mission Shakti: Anti-Satellite Missile Test (32)

## Solar Tsunami can trigger the Sunspot Cycle

Recently, scientists have found that Solar Tsunamis are responsible for triggering a 11-year cycle of sunspots. It is believed that the “solar dynamo” is linked to the production of Sunspots.

### What is a Solar Tsunami?

- Solar tsunami is the waves of the magnetic field and hot, ionized gas moving across the Sun at about 400 km per second.
- Tsunamis are generated after the release of matter into space called as coronal mass ejection (CME).
- Solar tsunamis were discovered in 1997 by the SOHO (Solar and Heliospheric Observatory) of European Space Agency.

### How does a Solar Tsunami leads to Sunspot?

- The extreme temperature and pressure conditions that prevail some 20,000 km below the sun’s surface cause its material to form a plasma consisting primarily of hydrogen and helium in a highly ionized state.
- The plasma is confined with huge magnetic fields inside the sun. Holding these fields in their place requires that there is extra mass (plasma mass) pushing at the bands from higher latitudes.
- Thus, a magnetic dam is formed which is storing a big mass of plasma. At the end of a solar cycle, this magnetic dam can break, releasing huge amounts of plasma cascading like a tsunami towards the poles.
- These tsunami waves travel at high speeds of about 1,000 km per hour carrying excess plasma to the mid-latitudes thereby giving rise to magnetic flux eruptions. These are seen as the bright patches that signal the start of the next cycle of sunspots.

### What is ‘Solar Dynamo’?

- Solar Dynamo is a naturally occurring generator which produces electric and magnetic fields in the sun.

### What is a ‘Sun Spot’?

- Sunspots are areas that appear dark on the surface of the Sun. They appear dark because they are cooler than other parts of the Sun’s surface.
- The temperature of a sunspot is still high around 6,500 degrees Fahrenheit.
- Sunspots are relatively cool. It’s because they form at areas where magnetic fields are particularly strong. These magnetic fields are so strong that they keep some of the heat within the Sun from reaching the surface.
- The amount of magnetic flux that rises up to the Sun’s surface varies with time in a cycle called the solar cycle. This cycle lasts 11 years on average. This cycle is sometimes referred to as the sunspot cycle.

## India Measures the Potential of a Thundercloud

For the first time in the world, researchers at the GRAPES-3 muon telescope facility in Ooty, Tamil Nadu have **measured the electrical potential, size and height of a thundercloud**.

### Key Points

- Using GRAPES-3 facility muons were studied to understand **thundercloud properties** which can be useful in navigation of aircraft and preventing short circuits.
- **Elementary particle muons** are produced through interaction of cosmic rays with atoms in atmosphere and the energy of muons changes on passing through thunderclouds.

**NOTE:**

Muon is an elementary particle similar to the electron, with an electric charge of  $-1 e$  and a spin of  $1/2$ , but with a much greater mass.

**GRAPES-3 Experiment**

- GRAPES-3 (Gamma Ray Astronomy PeV EnergieS phase-3) is designed to study cosmic rays with an array of air shower detectors and a large area muon detector
- The GRAPES-3 experiment located at Ooty in India is a collaboration between India & Japan.

## Mission Shakti: Anti-Satellite Missile Test

On March 27, 2019 India successfully conducted an Anti-Satellite (ASAT) Missile Test codenamed **Mission Shakti**.

**Key Points**

- Mission Shakti demonstrated India's anti-satellite missile capability by shooting down a live satellite in the Low Earth Orbit (an altitude of 300 km).
- India has become the fourth country, after **US, Russia & China**, to demonstrate the capability to shoot down satellites in the orbit.
- India built the broad capabilities and building blocks to develop ASAT missiles as part of its **Ballistic Missile Defence (BMD)** programme.

**NOTE:**

A Low Earth Orbit (LEO) is an Earth-centred orbit with an altitude of 2,000 km or less. Most of the manmade objects in space are in LEO. There are least 5 known Indian satellites in LEO: India PiSat, Resourcesat 2, Radar Imaging Satellites 1 & 2 and SRMsat.

**Significance**

- The test **marks a geostrategic shift** by strengthening India's position as a major space power with proven space technology.

- By successfully conducting the test India has **set up a new deterrent** in the sphere of space thereby sending a powerful signal to countries such as China.
- It also **demonstrates India's technological capability** to design, build and intercept a satellite in outer space using indigenous technology.
- It strengthens the **role of India in the future in the drafting of international law** on the prevention of an arms race in space.

**What are Anti-Satellite Weapons?**

- They are **missile-based systems to attack moving satellites**.
- There are different kinds of systems – those that can be launched from the **ground or those vaulted from planes**.
- Anti-satellite weapons provide the capability to **shoot down enemy satellites in orbit** thereby **disrupting critical communications and surveillance capabilities**.
- ASAT missiles also **act as a space deterrent** in dissuading adversaries from targeting the country's satellite network.
- The development of such systems occurred during the Cold War era.

**What is the international law on weapons in outer space?**

- The principal treaty on space is the **1967 Outer Space Treaty**.
- **India is a signatory** to this treaty, and ratified it in 1982.
- The Outer Space Treaty **prohibits only the use of weapons of mass destruction in outer space, and not ordinary weapons**.

**What is India's stand on Outer Space?**

- India has always maintained that space must be used only for peaceful purposes.
- It has no intention of entering into an arms race and is against the weaponization of Outer Space.
- India also supports international efforts to reinforce the safety and security of space based assets.





# Environment and Ecology

## Highlights

- *International Workshop on Disaster Resilient Infrastructure* (33)
- *Bandipur Forest Fire* (34)
- *New Delhi Declaration on Asian Rhinos 2019* (35)
- *El Niño* (35)
- *World Air Quality Report* (35)
- *Global Environment Outlook* (36)
- *4th Meet of UN Environment Assembly* (37)
- *Hotspots of Human Impact* (37)
- *Bannerghatta National Park* (37)
- *Vaquita Porpoise* (38)
- *Cyclone Idai* (38)
- *STAR Rating Programme* (39)
- *Exclude Tree Cover from Forest Surveys* (39)
- *India Cooling Action Plan* (40)
- *Hazardous and Other Wastes Rules, 2016* (40)
- *New Hydroelectricity Policy* (41)

## International Workshop on Disaster Resilient Infrastructure

Recently, an International Workshop on Disaster Resilient Infrastructure (IWDR) was held in New Delhi.

### Key Points

- The two-day workshop was organised by the National Disaster Management Authority (NDMA) in collaboration with United Nations Office for Disaster Risk Reduction (UNISDR), and in partnership with the Global Commission on Adaptation, the United Nations Development Programme and the World Bank.
- The objectives of workshop were to:
  - identify good practices of disaster risk management in key infrastructure sectors,
  - identify specific areas and pathways for collaborative research on DRI (Transport, Energy, Telecom and Water),
  - discuss and co-create the broad contours of the Coalition for Disaster Resilient Infrastructure (CDRI) as well as a notional roll-out plan for the next three years, and
  - build a forum for members to work on areas of common interest and make specific commitments.

### Background

- Besides reducing infrastructure losses, disaster resilient infrastructure will also help achieve targets pertaining

to reduction in mortality, number of affected people and economic losses due to disasters.

### United Nations Office for Disaster Risk Reduction (UNISDR)

- UNISDR was established in 1999 as a dedicated secretariat to facilitate the implementation of the International Strategy for Disaster Reduction (ISDR).
- It is headquartered in Geneva, Switzerland.
- It is mandated to serve as the focal point in the United Nations system for the coordination of disaster reduction activities and act as the custodian of the Sendai Framework, and support countries and societies in its implementation.
- It is led by the UN Special Representative of the Secretary General for Disaster Risk Reduction (SRSG).
- UNISDR's Strategic Framework 2016-2021 envisages to substantially reduce the disaster risk and losses for a sustainable future.

- India announced the creation of a Coalition for Disaster Resilient Infrastructure (CDRI) after the Asian Ministerial Conference on Disaster Risk Reduction, which was held in New Delhi in 2016. The CDRI is envisaged as a knowledge exchange and capacity development partnership.
- The first International Workshop on Disaster Resilient Infrastructure (IWDR 2018) was held in January 2018 in India.
- Various international agreements have also reiterated the importance and long-term benefits of investing in resilient infrastructure.

Note:

- The **Sendai Framework for Disaster Risk Reduction** (SFDRR) 2015-2030, identifies investing in Disaster Risk Reduction (DRR) for resilience and to build back better in reconstruction as priorities for action towards reducing disaster risk.
- Similarly, **Goal 9 of the Sustainable Development Goals** (SDGs) recognises disaster resilient infrastructure as a crucial driver of economic growth and development.

### ***Sendai Framework for Disaster Risk Reduction (SFDRR)***

- The Sendai Framework is a 15-year voluntary, non-binding agreement which recognises that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, and private sector.
- It aims to achieve the substantial reduction of disaster risk and loss of lives, livelihoods and economic, physical, social, cultural and environmental assets of communities and countries.
- The SFDRR 2015-2030 outlines seven clear targets and four priorities for action to prevent new and reduce existing disaster risks:
  - Understanding disaster risk;
  - Strengthening disaster risk governance to manage disaster risk;
  - Investing in disaster reduction for resilience; and
  - Enhancing disaster preparedness for effective response and to **'Build Back Better'** in recovery, rehabilitation and reconstruction.
- The Framework was adopted at the third UN World Conference on Disaster Risk Reduction in Sendai, Japan, on March 18, 2015.

## **Bandipur Forest Fire**

The recent wildfire in Bandipur National Park has reportedly burnt more than 15,400 acres of forests. **NASA's Fire Information for Resource Management System (NASA-FIRMS)** had detected 32 fire incidents in the Park.

### ***Key Points***

- Bandipur is a dry deciduous forest in the rain shadow region of the Western Ghats and is no stranger to fires. Periods of drought invariably lead to fires.

- A study has shown that between 1974 and 2014, 67% of the Nilgiri Biosphere had seen some form of forest fire, with Bandipur having reported the most incidents.
- As per the report, **'Strengthening Forest Fire Management in India'**, jointly prepared by the Ministry of Environment, Forest and Climate Change (MoEFCC) and the World Bank at least 60% of districts in India are affected by forest fires each year.

### ***Effect of forest fire***

- **Loss of ecosystem:** Forest fires destroy the habitats and the intricate relationships of diverse flora and fauna leading to loss of ecosystems and biodiversity.
- **Forest degradation:** Wildfire is a major cause of forest degradation destroying thousands of acres of trees and vegetation cover. It reduces the quality of certain forest features like soil fertility, biodiversity, and ecosystems.
- **Air pollution:** Forest fires increase the concentration of greenhouse gases and carbon dioxide and other air pollutants in the air. It also means less forest available to purify the air.

### ***How much India is prepared to fight forest fire?***

- According to the State of Environment Report of the Centre for Science and Environment (CSE), between 2015-2017, instances of forest fires increased by 125%.
- In 2017, the maximum numbers of forest fires were reported in Madhya Pradesh, followed by Odisha and Chhattisgarh. A National Institute of Disaster Management report on forest fires says 50% of the country's forests are prone to fire.
- But India's firefighting potential is not as good as it should be and the country lacks fire protection planning knowledge and incentive. India also doesn't have a strong and clear national policy on how to tackle forest fires.
- Foresters still fight forest fires using outdated methods, when systematic modern fire management techniques and methods have been adopted in the rest of the world. According to the CSE report, nearly 46-65% of the money allocated under the forest management schemes has not been utilized.

## New Delhi Declaration on Asian Rhinos 2019

India, Bhutan, Nepal, Indonesia and Malaysia have signed the declaration 'The New Delhi Declaration on Asian Rhinos 2019' for the conservation and protection of the species at the recently held **Second Asian Rhino Range Countries meeting**. The meet was organized in New Delhi by the Ministry of Environment, Forest and Climate Change (MOEFCC) in collaboration with IUCN Asian Rhino Specialist Group, WWF-India and Aaranyak.

### Key point

- The declaration was signed **to conserve and review the population of the Greater one-horned (or Indian), Javan and Sumatran rhinos every four years** to reassess the need for joint actions to secure their future.
- The declaration includes undertaking studies on health issues of the rhinos, their potential diseases and taking necessary steps; collaborating and strengthening wildlife forensics for the purpose of investigation and strengthening of transboundary collaboration among India, Nepal and Bhutan for the conservation and protection of the Greater one-horned rhino.
- It asks to identify connectivity and corridors across international boundaries and keep them functional, safe and secure for free movement of Asian rhinos and other wildlife.
- The declaration also asks to increase the engagement of the local communities as stewards to secure the future of rhinos in range countries

### NOTE:

There are three species of rhino in Asia—greater one-horned, Javan and Sumatran. **Javan and Sumatran Rhino are critically endangered** and the **greater one-horned (or Indian) rhino is vulnerable**. **Asian Rhino Range Countries** include India, Nepal, Bhutan, Indonesia, and Malaysia.

- The **objective is to replicate or develop upon the Kaziranga rhino conservation success** story for Sumatran as well as the Javan rhino. Kaziranga had less than 10 Greater one-horned rhinos when it was declared a protected area for the animal in 1905. Now it is home of more than 2, 900 Indian rhinos.

- India also launched the **National Rhino Conservation Strategy** for the conservation of the Greater one-horned rhino.

### National Rhino Conservation Strategy

- It calls for active engagement between India and Nepal to conserve the greater one-horned rhinoceros.
- The plan said the single population of rhinos in Sukla-Phanta (Nepal), Valmiki Tiger Reserve (India) and Chitwan National Park (Nepal) and Dudhwa (India) is separated by the political boundary between the two countries.
- It asks for the management of the two populations under the same protocol, instead of managing the two populations separately.
- The plan calls for expanding distribution range as the occurrence of 90% of the rhino in one protected area is a cause of concern and conservation of existing and potential rhino habitats need to be made a national priority.

## El Niño

The National Oceanic and Atmospheric Administration (NOAA) of the United States recently announced the development of a weak El Niño in the equatorial Pacific Ocean.

### Key Points

- Over the years, El Niño has been found to have a strong bearing on monsoon rainfall in India.
- El Niño is a phenomenon in which surface temperatures in the equatorial Pacific Ocean see an unusual rise.
- While warmer temperatures are known to suppress monsoon rainfall, the opposite phenomenon of La Niña has been found to be helpful in bringing good rainfall.
- El Niño events repeat themselves in a 2-7 years cycle, with a strong El Niño expected every 10-15 years.

## World Air Quality Report

Recently IQAir in collaboration with Greenpeace Southeast Asia released the World Air Quality Report.

### Key Highlights

- Fifteen of the top 20 most polluted cities in the world are located in India. **Gurugram**, in Haryana, topped the list.
- The other cities in India that made the list of 20 were Delhi, Ghaziabad, Faridabad, Bhiwadi, Noida, Patna, Lucknow, Jodhpur, Muzaffarpur, Varanasi, Moradabad, Agra, Gaya and Jind.
- When ranked by country, Bangladesh emerged as the most polluted followed by Pakistan and India respectively.
- Of the cities analysed, 64% exceeded the WHO's annual exposure guideline (10g/m<sup>3</sup>) for fine particulate matter, also known as PM<sub>2.5</sub>. India's annual guidelines range from 40-60 g/m<sup>3</sup>, depending on whether they are residential or industrial areas.

### Steps taken to curb the pollution

- The Government has formulated a **National Clean Air Programme (NCAP)** as a medium-term national-level strategy to fight the menace of pollution through a long-term strategy.
- **The Clean Air India Initiative** was launched in 2018 to reduce air pollution by promoting partnerships between Indian startups and Dutch companies and build a network of entrepreneurs working on business solutions for cleaner air.
- The Central Government released the **National Air Quality Index (AQI)** for public information under the aegis of the CPCB. AQI has been developed for eight pollutants – PM<sub>2.5</sub>, PM<sub>10</sub>, NH<sub>3</sub>, Pb, nitrogen oxides, sulphur dioxide, ozone and carbon monoxide.

## Global Environment Outlook

United Nation Environment Programme (UNEP) has recently released the 6<sup>th</sup> edition of the Global Environment Outlook Report (GEO).

### Key Findings

- As greenhouse gas emissions continue to rise amid an increased risk of droughts, floods and super storms made worse by climbing sea levels, there is a growing political consensus that climate change poses a future risk to billions.
- A quarter of all premature deaths and diseases worldwide are due to manmade pollution and environmental damage – around 9 million deaths in 2015 alone.

- Lacking access to clean drinking supplies, 1.4 million people die each year from preventable diseases such as diarrhea and parasites linked to pathogen-riddled water and poor sanitation.
- Chemicals pumped into the seas cause “potentially multi-generational” adverse health effects.
- Land degradation through mega-farming and deforestation occurs in areas home to 3.2 billion people.
- The report called for a decrease in greenhouse gas emissions and pesticide use to improve air and water quality.
- Food waste for instance, which accounts for 9% of global greenhouse gas emissions, could be slashed.
- The world currently throws away a third of all food produced. In richer nations, 56% goes to waste.
- The report advises adopting less-meat intensive diets and reducing food waste in both developed and developing countries.
- This would reduce the need to increase food production by 50% to feed the projected 9-10 billion people on the planet in 2050.

### The Global Environment Outlook (GEO)

- The Global Environment Outlook is often referred to as UN Environment's flagship environmental assessment.
- It outlines the current state of the environment, illustrates possible future environmental trends and analyses the effectiveness of policies.
- UN Environment launched the first Global Environment Outlook in 1997.

### United Nation Environment Programme

- United Nations Environment Programme (UNEP), was established in 1972 to guide and coordinate environmental activities within the United Nations (UN) system.
- UNEP promotes international cooperation on environmental issues, provides guidance to UN organizations.
- Through its scientific advisory groups, UNEP encourages the international scientific community to participate in formulating policy for many of the UN's environmental projects.
- The organization also encourages participation by the private sector to promote the sustainable use of the world's natural resources.
- UNEP is headquartered in Nairobi, Kenya.

Note:



## 4<sup>th</sup> Meet of UN Environment Assembly

The 4<sup>th</sup> meet of UN Environment Assembly (UNEA) was recently held in Nairobi, Kenya. “**Innovative solutions for environmental challenges and sustainable consumption and production**” was the theme of the meet.

### Key Points

- India piloted resolutions on two important global environmental issues relating to **Single-use Plastics** and **Sustainable Nitrogen management**.
- The final declaration of the meet asked to significantly reduce single-use plastic products by 2030.
- The Government of India has pledged in 2018 to eliminate single-use plastics from India by 2022.

### United Nations Environment Assembly (UNEA)

- The UNEA is the world’s highest-level decision-making body on the environment. It addresses the critical environmental challenges facing the world today.
- The Assembly meets biennially to set priorities for global environmental policies and develop international environmental law. Through its resolutions and calls to action, the Assembly provides leadership and catalyses intergovernmental action on the environment.
- The UNEA was created in June 2012, when world leaders called for UN Environment to be strengthened and upgraded during the United Nations Conference on Sustainable Development, also referred to as RIO+20.
- UNEA is composed of 193 Member States. It is also the governing body of the UN Environment Programme.

## Hotspots of Human Impact

A study published in PLOS Biology journal has found that human activities that affect species occur across 84% of the earth’s surface.

### Key highlights

- The study mapped the distribution of eight human activities – including hunting and conversion of natural habitats for agriculture – in areas occupied by more than 5,000 threatened birds, mammals and amphibians worldwide.

- A staggering 1,237 species are impacted by threats in more than 90% of their habitat.
- The impact of roads is highest (affecting 72% of terrestrial areas) and croplands affect the highest number of threatened species: 3,834.
- Southeast Asian tropical forests – including those in India’s the Western Ghats, Himalaya and north-east – are among the ‘hotspots’ of threatened species.
- However, these very areas are also ‘cool-spots’ (the world’s **last refuges where high numbers of threatened species still persist**). Cool-spots could be the result of protection or because of intact habitat that has not been cleared yet.
- Identifying such areas could aid conservation and development planning for countries.
- Malaysia was the first among the countries with the highest number of impacted species (125).
- India ranks 16<sup>th</sup> (35 threatened species affected on average).
- Roads and croplands are extensive in India and conversion of habitat for such activities is the main threats for the wildlife.

### Way forward

- Identifying cool spots could aid conservation and development planning for countries.
- The development plans should keep wildlife conservation as a primary goal in biodiversity-rich areas.
- Adoption of wildlife-friendly cropping patterns can also lead to conservation of wildlife.

## Bannerghatta National Park

The Eco-Sensitive Zone (ESZ) Expert Committee of the Ministry of Environment and Forests (MOEF), has recommended the reduction of nearly 100 sq. km in the ESZ of Bannerghatta National Park.

### Key Points

- ESZ provides a regulated buffer zone around protected areas.
- The fear is that this reduction would lead to more quarrying in the area.
  - However, there is a Supreme Court ruling prohibiting quarrying and mining activities within 1km of protected areas irrespective of the ESZ distance.



- Therefore, the 'safe zone' of 1 km around protected areas is already in place across the country.
- Other 'development' activities apart from mining and quarrying can take place, which can have an adverse impact on forests.

- The Bannerghatta National Park is located near Bangalore in Karnataka.
- Wildlife such as elephants, gaur, leopard, jackal, fox, wild boar, sloth bear, Sambar, Chital, spotted deer, barking deer, common langur, bonnet macaque, porcupine, and hares are found in abundance.
- The Bannerghatta Biological Park has been an integral part of Bannerghatta National Park.
- It emerged out as an independent establishment during the year 2002.
- Bannerghatta Biological Park is one among the few places in the world where wilderness is preserved so close to a big city. It is having different units such as Zoo, Safari, Butterfly Park and Rescue Center (Conservation of captive animals).

## Vaquita Porpoise

Recently a dead Vaquita Porpoise was found in a fishnet off the coast of Mexico.

### Key Points

- It is a 'critically endangered' marine animal under IUCN Red List of which only about 15 remain in the world.
- It is also known as "the panda of the sea" for the distinctive black circles around its eyes.



- Vaquita Porpoises are among the ocean's smallest cetaceans and they only reside in the northern Gulf of California.
  - The Cetaceans are one of the most distinctive and highly specialized aquatic mammals. They include

the blue whale, dolphins, blind river dolphins, Porpoise, etc.

- The vaquitas are threatened primarily by gillnet fishing for the Totoaba fish, another endangered species in the area that is hunted for its swim bladder, considered a delicacy in China.

## Cyclone Idai

Recently the Cyclone Idai has hit the port city of Beira in Mozambique.

- According to the Global Facility for Disaster Reduction and Recovery (GFDRR), Mozambique is the third most at-risk country in Africa when it comes to extreme weather.
- The cyclone has been named by Zimbabwe.

### Global Facility for Disaster Reduction and Recovery (GFDRR)

- GFDRR is a global partnership that **helps developing countries better understand and reduce their vulnerability to natural hazards and climate change.**
- GFDRR was established in September 2006 as a global partnership of the World Bank, UN agencies and bilateral donors.
- The organization is located in the World Bank headquarters in Washington, DC.
- Its missions are:
  - to mainstream disaster reduction and climate change adaptation (CCA) in country development strategies, and
  - to foster and strengthen global and regional cooperation among various stakeholders under the International Strategy for Disaster Reduction (ISDR) system.
- GFDRR **contributes to the implementation of the Sendai Framework for Disaster Risk Reduction** by helping countries to integrate disaster risk management and climate change adaptation into development strategies and investment programs and recover from disasters quickly and effectively.

### Tropical Cyclone

- The cyclone is the formation of a very low-pressure system with very high-speed winds revolving around it. Factors like wind speed, wind direction, temperature and humidity contribute to the development of cyclones.

Note:

- Before cloud formation, water takes up heat from the atmosphere to change into vapour. When water vapour changes back to liquid form as raindrops, this heat is released to the atmosphere.
- The heat released to the atmosphere warms the air around. The air tends to rise and causes a drop in pressure. More air rushes to the centre of the storm. This cycle is repeated.

## STAR Rating Programme

Recently, the Ministry of Power has expanded its ambitious **Standards & Labelling (Star Rating) programme** for Energy Efficiency for Appliances to cover the Microwave Ovens and Washing Machines (with revised parameters) in the country.

### Key Points

- This programme is expected to save over 3.0 Billion Units of electricity by 2030. This would be equivalent to Green House Gases (GHG) reduction of 2.4 Million-ton of CO<sub>2</sub> by the year 2030 through these initiatives.
- The Star Labeling Programme has been **formulated by the Bureau of Energy Efficiency (BEE) for improving energy efficiency and lowering energy cost** of appliances/equipment for the consumers.
- Any model/brand of Washing Machine or a Microwave Oven can avail Star Rating on a scale of 1 to 5 based on test report from National Accreditation Board for Testing and Calibration Laboratories (NABL) or equivalent labs subsequent to scrutiny by BEE.

### Bureau of Energy Efficiency (BEE)

- The BEE is a **statutory body** under the Ministry of Power.
- It assists in developing policies and strategies with the primary objective of reducing the energy intensity of the Indian economy.
- BEE coordinates with designated consumers, designated agencies, and other organizations to identify and utilize the existing resources and infrastructure, in performing the functions assigned to it under the Energy Conservation Act, 2001.

### National Accreditation Board for Testing and Calibration Laboratories (NABL)

- NABL is a Constituent Board of Quality Council of India.

- NABL has been established with the objective of providing Government, Industry Associations and Industry in general with a scheme of Conformity Assessment Body's accreditation which involves third-party assessment of the technical competence of testing including medical and calibration laboratories, proficiency testing providers and reference material producers.
- Quality Council of India (QCI) as a non-profit autonomous society registered under Societies Registration Act, 1860.
- The aim of QCI is to establish an accreditation structure in the country and to spread quality movement in India by undertaking a National Quality Campaign.

## Exclude Tree Cover from Forest Surveys

A high-power Committee of Ministry of Environment, Forest and Climate Change (MoEFCC) recommended that Forest Surveys should explicitly demarcate trees grown in forests from those grown outside, that is, in plantations and private lands.

### Key point

- Currently, the Government forest surveys such as the **Indian State of Forest Report** counts both towards estimating the portion of India's geographical area covered by forest. Including both isn't an ecologically sound principle.
- Getting India to have at least **33% of its area under forest is a long-standing goal** of the Government.
- Various editions of the SFR have over the years reported the area under forests as hovering around 21%.
- The Ministry of Environment, Forest & Climate Change defines forest cover in India as "all lands, more than one hectare in the area with a tree canopy density of more than 10%".

### India State of Forest Report (ISFR)

- It is a biennial exercise by the Government to estimate forest cover. The report is prepared by the Forest Survey of India (FSI) of the MoEF&CC.
- The first Report was published in 1987. Since then the FSI has published 15 such Reports, ISFR 2017 is the latest one.

- According to the IFSR 2017, the total forest cover of India is 21.54% of the total geographical area of the country.

#### Forest Survey of India (FSI)

- Forest Survey of India (FSI), is a premier national organisation under the MoEFCC, responsible for assessment and monitoring of the forest resources of the country regularly.
- The organisation was founded in 1981.
- Headquarters: Dehradun.

## India Cooling Action Plan

Recently, India Cooling Action Plan (ICAP) was launched by the Ozone Cell of the Ministry of Environment, Forest and Climate Change (MoEF&CC).

### Key highlights

- It provides a **20-year perspective, with projections for cooling needs in 2037-38**.
- The thrust of the India Cooling Action Plan (ICAP) is to look for **synergies in actions for securing both environmental and socio-economic benefits**.
- The overarching goal of ICAP is to provide **sustainable cooling and thermal comfort for all** while securing environmental and socio-economic benefits for the society. It will also help in reducing both direct and indirect emissions and protect the ozone layer.
- The Plan takes a “holistic and balanced approach” by combining **active (air-conditioning) and passive cooling strategies** (e.g. passively-cooled building design that deploys natural and mechanical ventilation).
- It further considers the need of **sustainable cooling and thermal comfort for all; skilling of refrigeration technicians and R&D innovation ecosystem** for indigenous development of alternative technologies.
- India is one of the first countries in the world to develop a comprehensive Cooling Action plan which has a long term vision to address the cooling requirement across sectors and lists out actions which can help reduce the cooling demand.
- The Plan is in sync with India's commitment to the Montreal Protocol, 1987 (reduction of ozone-depleting substances) as well as the Paris Agreement, 2015 to meet the challenges of climate change.

### Benefits of the ICAP

- **Thermal comfort for all** – provision for cooling for Economically Weaker Section (EWS) and Low Income Group (LIG) housing
- **Sustainable cooling** – low GHG emissions related to cooling
- **Doubling Farmers Income** – better cold chain infrastructure – a better value of produce to farmers, less wastage of produce
- **Make in India** – domestic manufacturing of air-conditioning and related cooling equipment.
- **Robust R&D on alternative cooling technologies** – to provide a push to innovation in the cooling sector.

### Montreal Protocol

- Montreal Protocol, or Montreal Protocol on Substances that Deplete the Ozone Layer, is an international treaty, adopted in Montreal, Canada.
- It regulates the production and use of chemicals that contribute to the depletion of Earth's ozone layer.
- It came into effect on January 1, 1989 and is the only environmental treaty which enjoys universal ratification of all UN members countries.
- Its implementation led to the phase-out of around 98% of ozone depleting chemicals.
- India is a signatory.

## Hazardous and Other Wastes Rules, 2016

The Government has amended the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 to include prohibition on the import of solid plastic waste in special economic zones (SEZ) and by export-oriented units (EOUs).

### Key Points

- The Government amended the rules by an order to strengthen the implementation of environmentally sound management of hazardous waste in the country.
- The amendment has been done keeping into consideration the 'Ease of Doing Business' and boosting 'Make in India' initiative by simplifying the procedures under the Rules while upholding the principles of sustainable development and ensuring minimal impact on the environment.

- Exporters of silk waste have now been given exemption from requiring permission from the MoEF&CC.
- Electrical and electronic assemblies and components manufactured in and exported from India if found defective can now be imported back into the country, within a year of export, without obtaining permission from the MoEF&CC.
- Industries which do not require consent under Water (Prevention and Control of Pollution) Act 1974 and Air (Prevention and Control of Pollution) Act 1981, are now exempted from requiring authorization, provided that hazardous and other wastes generated by such industries are handed over to the authorized actual users, waste collectors or disposal facilities.

### Background

- India's imports of solid plastic waste quadrupled to 48,000 tonnes in Fiscal Year 2017-18 from 2016-18.
- India had banned the import of plastic waste – particularly PET bottles – in 2015 because of an inability to recycle them.
- However, the Centre allowed agencies in special economic zones (SEZ) to import them in 2016. It was the legal loophole which led to an influx of PET bottles into the country.
- China, which was once a major global importer of plastic waste for recycling, had recently banned imports and therefore plastic wastes ended up in India instead.
- Plastic unsuitable for recycling is burnt, which releases toxic chemicals into the atmosphere or it ends up in the landfill, potentially contaminating soil and water sources.

#### NOTE:

PET, which stands for Polyethylene terephthalate, is a form of polyester (just like the clothing fabric). It is extruded or molded into plastic bottles and containers for packaging foods and beverages, etc.

## New Hydroelectricity Policy

The Government has recently approved the New Hydroelectricity Policy.

### Key highlights

- The Government, under New Hydroelectricity Policy, has approved 'renewable energy status' for large hydel projects. Earlier, only smaller projects of less than 25 MW in capacity were categorized as renewable energy.
- Large hydro projects will now be included as a separate category under the non-solar Renewable Purchase Obligation Policy, mandating power purchasers to source a portion of electricity from such projects.
- The Policy also provides for additional funds separately for infrastructure development as well as separate funds for the costs of flood moderation.
- The measures have been taken to reduce hydropower tariff and make the sector more competitive.
- According to the government, India has a hydropower potential of 1, 45,320 MW, of which only about 45,400 MW has been utilized so far.
- Also, the share of hydro-power in the total generation capacity has declined to around 13% in 2018-19 from about 50% in the 1960s.

### Renewable Purchase Obligation

- Renewable Purchase Obligation refers to the obligation imposed by law on some entities to either buy electricity generated by specified 'green' sources or buy, in lieu of that, 'Renewable Energy Certificates (RECs)' from the market.
- The 'obligated entities' are mostly electricity distribution companies and large consumers of power. RECs are issued to companies that produce green power, who opt not to sell it at a preferable tariff to distribution companies.





# Art & Culture

## Highlights

- Prayagraj Kumbh Mela 2019 (42)
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- Dictionary of Martyrs of India's Freedom Struggle (1857-1947) (43)
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## Prayagraj Kumbh Mela 2019

The recently held, Prayagraj Kumbh Mela 2019 has been placed in the **Guinness World Records** in **three sectors**.

### Key Points

- The Mela has been placed in three sectors of the Guinness World Records:
  - Largest traffic and crowd management plan,
  - The biggest painting exercise of public sites under "Paint my City" scheme
  - The biggest sanitation and waste disposal mechanism.

### Kumbh Mela

- Kumbh Mela is the **largest congregation of pilgrims on earth**, during which participants bathe or take a dip in a sacred river.
- It comes under the **UNESCO's Representative List of Intangible Cultural Heritage of Humanity**.
- The festival is held at **Prayagraj** (at the confluence of Ganga, Yamuna, and the mythical Saraswati), **Haridwar** (on the Ganges), **Ujjain** (on the Shipra) and **Nasik** (on the Godavari) **every four years by rotation**.
- As it is held in four different cities in India, it involves different social and cultural activities, making this a **culturally diverse festival**.
- Each site's celebration is based on a distinct set of astrological positions of the Sun, the Moon, and the Jupiter. The celebrations occur at the exact moment when these positions are fully occupied, as it is considered to be the holiest time in Hinduism.

- The event encapsulates the science of astronomy, astrology, spirituality, ritualistic traditions, and social and cultural customs and practices, making it extremely rich in knowledge.
- Knowledge and skills related to the tradition are transmitted through ancient religious manuscripts, oral traditions, historical travelogues and texts produced by eminent historians.
- The teacher-student relationship of the sadhus in the Ashrams and Akhadas remains the most important method of imparting and safeguarding knowledge and skills relating to Kumbh Mela.

## Navroz

Recently, Navroz was celebrated on March 21 to mark the beginning of spring and the day of the equinox.

### Key Points

- Navroz is **New Year celebrations of Parsis, followers of Zoroastrianism and various sects of Muslim, both Shias and Sunnis**.
- In 1079 AD, a **Persian (Iranian) king named Jalaluddin Malekshah introduced the Navroz (New Year) festival** to generate revenue and collect taxes from people.
- It is inscribed in the list of **UNESCO Intangible Cultural Heritage of Humanity of India**. In India, it is known as **Jamshed Navroz**.

### Intangible Cultural Heritage of India

- **Kumbh Mela, Yoga, Traditional brass and copper craft of utensils among Thatheras of Punjab, Sankirtana** (ritual singing, dancing and drumming of Manipur), **Buddhist chanting of Ladakh, Chhau Dance, Kalbelia** (folk song and dance of Rajasthan), **Kutiyattam** (a Sanskrit theatre of Kerala), **Tradition of Vedic Chanting**,



**Ramlila, Novruz (Persian New Year), Ramman**(religious festival and ritual theatre of the Garhwal Himalayas) and **Mudiyettu** (ritual theatre and dance drama of Kerala).

## Azaadi Ke Diwane Museum

Recently, the Ministry of Culture inaugurated 'Azaadi ke Diwane' museum at Red Fort, Delhi.

### Key Points

- It pays homage to all the unsung heroes of the freedom struggle and the selfless sacrifices of the revolutionaries, brave female freedom fighters and valiant children.
- The museum is fifth in the **Kranti Mandir** series of recently inaugurated museums in the Red Fort Complex – others being, **Subhash Chandra Bose and INA museum, Yaad-e-Jallian museum, Museum on 1857** – India's first war of Independence and **Drishyakala** – Museum on Indian Art.
- All the five museums at Red Fort have been named Kranti Mandir to inspire the younger generation and let them know about the sacrifices of the freedom fighters.

## Bylaws for Humayun's Tomb Complex

Recently the National Monument Authority has notified a bylaw for the Humayun's Tomb Complex.

### Key Points

- The bylaw will guide physical, social and economic interventions within 300 metres of the centrally protected monuments.
- The Ancient Monument and Archaeological Sites (AMASR) Act, 1958 and Ancient Monument and Archaeological Sites and Remains (Framing of Heritage Bylaws and other function of the Competent Authority) Rules 2011, specify framing of heritage bylaws for centrally protected monuments.
- The rule provides parameters for preparation of these bylaws, which cover history, background, condition and detailed description of each of the protected monuments.

## Humayun's tomb

- The tomb of Humayun, in Delhi, was built by Humayun's widow and Akbar's mother, Begha Begum.
- The tomb is a distinct example of Mughal architecture inspired by Persian architecture.
- Raised on a vast platform, the tomb proper stands in the centre of a square garden, divided into 4 main parts by causeways (Charbagh) in the centre of which ran shallow water-channels.
- The square, red, sandstone, double storeyed structure of the mausoleum rises over a high square terrace, raised over a series of cells which are like a musical composition.
- The octagonal form of the central chamber containing the cenotaph is inspired by Syrian and earlier Islamic models.
- It is for the first time that pink sandstone and white are used with admirable effect, the white is used cleverly to emphasise, surround and underline doors and windows, strengthening the design.

### National Monument Authority (NMA)

- National Monuments Authority (NMA) under the Ministry of Culture has been set up as per provisions of The Ancient Monuments and Archaeological Sites and Remains AMASR (Amendment and Validation) Act, 2010.
- The NMA is entrusted to protect and preserve monuments and sites through management of the prohibited and regulated area around the centrally protected monuments.
- One amongst these responsibilities of NMA is also to consider grant of permissions to applicants for construction-related activity in the prohibited and regulated area.

## Dictionary of Martyrs of India's Freedom Struggle (1857-1947)

The Prime Minister recently released the Dictionary of Martyrs of India's Freedom Struggle (1857-1947).

### Key Points

- The project for the compilation of "Dictionary of Martyrs" of India's Freedom Struggle was commissioned

by the Ministry of Culture, to the Indian Council of Historical Research (ICHR) to commemorate the 150<sup>th</sup> anniversary of the uprising of 1857.

- In this dictionary, a martyr has been defined as a person who died or who was killed in action or in detention or was awarded capital punishment while participating in the national movement for the emancipation of India.

#### Indian Council of Historical Research (ICHR)

- The primary objective of the Indian Council of Historical Research is to promote and give direction to historical research and to encourage and foster objective and scientific writing of history.
- Indian Council of Historical Research is an autonomous organization which was established under the Societies Registration Act (1860) in 1972.
- It functions under the Ministry of Human Resources and Development (MHRD).
- The dictionary has five volumes which contain accounts of the martyrs from India's First War of Independence in 1857, to India's Independence in 1947.
- It includes the martyrs of **1857 Uprising**, **Jallianwala Bagh Massacre** (1919), **Non-Cooperation Movement** (1920-22), **Civil Disobedience Movement** (1930-34), **Quit India Movement** (1942-44), **Revolutionary Movements** (1915-34), **Kissan Movements**, **Tribal**

**Movements, Agitation for Responsible Government in the Princely States (Prajamandal), Indian National Army (INA, 1943-45), Royal Indian Navy Upsurge** (1946), etc.

## Early Harappa Artifacts

Artifacts believed to be around 5,000 years old, dating back to the early Harappa phase, have been unearthed during an excavation in Khatiya village of Kutch in Gujarat.

### Key findings

- Rectangular graves, each of varying dimensions and assembled using stones, contained skeletons that were placed in a specific manner. They were **oriented east-west with the heads positioned on the eastern side**.
- The presence of **animal skeletons along with those of humans** was also recorded in a few graves.
- The **mode of burial** was found to be **non-uniform**. Instances of primary burial and **secondary burial (when the remains of the primary burial are exhumed and moved to another grave)** were found.
- The findings will shed light on the burial rituals and other customs prevalent in the Harappa civilization during its early phase from 3300 BCE to 2600 BCE.

# Social Issues

## Highlights

- ILO Report on Employment and Gender Equality (45)
- IIT-Mandi's Proposals Selected under SPARC Initiative (45)
- 'Delhi Declaration' on Digital Health (46)
- West Nile Virus in Kerala (46)
- Strategy against the Threat of Influenza (47)
- Migration in Bengal Delta (47)
- Lancet: Building a Tuberculosis Free World (49)
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## ILO Report on Employment and Gender Equality

On the occasion of International Women's Day, the International Labour Organisation (ILO) released a report – **A Quantum leap for gender equality: For a better future of work for all.**

### Key highlights

- Women's employment rates are declining due to the rapid transition from agriculture to industrial sectors and the lack of care services and infrastructure.
- Unpaid care work poses the biggest impediment to women's employment. Some around 21% of women of working age are engaged full time in care-giving without pay, while only 1.5% of men fall in this category.

### International Women's Day (IWD)

- International Women's Day (March 8) celebrates the social, economic, cultural and political achievements of women. The day also marks a call to action for accelerating gender parity.
- The celebration is traced to the first IWD gathering in 1911 supported by over a million people in Austria, Denmark, Germany and Switzerland.
- Prior to this the Socialist Party of America, United Kingdom's Suffragists and Suffragettes and other groups campaigned for women's equality.
- The theme for this year Women's Day – **'Think Equal, Build Smart, Innovate for Change'** – puts innovation by women and girls, for women and girls, at the heart of efforts to achieve gender equality.
- Under-representation of women at top management level in companies, globally less than one-third managers are women.

- Globally, the difference in the employment rates for men and women has shrunk by less than two percentage points in last 27 years.
- Women spend more time in unpaid care work at home in contrast to men who spend just 8 minutes per day.
- Women do not receive the same dividends for education as men.
- Between 2005 and 2015, the motherhood employment penalty – the difference in the proportion of adult women with children under six years in employment and women without young children – increased significantly by 38%.

## IIT-Mandi's Proposals Selected under SPARC Initiative

Seven research proposals from the Indian Institute of Technology (IIT), Mandi have been selected under 'Scheme for Promotion of Academic and Research Collaboration' (SPARC).

### Key Points

- The research projects are in areas such as energy and water sustainability, advanced sensors, electronics and communication, infectious diseases and clinical research, humanities, and social sciences, nanotechnology, biotechnology, and metamaterials and basic sciences.
- The SPARC grants will help IIT-Mandi to collaborate with international universities and researchers from across the globe to undertake joint research.
- IIT Mandi will also be able to offer short term courses to students in these fields.

Note:

### ***Scheme for Promotion of Academic and Research Collaboration (SPARC)***

- SPARC is an initiative of the Ministry of Human Resource Development. Indian Institute of Technology, Kharagpur is the national coordinating institute to implement the SPARC programme.
- SPARC aims at improving the research ecosystem of India's higher educational institutions by facilitating academic and research collaborations between Indian institutions and the best institutions in the world.
- Under the Scheme, 600 joint research proposals will be awarded for 2 years to facilitate research collaboration between Indian research groups and renowned research groups, in areas that are at the cutting edge of science or with direct social relevance to the mankind, specifically India.
- A set of five **Thrust Areas** i.e. Fundamental Research, Emergent Areas of Impact, Convergence, Action-Oriented Research, and Innovation-Driven have been identified.
- A set of Nodal Institutions (NI), from India, for each participating foreign country has been identified. The role of an NI is to help and coordinate with willing participating Indian institutions to forge an alliance with the Institutions of the concerned participating foreign country.
- The Intellectual Property Rights (IPR) developed out of the project will be decided as per norms of the participating institutes. The Indian institute will get the benefits out of patents/royalty, rather than the foreign institute or the individual faculty.

### **'Delhi Declaration' on Digital Health**

Recently, the 4<sup>th</sup> Global Digital Health Partnership Summit was held in New Delhi.

#### ***Key Points***

- The Summit was hosted by the Ministry of Health and Family Welfare in collaboration with World Health Organization (WHO) and the Global Digital Health Partnership (GDHP).
- As part of the summit, the ministers and delegation adopted the 'Delhi Declaration' on digital health for sustainable development.

- The Declaration calls for World Health Organization's (WHO's) leadership in digital health and to establish a specific mechanism to centrally coordinate digital health to assist its member states.

#### **NOTE:**

Application of digital health for sustainable development includes telemedicine, remote care and mobile health delivering care in people's homes, instead of in hospitals and clinics.

### ***Global Digital Health Partnership***

- The Global Digital Health Partnership (GDHP) is an international collaboration of governments, government agencies and multinational organisations dedicated to improve the health and well-being of their citizens through the best use of evidence-based digital technologies.
- It was established in February 2018 with Australia as the host country for the inaugural summit.

### ***World Health Organisation***

- The World Health Organisation (WHO) is a specialised agency of the United Nations that is concerned with international public health.
- It is headquartered in Geneva, Switzerland.
- WHO's constitution came into force on April 7, 1948 – a date now celebrated every year as World Health Day.
- The World Health Assembly is the supreme decision-making body of WHO. The assembly meets annually and is attended by delegations from 194 member states.

### **West Nile Virus in Kerala**

Recently, the death of a child in Kerala's Malappuram district has drawn attention to the West Nile Virus. The Union health ministry has sent a disease surveillance team to investigate the case.

#### ***What is the West Nile Virus?***

- West Nile Virus was first isolated from a patient from the **West Nile district of Northern Uganda in 1937**.
- West Nile virus is mainly transmitted to people through the **bites of infected mosquitoes (Culex mosquitoes)**.
- **Birds are the natural hosts** of West Nile virus. Mosquitoes become infected when they feed on infected birds.

- The virus can cause severe **disease & death in horses** and can cause **fatal neurological disease in humans**.
  - Approximately, 80% of people who are infected do not show any symptoms. There are specific treatments and vaccines are not yet available for people.

#### Way forward

- India's best defence is **better surveillance**, which will help doctors reach patients early to prevent complications.
- Post the 2018 Nipah outbreak, a heightened surveillance in Kerala helped in detecting the West Nile Virus. The samples were immediately tested through the **Plaque Reduction Neutralisation Test**. Hence, if more States used such diagnostics, it would help determine just how widespread the virus is in India.

## Strategy against the Threat of Influenza

Recently, the World Health Organization (WHO) has launched a **Global Influenza Strategy for 2019-2030**, which aims to prevent seasonal influenza, control the virus's spread from animals to humans and prepare for the next pandemic.

#### Key Points

- The new strategy is the most comprehensive and far-reaching that WHO has ever developed for influenza.
- The strategy meets one of WHO's mandates to improve core capacities for public health, and increase global preparedness.
- It outlines a path to protect populations every year and helps prepare for a pandemic through strengthening routine programmes. Features of the new strategy are:
  - Every country should strengthen routine health programmes and develop tailor-made influenza programmes that strengthen disease surveillance, response, prevention, control, and preparedness.
  - WHO recommends annual flu vaccines as the most effective way to prevent the spread of the disease, especially for healthcare workers and people at higher risk of influenza complications.
  - Development of more effective and more accessible vaccines and antiviral treatments.

- Due to its mutating strains, vaccine formulas must be regularly updated.
- The new influenza strategy builds on and benefits from successful WHO programmes like:
  - **Global Influenza Surveillance and Response System (GISRS)**: Launched in 1952, GISRS comprised of WHO Collaborating Centres and national influenza centres. It focuses on monitoring seasonal trends and potentially pandemic viruses. This system serves as the backbone of the global alert system for influenza.
  - **Pandemic Influenza Preparedness Framework** is a unique access and benefit sharing system that supports the sharing of potentially pandemic viruses, provides access to life saving vaccines and treatments in the event of a pandemic and supports the building of pandemic preparedness capacities in countries through partnership contributions from industry.

#### World Health Organisation

- The World Health Organisation (WHO) is a specialized agency of the United Nations that is concerned with international public health.
- It is headquartered in Geneva, Switzerland and the WHO's constitution came into force on April 7, 1948—a date now celebrated every year as World Health Day.
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## Migration in Bengal Delta

Recently, an international study titled **Deltas, Vulnerability and Climate Change: Migration and Adaptation (DECMA)** found that the economic reasons are the precipitating factor for migration in the Indian Bengal delta and most migrants are in the age group of 20-30 years.

#### Key highlights

- **Reasons for Migration**
  - The study which covers the district of South and North 24 Parganas reveals that 64% of people migrate because of economic reasons, unsustainable agriculture, lack of economic opportunities and debt.



- 28% of the migration from the region is for social reasons and about 7% for environmental reasons like cyclones and flooding.

#### ➤ Gender Disparity in Migration

- There is a huge gender disparity in the migration out of Indian Bengal delta, with men outnumbering women by almost five times. It shows that of the people migrating 83% are men and only 17 % are women.
- While most of the men migrate due to economic reasons, women do so, driven by mostly social factors.

#### ➤ Destination of Migration

- The study finds that 51% of migration from the Indian Bengal delta is to other areas of the State particularly to the city of Kolkata, 10% to Maharashtra, 9% to Tamil Nadu, 7% Kerala and 6% to Gujarat.

#### ➤ Type of Migration in Delta

- 57% of migration is seasonal, where people move once or twice a year.
- 19% is circular where those migrating move thrice a year.
- 24% of migration is permanent.

### What is migration?

- Migration is the movement of people from one place to another. It can be over a short or long distance, be short-term or permanent, voluntary or forced, intra-national or international.
- Pull factors of migration are a feature that attracts a person to move to another area while push factors are those that drive people away from their place of origins.
- While the destinations benefit due to the reduction in the cost of production, availability of the human resource, rising productivity, size of consumer and capital market, at the same time, areas of origin also benefit through the flow of remittances, information, and innovations influencing the households and people left behind.

### Causes of migration

#### ➤ Economic

- **Push factors:** Unemployment or lack of employment opportunities; rural poverty; unsustainable livelihood etc.

- **Pull factors:** Job opportunities; better income and prospects for wealth creation; industrial innovation and technical know-how for a new industry; pursuit of specialized education etc.

#### ➤ Socio-political

- **Push factors:** Political instability; safety and security concerns (ethnic, religious, racial or cultural persecution); inadequate or limited urban services and infrastructure (including healthcare, education, utilities, transport and water etc).
- **Pull factors:** Family reunification; independence and freedom; integration and social cohesion; food security; affordable and accessible urban services (including healthcare, education, utilities, and transport) etc.

#### ➤ Ecological

- **Push factors:** Climate change (including extreme weather events); crop failure and scarcity of food etc.
- **Pull factors:** Abundance of natural resources and minerals (e.g. water, oil); favourable climate etc.

### Classification of migration

#### ➤ By political boundaries

- **Internal migration:** Migration occurring within a country, either within a state or between states, whether urban to rural, urban to urban, rural to rural, or rural to urban.
- **International migration:** Migration occurring across countries. Such migrants are known as immigrants (coming into a foreign country) and emigrants (leaving their own country)

#### ➤ By movement pattern

- **Step migration:** Migration initiating from a small settlement and moving to a larger one in the urban hierarchy over the years, such as movement from a farm to a village, then to a town and subsequently to a suburb and finally to a city.
- **Circular migration:** Also called cyclical migration, it is experienced between an origin and a destination with at least one migration and return.
- **Seasonal migration:** It is a very common form of circular migration, driven by seasonal peaks in labour demand, mostly in agriculture.
- **Return migration** – It refers to a one-time emigration and return after an extended stay outside the host territory.

- **Chain migration:** Migration of families at different stages of the life cycle from one location to another, which subsequently brings people from their home location to the new place.
- **By decision-making approach**
  - **Voluntary migration:** Based on one's free will, initiative and desire to live in a better place and to improve the financial status, among other factors.
  - **Involuntary migration:** Based on people being forced out of their home due to certain unfavourable environmental and political situations.

### Issues related to migration

- **Low-quality jobs:** Migrants mostly dominate the low-paying, hazardous and informal market jobs such as construction, hotel, textile, manufacturing, transportation, domestic work etc.
- **Housing and sanitation:** One of the key issues with regard to housing is poor supply. Migrants do not have access to affordable accommodation forcing them to live in overcrowded colonies in unhygienic conditions.
- **Exploitation and intimidation:** Usually migrants are exploited at the behest of the majoritarian native population. They become the target of social profiling, stereotyping, and abuse and are made to work under exploitative conditions with no social security cover. E.g. Gujarat migrant crisis.

## Lancet: Building a Tuberculosis Free World

The Lancet has published a report 'Building a Tuberculosis-free World'.

### Key Points

- The report is based on modelling for three high-burden countries (India, Indonesia and China).
- It compared with the 2015 data and estimated that 57% reduction in incidence and 72% reduction in mortality will be seen only by 2045.
- According to the report, India's goal to end the epidemic by 2025 (five years ahead of the UN SDG) is too 'ambitious', 'unrealistic' and, therefore, unattainable; as it requires high quality of care to every person from diagnosis to treatment.

- TB incidence in the country being 204 cases per 1,00,000 in 2017.
- India has the highest number of multidrug-resistant TB (MDR-TB) cases in the world.

### Key Recommendations

- India needs improvement in diagnosis and treatment for drug-sensitive and drug-resistant TB. Integration of TB services with the primary health system will lead to early diagnosis and help cut the transmission cycle.
- Strengthening the care cascade (visualising problems with the implementation of 'treatment as prevention') could reduce cumulative TB incidence by 38% in the case of India.
- Lives of 28% people with TB can be saved over the next 30 years if tests are subsidised and patients are supported to complete the treatment.
- India should scale up access to TB services for all those seeking them, optimise engagement of private sector providers and guarantee universal access to drug susceptibility testing and second line anti-TB drugs.
- National TB control programme is encouraging, there is political will and the programme mentions all the correct initiatives to bring the disease under control. Accountability is a vital component.

#### NOTE:

The Lancet is a weekly peer-reviewed British medical journal. It is among the world's oldest, most prestigious, and best known general medical journals.

### Tuberculosis (TB)

- TB is caused by **bacteria** (*Mycobacterium tuberculosis*) that most often affect the lungs. Tuberculosis is curable and preventable.
- TB spreads from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air.
- Multidrug-resistant tuberculosis (**MDR-TB**) is a form of TB caused by bacteria that do not respond to first-line anti-TB drugs. MDR-TB is treatable and curable by using second-line drugs.
- Extensively drug-resistant TB (**XDR-TB**) is a more serious form of MDR-TB caused by bacteria that do not respond to the most effective second-line anti-TB drugs, often leaving patients without any further treatment options.

- In 2017, the 30 high TB burden countries accounted for 87% of new TB cases. Eight countries account for two thirds of the total, with India leading the count.
- The United Nations **Sustainable Development Goals** (SDGs) include ending the TB epidemic by 2030 under **Goal 3**.
- **WHO End TB Strategy**, adopted by the World Health Assembly in May 2014, is a blueprint for countries to end the TB epidemic by driving down TB deaths, incidence and eliminating catastrophic costs.
- **World TB Day** is observed on 24 March.

## Indian Sign Language Dictionary

Recently, the government has released the second edition of Indian Sign Language dictionary.

### **Key Points**

- The first edition of the dictionary was launched with 3,000 words in 2018.
- With the second edition, the dictionary now comprises 6,000 Hindi and English words and their corresponding graphic representation under the categories of academic, legal, medical, technical and everyday terms.
- The dictionary has been developed by the Indian Sign Language Research and Training Centre (ISLRTC), under the Ministry of Social Justice and Empowerment.
- According to Census 2011, there are 50.71 lakh hearing impaired persons in India and most of them use Indian Sign Language to communicate.
- The dictionary seeks to enable the deaf people access to their constitutional right to speech and freedom of expression (Article 19) and also to bring them into the mainstream of the society.



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# Miscellaneous

## Highlights

- *Karnataka to Use Cloud Seeding* (51)
- *UN World Happiness Report 2019* (52)
- *Quality of Living Rankings 2019* (53)
- *Swachh Survekshan Awards 2019* (53)
- *FINE 2019* (53)

## Karnataka to Use Cloud Seeding

The State of Karnataka has decided to use cloud seeding operations to enhance rainfall during the monsoons of 2019 & 2020.

- Karnataka is currently facing a drought-like situation. Through cloud seeding, the State is hoping to influence the upcoming monsoon and capture as much water as possible.

### What is Cloud Seeding?

- Cloud seeding is the process of spreading either dry ice or more commonly, silver iodide aerosols, into the upper part of clouds to try to stimulate the precipitation process and form rain.
- Cloud seeding uses planes to spray clouds with chemicals to condense smaller particles into larger rain droplets.

### Cloud Seeding Methods

- *Hygroscopic cloud seeding* disperses salts through flares or explosives in the lower portions of clouds.
- *Static cloud seeding* involves spreading a chemical like silver iodide into clouds. The silver iodide provides a crystal around which moisture can condense.
- *Dynamic cloud seeding* aims to boost vertical air currents, which encourages more water to pass through the clouds, translating into more rain.

### Challenges

- **Potential Side-effects:** The chemicals used in cloud seeding might be potentially harmful to plants, animals, and people, or the environment.
- **Abnormal Weather Patterns:** Change climatic patterns on the planet. Places that normally receive moisture

might start experiencing drought due to the artificial process of adding chemicals to the atmosphere to stimulate rain.

### Applications of Cloud Seeding

- **Agriculture:** It creates rain, providing relief to drought-stricken areas.
- **Power Generation:** Cloud seeding experiments have shown to augment production of hydroelectric power during the last 40 years in Tasmania, Australia.
- **Water Pollution Control:** Cloud seeding can help to maintain minimum summer flows of the rivers and dilute the impact of treated wastewater discharges from municipalities and industries.
- **Fog Dispersal, Hail Suppression and Cyclone Modification:** During the winter the cloud seeding programme is used to increase the mountain snowpack so that additional runoff is received during the spring melt season.
- **Tackle Air Pollution:** Cloud seeding can potentially be used to settle down toxic air pollutants through the rain. E.g.: Recently, Central Pollution Control Board along with other researchers mulled the use of cloud seeding to tackle Delhi's air pollution.
- **Tourism:** Cloud seeding can transform typically dry areas much more hospitable to enhance tourism.
- **Costly:** It involves processes such as delivering chemicals to the sky and releasing them into the air by flare shots or airplanes, which involves huge costs and logistic preparation.
- **Pollution:** As the artificial rain falls, seeding agents like silver iodide, dry ice or salt will also fall. Residual silver discovered in places near cloud-seeding projects are considered toxic. As for dry ice, it can also be a source of greenhouse gas that contributes to global warming, as it is basically carbon dioxide.

Note:



## UN World Happiness Report 2019

The **Sustainable Development Solutions Network** for the United Nations released the World Happiness Report on **March 20**, which is designated as the **World Happiness Day**.




### Key Points

- This is UN's seventh annual World Happiness Report, which ranks the world's 156 countries on 'how happy their citizens perceive themselves to be'.
- The focus of the report was 'Happiness and Community: how happiness has been changing over the past dozen years and how information technology, governance and social norms influence communities'.
- The report ranks countries on **six key variables** that support well-being:
  - Income,
  - Healthy life expectancy,
  - Freedom to make life choices,
  - Social support, and
  - Trust,
  - Generosity
- The list is topped by Finland and South Sudan is ranked the least happy country in the world.
- The overall world happiness has fallen over the past few years, which has mostly been fuelled by a sustained drop in India, which came in 140<sup>th</sup> place compared with 133<sup>rd</sup> in 2018. There has been an increase in negative emotions, including worry, sadness and anger.
- India featured in the five countries that had the largest drop since 2008 in the index, along with Yemen, Syria, Botswana and Venezuela.
- Among India's neighbouring countries, Pakistan is ranked 67<sup>th</sup>, Bangladesh 125<sup>th</sup>, Bhutan 95<sup>th</sup>, Sri Lanka 130<sup>th</sup> and China at 93<sup>rd</sup>.

### Sustainable Development Solutions Network (SDSN)

- The Sustainable Development Solutions Network (SDSN) was launched in 2012. It was established under the auspices of the United Nations Secretary-General.
- It mobilises global scientific and technological expertise to promote practical problem solving for the Sustainable Development Goals (SDGs) and the Paris Climate Agreement.
- The SDSN and the Bertelsmann Stiftung have been publishing the annual SDG Index & Dashboards Global Report since 2016.

## Sustainable Development Goals (SDGs) 2016–2030

- |  |  |
|--|--|
| <b>No Poverty</b>                                  | <b>1</b> End poverty in all its forms everywhere   |
| <b>Zero Hunger</b>                                 | <b>2</b> End hunger, achieve food security and improved nutrition and promote sustainable agriculture  |
| <b>Good Health &amp; Well-Being</b>                | <b>3</b> Ensure healthy lives and promote well-being for all at all ages   |
| <b>Quality Education</b>                           | <b>4</b> Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  |
| <b>Gender Equality</b>                             | <b>5</b> Achieve gender equality and empower all women and girls   |
| <b>Clean Water &amp; sanitation</b>                | <b>6</b> Ensure availability and sustainable management of water and sanitation for all  |
| <b>Affordable &amp; Clean Energy</b>               | <b>7</b> Ensure access to affordable, reliable, sustainable and modern energy for all  |
| <b>Decent Work &amp; Economic Growth</b>           | <b>8</b> Promote sustained, inclusive & sustainable economic growth, full and productive employment and decent work for all  |
| <b>Industry Innovation &amp; Infrastructure</b>    | <b>9</b> Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation   |
| <b>Reduced Inequalities</b>                       | <b>10</b> Reduce inequality within and among countries   |
| <b>Sustainable Cities &amp; Communities</b>      | <b>11</b> Make cities and human settlements inclusive, safe, resilient and sustainable   |
| <b>Sustainable Consumption &amp; Production</b>  | <b>12</b> Ensure sustainable consumption and production patterns   |
| <b>Climate Action</b>                            | <b>13</b> Take urgent action to combat climate change and its impacts  |
| <b>Life Below Water</b>                          | <b>14</b> Conserve and sustainably use the oceans, seas and marine resources for sustainable development   |
| <b>Life on Land</b>                              | <b>15</b> Protect, restore and promote sustainable use of terrestrial ecosystems, combat desertification, and halt and reverse land degradation and halt biodiversity loss |
| <b>Peace &amp; Justice</b>                       | <b>16</b> Promote peaceful and inclusive societies, provide access to justice for all and build effective, accountable and inclusive institutions at all levels            |
| <b>Partnership for the Goals</b>                 | <b>17</b> Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development   |



## Quality of Living Rankings 2019

Mercer, a global consulting leader in advancing health, wealth and careers, has recently released the Quality of Living Rankings 2019.

### Key Points

- Conducted annually, the survey analyses the living standards of cities, as is perceived internationally, to enable multinational companies and other organisations to suitably compensate their staff on international assignments.
- The survey ranks cities based on internal stability, crime, effectiveness of law enforcement and relationships with other countries.
- Vienna (Austria) has topped the ranking followed by Zurich (Switzerland).
- In India, Hyderabad and Pune have topped the survey and ranked at 143.

## Swachh Survekshan Awards 2019

### Key Points

- New Delhi Municipal Council area was given the 'Cleanest Small City' award.
- Uttarakhand's Gauchar was adjudged the 'Best Ganga Town'.
- The 'Cleanest Big City' award has been bagged by Ahmedabad.
- Raipur is the 'Fastest Moving Big City'.
- Ujjain has been the adjudged the 'Cleanest Medium City'.
- Mathura-Vrindavan bagged the tag of the 'Fastest Moving Medium Cities'.

### Background

- In 2016, the Union Ministry of Housing and Urban Affairs (MoHUA) started Swachh Survekshan survey for the rating of 73 cities. It was followed by Swachh Survekshan-2017 for ranking 434 cities and Swachh Survekshan-2018 for ranking 4,203 Cities.

- In a bid to scale up the coverage of the ranking exercise and encourage towns and cities to actively implement mission initiatives in a timely and innovative manner, the 2019 survey included all cities, making it the largest such cleanliness survey in the world.
- Top-ranked cities receive a statue of Mahatma Gandhi as a memento for their work towards cleanliness.
- The **Quality Council of India (QCI)** has been commissioned the responsibility of carrying out the assessment.

## FINE 2019

The Festival of Innovation and Entrepreneurship (FINE) is a unique initiative of the Office of the President of India to recognise, respect and reward grassroots innovations and foster a supportive ecosystem.

### Key Points

- Started in 2016, this Festival is a celebration of creativity, innovation and entrepreneurship.
- It was organised by the National Innovation Foundation (NIF) and the Department of Science and Technology, Government of India.
- FINE would provide a platform to the innovators for building the linkages with potential stakeholders whose support can improve their prospects in coming years for the larger social good.
- It will also help in promoting lateral learning and linkages among the innovators to enrich the ecosystem for new India.

### National Innovation Foundation (NIF)

- NIF was established in 2000 with the assistance of Department of Science and Technology.
- It contributes to strengthen the grassroots technological innovations and outstanding traditional knowledge in the country.
- NIF has created a huge database of ideas, innovations and traditional knowledge practices from all over the country.



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**Summary**

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**Summary**



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# Current Affairs (CONSOLIDATION)

**APRIL 2019**  
**(PART – I & II)**

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# Polity and Governance

## Highlights

- Electoral Bonds Scheme
- Travelling Abroad is a Basic Human Right: SC
- No Clinical Trials for New Drugs

## Electoral Bonds Scheme

Recently, the **Supreme Court** refused to stay on the electoral bond scheme, a new mechanism to fund elections.

### Key Points

- The SC is hearing a petition questioning the anonymity-based funding scheme on the grounds that it promotes opacity, opens up the possibility of black money being donated to parties through shell companies and empowers the ruling party.
- The court has decided to examine the issue in detail because the rival contentions about the scheme raise weighty issues which have tremendous bearing on the sanctity of the electoral process.
- As an interim measure, the Court asked political parties to disclose, to the **Election Commission (EC)** in sealed covers, details of the donations they have received through electoral bonds.

### Background

- The '**electoral bonds**' were introduced by the Finance Act, 2017 and scheme was subsequently notified in 2018.
- Electoral bonds are bearer instruments like **promissory notes** i.e. in effect these are similar to a bank note that is payable to the bearer on demand and free of interest.
- The bonds can be purchased by an Indian citizen or a body incorporated in the country.
- The bonds will not bear the name of the donor but the buyers of the bonds have to submit full KYC details at the time of buying.
- One can purchase bonds of various denominations from a **designated bank** (not all banks) within the 10-day window in every quarter of the financial.

- The purchasers of these bonds need to present these to the political parties of their choice, and the parties have to redeem them within 15 days.

### Related information

- Donations to political parties below ₹2,000 can be made in cash. Thus, **cash donations are not entirely ruled out**.
- The Finance Act 2017 amended Income Tax Act giving the donors freedom with respect to providing names, address or PAN if the contribution is less than Rs. 20,000.
- The Finance Act 2017 amended Representation of People Act (RPA), 1951 allowing political parties to skip recording donations received by them through electoral bonds in their contributory reports to EC.
- The amendment to the Companies Act in 2017 lifted the cap on the amount corporates can contribute to political parties. Thus, **any company can donate any amount** of money to any political party.
- The Finance Act 2016 amended Foreign Contribution Regulation Act (FCRA) allowing donations from foreign companies having majority stake in Indian companies. Thus, **political parties can now receive foreign funds**.

- Every registered political party that has secured at least one per cent of the votes polled in the most recent Lok Sabha or State election will be allotted a verified account by the Election Commission. Electoral bond transactions can be made only via this account.
- A donor will get a deduction and the recipient, i.e. **the political party, will get tax exemption**.

### Issues Involved

- The Electoral Bonds Scheme is alleged to have opened the **floodgates to unlimited corporate and anonymous financing** to political parties.

Note:

- The removal of cap on donations by companies and the **legalisation of anonymity** pose a danger to the autonomy of electoral process and can encourage corrupt practices in politics, and the unholy nexus between politics and corporate houses.
- Ordinary citizens will not be able to know who is donating how much money to which political party and thus adversely impact the ability to vote with an informed decision making.
- Nevertheless, the scheme has brought in a shift from the old electoral system in which massive amounts of political donations were being made in cash, and identity of the donors was not known as the system was wholly opaque and ensured complete anonymity.
- On the contrary, the electoral bonds are purchased only by means of a demand draft, cheque or through **Electronic Clearing System**; no black money can, therefore, be used for the purchase of these bonds.
- The non-disclosure of the identity of the donor has the objective to safeguard the donor from political victimisation, in case they turn out to have supported the losing party.
- Moreover, the KYC details are always available in the banking channel and can be retrieved as and when required by enforcement agencies.

### Way Forward

- Given that political funding used to be a way to whitewash black money, the switch to a mechanism that operates through the banking system is undoubtedly a step forward in ensuring **clean political funding**.
- As a step towards **transparency**, the company should disclose in its yearly balance sheet the donations made by it so that the electors and company shareholders know how a party is being financed.
- The political class needs to debate more on the long-pending issue of political funding in order to resolve the anonymity vs transparency impasse.

## Travelling Abroad is a Basic Human Right: SC

Recently, the Supreme Court has ruled that the right to travel abroad is an important basic human right.

### Key Points

- The Court was hearing the plea of an IPS Officer who was denied permission to go abroad as he is facing departmental proceedings.
- SC observed that the pendency of departmental proceedings cannot be a ground to prevent the officer from travelling abroad.
- The Court observed that the right to travel abroad is an important basic human right for it nourishes independent and self-determining creative character of the individual, not only by extending his freedom of action but also by extending the scope of his experience.

### Background

- Freedom of movement is one of the six freedoms under **Article 19(1)** of the Constitution i.e. freedom
  - of speech and expression;
  - to assemble peaceably and without arms;
  - to form associations or unions;
  - to move freely throughout the territory of India;
  - to reside and settle in any part of the territory of India; and
  - to practice any profession, or to carry on any occupation, trade or business.
- The freedom of movement has **two dimensions**, viz, **internal** (right to move inside the country) and **external** (right to move out of the country and the right to come back to the country).
- **Article 19** protects only the first dimension. The second dimension is dealt with by **Article 21** (right to life and personal liberty).
- In **Menaka Gandhi case (1978)**, the Supreme Court took a **wider interpretation** of Article 21. The court held that the '**right to life**' is not merely confined to animal existence or survival but it includes within its ambit the right to live with **human dignity** and all those aspects of life which make a man's life meaningful, complete and worth living.
- It also ruled that the expression '**personal liberty**' in **Article 21** is of the widest amplitude and it covers a variety of rights that go to constitute the personal liberty of a man.



## No Clinical Trials for New Drugs

The **Ministry of Health and Family Welfare** has allowed waivers on conducting trials for new drugs in India in case the drug is approved and marketed in countries specified by the **Central Drugs Standard Control Organisation (CDSCO)**.

### Key Points

- New drugs approved for use in select developed markets will be **automatically allowed** in India provided global trials included Indian patients.
- It also removed a clause in the clinical trials that mandated the sponsor (the entity initiating the trial) to pay 60% of compensation upfront in case of death or permanent disability of a patient. Now, companies will pay the total amount once it is proven that the injury occurred because of the trial.
- **Compensations in cases of death and permanent disability**, or 'other' injuries to a trial participant will be decided by **Drug Controller General of India (DCGI)**.
- It removed regulations on tests conducted on animals in case of drugs approved and marketed for more than two years in well-regulated overseas drug markets.
- The new rules will end the unnecessary repetition of trials and speed up the availability of new drugs

in the country. It is also expected to lower the cost of drugs and improve the **ease of doing business** for drug makers.

### Central Drugs Standard Control Organisation (CDSCO)

- The CDSCO is the **Central Drug Authority** for discharging functions assigned to the Central Government under the **Drugs and Cosmetics Act, 1940**.
- Its major functions include – regulatory control over the import of drugs, approval of new drugs and clinical trials and approval of certain licences as **Central Licence Approving Authority**.
- It works under the **Directorate General of Health Services, Ministry of Health & Family Welfare**.
- It is **headquartered in New Delhi**.
- In 2016, the government launched an online licensing portal of **Central Drugs Standard Control Organization (CDSCO)** named '**SUGAM**'.

### Drug Controller General of India (DCGI)

- DCGI is responsible for approval of licences of specified categories of drugs such as blood and blood products, IV fluids, vaccines and sera in India.
- It works under the **Ministry of Health & Family Welfare**.



# Economic Scenario

## Highlights

- SC Scraps RBI's Circular on Resolving Bad Debt
- FinTech Conclave 2019
- Jet Airways Crisis
- Country-by-Country Report
- Advance-Pricing Agreement
- IMO's New Rule on Electronic Information Exchange
- Transport and Marketing Assistance Scheme
- Gig Economy
- Activity Report of the Bank Board Bureau
- Mind the Gap – State of Employment in India Report
- World Economic Outlook 2019
- Global Financial Stability Report, 2019
- Migration and Development Brief of World Bank
- Load Generation Balancing Report

## SC Scraps RBI's Circular on Resolving Bad Debt

The Supreme Court recently quashed the **Reserve Bank of India's (RBI) February 12, 2018** circular which provided a revised framework for quick recognition and resolution of stressed assets of banks.

### Key Points

- SC ruled that the RBI February 12 circular was ultra vires of **Section 35AA** of the **Banking Regulation Act, 1949**.
- The Court said that the circular was unconstitutional and that a reference under the **Insolvency and Bankruptcy Code (IBC), 2016** has to be on a case-to-case basis and with the authorisation of the Central Government.
- **Section 35AA** of the Act says that the Central Government may, by order, authorise the RBI to issue directions to any banking company or banking companies to initiate insolvency resolution process in respect of a default, under the provisions of the **Insolvency and Bankruptcy Code, 2016**.
- The SC verdict could delay the process of stressed assets resolution as all loan restructuring schemes were disbanded as part of the simplified generic framework for resolution of stressed assets on February 12.

### February 12 circular of RBI

- Through a notification issued on February 12, 2018, the RBI laid down a revised framework for the resolution of stressed assets, which replaced all its

earlier instructions on the subject, such as, **Strategic Debt Restructuring Scheme (SDR)** and **Scheme for Sustainable Structuring of Stressed Assets (S4A)**.

- Banks were required to immediately start working on a resolution plan for debts of over ₹2,000 crore, which was to be finalised within 180 days, with a grace period of 90 days. In the case of non-implementation, lenders were required to file an insolvency application to the **National Company Law Tribunal (NCLT)**.
- The circular mandated banks to disclose defaults even if interest repayment was overdue by one day.
- The circular was ostensibly intended to stop the “**evergreening**” of bad loans — the practice of banks providing fresh loans to enable timely repayment by borrowers on existing loans.
- Several companies from the power and shipping sectors had challenged the circular, arguing that the time given by the RBI was not enough to tackle bad debt.

### Insolvency and Bankruptcy Code, 2016

- The **Insolvency and Bankruptcy Code (IBC), 2016** was promulgated by the Government to tackle the ‘twin balance sheet’ problem.
  - **Twin balance sheet problem** refers to the stress on balance sheets of banks due to non-performing assets (NPAs) or bad loans on the one hand, and heavily indebted corporates on the other.
- Under IBC, the **National Company Law Tribunal (NCLT)** adjudicates insolvency resolution for companies and the **Debt Recovery Tribunal (DRT)** adjudicates insolvency resolution for individuals.

- If the default is over Rs. 1 lakh, the creditor may initiate insolvency resolution process and approach the NCLT.
- The Code is quite different from the earlier resolution systems as it shifts the responsibility to the creditor to initiate the insolvency resolution process against the corporate debtor.
- After a case is admitted by the NCLT, the resolution process will have to be completed within 180 days. It can also be extended by another 90 days.
- There is also a provision for fast-tracking the resolution process so as to complete it in 90 days (which can be extended by another 45 days).
- However, only small companies (private entities having a paid up capital of up to Rs 50 lakh or turnover of up to Rs 2 crore) and start-ups can opt for this method.
- The resolution processes are conducted by licensed Insolvency Professionals (IPs). An IP must have at least ten years of experience as chartered accountants, company secretaries, cost accountants, lawyers or in management.
- Insolvency and Bankruptcy Board of India (IBBI) exercises regulatory oversight over insolvency professionals, insolvency professional agencies and information utilities.

## FinTech Conclave 2019

Recently, NITI Aayog organised **Financial Technology (FinTech) Conclave 2019** in New Delhi. The Conclave featured representatives from across the financial space – Central Ministries, regulators, bankers, startups, investors, service providers and entrepreneurs. It was inaugurated by the **Reserve Bank of India (RBI) Governor**.

### Key Highlights

- Deliberations were held on various dimensions of the future of the FinTech, particularly the areas of:
  - Digital Onboarding of Customers and Merchants for Financial Inclusion
  - Building Financial Products for Bharat
  - Emerging Areas of FinTech
  - Fast-tracking investment in the FinTech industry
  - Financial Inclusion of MSMEs

- Further, the RBI announced that it will issue norms for the **introduction of a regulatory sandbox** in the next two months to **promote innovation in the financial sector**, which enables the conduct of live experiments with limited chances of failure.
- The objective of the conclave is to **shape India's continued ascendancy in FinTech, build narrative for future strategy and policy efforts**, and to deliberate steps for comprehensive financial inclusion. India's ambition is to emerge as a \$10 trillion economy and this is not possible without a revolution in the FinTech sector.

### Note:

A regulatory sandbox is a controlled mechanism within which the sector will be able to experiment with solutions in a closely-monitored ecosystem so that the risks do not spread outside it, and the reasons for failure can be analysed.

### Recommendations

- Bring clarity to **existing policies**, and ensure **consistent and formal guidelines** are evolved through consensus among the regulators and stakeholders.
- Open up access to data within a larger framework of informed consent and adequate privacy safeguards.
- **Increase funding sources and capital supply for MSMEs** by introducing sectoral caps and increased margin size.
- Introduction of a new sub-class of **Non-Banking Finance Companies (NBFCs)** exclusively for FinTech-centric companies to encourage innovation and targeted policy.
- Introduction of 100% paperless and presence-less eKYC and eSign.

### Fintech Sector

- Fintech is used to describe new technology that seeks to improve and automate the delivery and use of financial services such as payment, peer to peer lending, retail banking etc.
- The FinTech movement has the potential to fundamentally transform the financial landscape where consumers will get to choose from a larger set of options at competitive prices and financial institutions could improve efficiency through lower operational costs.

- Building capacity by creation of 'smart MSMEs', expanding access to alternate data sources for underwriting and democratising access to government-led MSME ecosystem were other recommendations brought forward.

### Challenges

- Difficulty of **regulating an evolving technology**.
- Monitoring activity **outside the regulated sector**.
- Since there is no connection with the customer as the application is completely processed online there is a **higher risk of Non-Performing Assets (NPAs)**.

### FinTech in India

- India's FinTech sector is young but is growing rapidly, fueled by a large market base, an innovation-driven startup landscape, and friendly government policies and regulations.
- The Indian FinTech ecosystem is the **third largest in the globe** and brings nearly \$6 billion in investments since 2014.

## Jet Airways Crisis

Recently, Jet Airways which was once India's largest private carrier suspended all its domestic and international flight operations due to cash crunch. The suspension of operations follows the troubles at Kingfisher, Air Deccan, and Sahara.

### Why do India's airlines keep struggling?

- **High Costs, Low Yields:** Aviation Turbine Fuel (ATF) prices constitute about 40% of costs for an Indian carrier and are taxed higher here than anywhere else in the world. Also, a depreciating rupee has further increased the fuel price. These, combined with typical low-ticket pricing in India's price-sensitive market make flying less profitable for the airlines as they are unable to pass down the cost fully to the passengers.
- **Government Apathy:** Airlines in India have been appealing to the government for a decade for a reduction in taxes on fuel. Jet fuel is 35-40% more expensive in India than in the rest of the world, because of relatively high tax rates.
  - The archaic Route Dispersal Guidelines (RDG) mandate airlines to fly a certain percentage of flights in smaller, unprofitable air routes. The

current form of RDG drives up costs and introduces inefficiencies.

- **Crew Shortage:** The gap between the crew and fleet is widening in India. IndiGo in February announced it would cut 30 daily flights from its schedule due to a shortage of crew to man its planes.

### Aviation Turbine Fuel (ATF)

- ATF is Kerosene based fuel used for powering jet and turboprop engine aircraft.
- ATF doesn't come under the GST (Goods and Services Tax) regime.
- Indian states charge as much as 30% in sales tax on aviation turbine fuel, on top of excise duty charged by the centre, making it the costliest in Asia.
- Bringing the fuel under the national tax regime will make it easier for airlines to make payments as the rate will be uniform across the country unlike now when it varies from state to state.

### History of Indian aviation sector

- For four decades after eight independent domestic airlines — Deccan Airways, Airways India, Bharat Airways, Himalayan Aviation, Kalinga Air Lines, Indian National Airways, Air India (formerly Tata Airlines), and Air Services of India — were merged to create state-owned Indian Airlines in 1953, India's aviation sector remained a national monopoly.
- Policy changes came in the 1990s — and liberalisation and economic reforms allowed private airlines to operate.
- Besides repealing the **Air Corporation Act, 1953** the government announced an **Open Skies policy in 1992**, liberalising rules and regulations to open up the commercial aviation market. Under the **Air Corporation Act**, only the state-owned carriers had the monopoly to operate as scheduled airlines.
- In December 2004, the government announced a major policy change, allowing Indian scheduled carriers with a minimum five years' continuous operations and a minimum of 20 aircraft (the **so-called 5/20 rule**) to fly international routes. Jet was the key beneficiary of this policy change.
- In 2016, the government scrapped the 5/20 rule and replaced it with 0/20, enabling SpiceJet, IndiGo and GoAir to launch international flights in the following years.



## Country-by-Country Report

Recently, India and the U.S. signed an inter-government agreement for the **automatic exchange of country-by-country (CbC) reports**.

### Key Points

- It will **reduce the compliance burden** for Indian subsidiary companies of U.S. parent companies and also help to check cross-border tax evasion.
- The Agreement for Exchange of CbC Reports, along with the **Bilateral Competent Authority Agreement** will enable both the countries to automatically exchange CbC reports filed by the ultimate parent entities of multinational enterprises (MNE) in the respective jurisdictions, pertaining to the years commencing on or after January 1, 2016.
- It will also obviate the need for Indian subsidiary companies of U.S. MNEs to do local filing of the CbC reports.
- The move is a key step in making India compliant with the **Base Erosion and Profit Shifting (BEPS)** project of the Organisation for Economic Co-operation and Development (OECD), of which it is an active participant.

### Base Erosion and Profit Shifting (BEPS)

- BEPS refers to the activities of multinational corporations to shift their profits from high tax jurisdictions to lower tax jurisdiction, thereby eroding the tax base of the high tax jurisdictions and depriving them of tax revenue.
- Under the OECD/G20 Inclusive Framework on BEPS, over 125 countries and jurisdictions are collaborating to implement the BEPS measures such as Automatic Exchange of Information (AEOI) to tackle BEPS.
- AEOI provides for the exchange of non-resident financial account information with the tax authorities in the account holders' country of residence. Participating jurisdictions that implement AEOI send and receive pre-agreed information each year, without having to send a specific request.

### Country-by-Country Reporting

- The BEPS Action 13 report provides a template for MNEs to report annually the information regarding their income, earnings, taxes paid etc, for each tax jurisdiction in which they do business. This report is called the Country-by-Country (CbC) Report.

### Bilateral Competent Authority Arrangement

- It is an arrangement between India and the U.S. to improve international tax compliance. It requires, in particular, the exchange of certain information with respect to U.S. and Indian reportable accounts on an automatic basis for the avoidance of double taxation and the prevention of fiscal evasion with respect to taxes on Income.

### Organisation for Economic Co-operation and Development (OECD)

- The OECD is an intergovernmental economic organisation, founded to stimulate economic progress and world trade.
- Most OECD members are **high-income economies** with a very **high Human Development Index (HDI)** and are regarded as developed countries.
- **Founded:** 1961
- **Headquarters:** Paris, France
- **Total Members:** 36
- **India is not a member**, but a key economic partner.
- **Reports and Indices by OECD:**
  - Government at a Glance 2017 report
  - International Migration Outlook
  - OECD Better Life Index

## Advance-Pricing Agreement

Recently, the **Central Board of Direct Taxes (CBDT)** entered into 14 **Unilateral Advance Pricing Agreements (UAPA)** which include 3 **Bilateral Advance Pricing Agreements (BAPA)** with the US, Australia and the Netherlands.

### Key Points

- The **Advance-Pricing Agreements (APAs)** entered into pertains to various sectors and sub-sectors of the economy like anti-friction bearings, risk management solutions platforms, BPO, ATMs etc.
- The progress of the APA scheme strengthens the Government's resolve to **foster a non-adversarial tax regime**.
- APAs enhance tax revenues and make the country an **attractive destination for foreign investments**. These agreements would be binding on both the taxpayer as well as the Government.



### Advance-Pricing Agreement (APA)

- An APA is a **contract between a taxpayer and a tax authority specifying the pricing method that the taxpayer will apply to its related-company transactions.**
- The APA scheme was **introduced in the Income-Tax Act in 2012.** It allows the CBDT to enter into APA with taxpayers for a maximum period of 5 years.
- The primary goal of APA is to **provide certainty to taxpayers in respect of the transfer price** of the cross-border transactions undertaken by such taxpayers with their group entities.
- Rapid growth in international trade through an increasing number of Multinational Enterprises (MNEs) has given rise to numerous tax disputes on the issue of transfer pricing.
- An **APA is a mechanism to resolve transfer pricing disputes in advance**, i.e., before the cross-border related party transaction actually takes place.
- The **transfer price of goods and services transacted between group entities is decided in advance** by the tax authorities and taxpayers, so as to **prevent any dispute arising from such transfer pricing.**
- An APA can be unilateral, bilateral, or multilateral.
  - **Unilateral APA** involves only the taxpayer and the tax authority of the country where the taxpayer is located.
  - **Bilateral APA** involves the taxpayer, Associated Enterprise (AE) of the taxpayer in the foreign country, the tax authority of the country where the taxpayer is located and the foreign tax authority.
  - **Multilateral APA** involves the taxpayer, two or more AEs of the taxpayer in different foreign countries, tax authority of the country where the taxpayer is located, and the tax authorities of AEs.

#### Note:

**Transfer Pricing:** Transfer pricing refers to the setting of prices of goods and services that are exchanged among the subsidiary or legal entities that are part of the same larger enterprise. It allows for tax savings for the companies, though tax authorities may contest their claims.

#### Central Board of Direct Taxes (CBDT)

- CBDT functions under the Central Board of Revenue Act, 1963.

- It is a part of the Department of Revenue in the Ministry of Finance.
- CBDT provides inputs for policy and planning of direct taxes in India and is also responsible for the administration of direct tax laws through the Income Tax Department.

### IMO's New Rule on Electronic Information Exchange

International Maritime Organisation (IMO) has mandated new rules for national governments to introduce electronic information exchange between ships and ports.

#### Key Points

- The new rules took effect from April 2019 and, seeks to make cross-border trade simpler and the logistics chain more efficient.
- The requirement, mandatory under IMO's Convention on **Facilitation of International Maritime Traffic (FAL Convention)**, is part of amendments under the revised Annex to the FAL Convention, adopted in 2016.
- It encourages the use of a "single window" for data, to enable all the information required by public authorities in connection with the arrival, stay and departure of ships, persons and cargo, to be submitted via a single portal, without duplication.
- Under the requirement for electronic data exchange, all national authorities should now have provision for the electronic exchange of this information.

#### India's Initiatives

- India launched a Port Community System — 'PCS1x' — at ports in December 2018.
- Port Community System (PCS1x) is a cloud-based new generation technology, with a user-friendly interface.
- This system enables maritime trade to have improved communication with the customs.

#### International Maritime Organization (IMO)

- The International Maritime Organization is a **specialized agency of the United Nations.**
- IMO is responsible for measures to improve the safety and security of international shipping and to prevent pollution from ships.

- It is also involved in legal matters, including liability and compensation issues and the facilitation of international maritime traffic.
- It was established by means of a Convention adopted under the auspices of the United Nations in Geneva in 1948 and met for the first time in January 1959.
- It currently has 174 Member States.

#### FAL Convention

- The Facilitation of International Maritime Traffic (FAL Convention) was adopted in 1965.
- The main objective of the convention is to achieve the most efficient maritime transport as possible, looking for smooth transit in ports of ships, cargo, and passengers.

## Transport and Marketing Assistance Scheme

The Ministry of Commerce and Industry has laid out a detailed procedure for claiming benefits under the Transport and Marketing Assistance (TMA) scheme, which aims at boosting agricultural exports.

#### Transport and Marketing Assistance (TMA) Scheme

- The Department of Commerce of the Ministry of Commerce & Industry had announced the TMA scheme in March 2019 for providing financial assistance for transport and marketing of agriculture products to boost exports of such commodities to certain countries in Europe and North America.
- The level of assistance would be different for different regions as notified from time to time for export of eligible products. The scheme covers freight and marketing assistance for export by air as well as by sea.
- The objective of the scheme is to mitigate the disadvantage of higher cost of transportation of export of specified agricultural products due to trans-shipment.
- It also aims to promote brand recognition for Indian agricultural products in the specified overseas markets.
- All exporters, duly registered with relevant Export Promotion Council as per Foreign Trade Policy, of eligible agricultural products, shall be covered under this scheme.

- Assistance under TMA would be provided in cash through direct bank transfer as part reimbursement of freight paid.
- The assistance shall be admissible only if payments for the exports are received in Free Foreign Exchange through normal banking channels.
- The scheme shall be admissible for the exports made through **Electronic Data Interchange (EDI)** ports only.

#### Electronic Data Interchange (EDI)

- Electronic Data Interchange (EDI) is generically defined as the **computer-to-computer exchange of business information** through standard interfaces.
- One of the greatest advantages of EDI is its ability to reduce the cost and time required for reproducing information that the Exporters / Importers used to furnish on paper.
- This enables the Customs Department to redirect its resources to more valuable activities, such as examining the consignments for prohibited goods, to ensure accuracy and fairness in procedures, and finding ways to assist industry.

## Gig Economy

Delhi has emerged as the top destination for migrant workers joining India's tech-enabled gig economy.

- The gig economy is "**a labour market characterised by the prevalence of short-term contracts or freelance work, as opposed to permanent jobs**".
- An **estimated 56% of new employment** in India is being generated by the gig economy companies across both the blue-collar and white-collar workforce.
- The reasons for this exponential growth are:
  - In the digital age, the worker need not sit at a fixed location—the job can be done from anywhere, so employers can select the best talent available for a project without being bound by geography.
  - The millennial generation seems to have quite a different attitude to careers. They seek to do work that they want to do rather than have careers that may not satisfy their inner urges.
  - This suits businesses as well. In a gig economy, they save resources in terms of benefits like provident fund, paid leave and office space.
  - Heightened migration and readily available job training.

## GIG, A NEW-AGE ECONOMY

BENEFITS	DOWNSIDE	CHALLENGES FOR GOVT
<ul style="list-style-type: none"> <li>■ Creation of jobs on mass scale</li> <li>■ Freedom and flexibility of work</li> <li>■ Easy access to services</li> <li>■ Price advantage for consumers</li> </ul>	<ul style="list-style-type: none"> <li>■ Inconsistency in services</li> <li>■ Partners arm-twisted by service providers</li> <li>■ Difficult to trust a service provider without a recommendation from someone you trust</li> </ul>	<ul style="list-style-type: none"> <li>■ Highly unregulated</li> <li>■ Lack of policies on job structure, tax, privacy</li> <li>■ Exponential growth</li> </ul>

### FEW KEY PLAYERS

UBER, OLA, ZOMATO, FOODPANDA, SWIGGY, AIRBNB, UPWORK

### CRUISE MODE

- Ola, Uber offered fat incentives in the initial years
- Targets were pretty achievable
- Hundreds of thousands availed bought cars to partner with Ola, Uber
- Few claimed to earn Rs 1 lakh a month

### FOR OLA, UBER DRIVERS

- Drivers hit downhill road as Ola, Uber gained market share
- Incentives became unattractive
- Needed more trips to meet targets, had to face growing traffic
- Crimes on passengers compounded problems

### REVERSE GEAR

- Drivers hit downhill road as Ola, Uber gained market share
- Incentives became unattractive
- Needed more trips to meet targets, had to face growing traffic
- Crimes on passengers compounded problems

### Challenges

- The gig economy thrives largely unregulated, therefore workers have little job security and few benefits. But, with the tech companies coming in, there is data available, making it a possibility to enable job security.
- A worker needs to be skilled enough. Unless a person is extremely talented, his bargaining power will necessarily be limited.
- There are already many more potential online independent workers than jobs, and this demand - supply mismatch will only get worse over time, depressing wages.

### Way Forward

- There is a need for the government to step in and implement radical changes in labour laws or implement tax rebates and concessions that can be passed on directly to drivers or delivery partners as health or insurance benefits.
- The gig economy is providing employment to a large semi-skilled and unskilled workforce. Therefore, It is important to hand-hold this sector and help it grow. The economy needs policies and processes that give clarity to the way the sector should function.

## Activity Report of the Bank Board Bureau

The **Bank Board Bureau (BBB)** recently released its activity report for October 2018 to March 2019.

### Key Recommendations

- The report has proposed incentives like the **Employee Stock Option Scheme (ESOS)** to the employees and empowerment of PSU banks by giving complete autonomy to boards to decide the organisational structure.
- The BBB suggested revamping credit governance architecture in nationalised banks to reinforce efforts to minimise credit costs and enhance the efficiency of credit allocation.
- It has proposed improvement in the operating environment as well as the process for search and selection of directors to nudge and attract the best board level talent.
- Performance assessment of WTDs (whole-time directors) and senior management personnel should be undertaken by the Board.
- To help nationalised banks take on the present and emerging challenges as well as help create a leadership pipeline, the Bureau has identified 75 personnel from a pool of 450 senior management personnel across nationalised banks.
- Shortly, a globally ranked Indian institution will be identified where every year the identified personnel will undergo an intensive leadership development journey.

#### Note:

ESOS is the compensation scheme, wherein the specified employees or executives are granted a certain number of shares of the company. Here, the employee has the right, but not the obligation to buy the company's shares at a specific time and a specific date.

#### Bank Board Bureau

- The Government had set up Banks Board Bureau, it is an **autonomous body**. Set up with a view to improve the governance of **Public Sector Banks (PSBs)**.
- The Bureau will recommend for **selection of heads - Public Sector Banks and Financial Institutions** and **help Banks in developing strategies and capital raising plans**.
- The constitution of **Banks Board Bureau** will have three ex-officio members and three expert members in addition to Chairman.
- All the Members and Chairman will be part time.

## Mind the Gap – State of Employment in India Report

Oxfam India has released its 'Mind the Gap - State of Employment in India' report.

### Key Highlights

- **Lack of quality jobs and increasing wage disparity** are key markers of inequality in the Indian labour market.
- **Regressive social norms continue to hamper women's participation** in the workforce.
- The largest number of jobs were generated in the unorganised sector.
- **Job generation was adversely impacted after demonetisation** and hit the women workforce most. **Women were forced to move out of the labour force** to make way for men to get the few jobs that were available.
- **Caste and class continue to play crucial roles** in determining employment for men and women, especially in stigmatised vocations like sanitation, rag-picking, and jobs in the leather industry.

### Recommendations

- Economic factors can be improved by way of policy interventions.
- A shift in development focus towards labour-intensive sectors can create more jobs and push for better work conditions to make jobs more inclusive.
- Substantially higher investments in health and education can improve productivity.

## World Economic Outlook 2019

The **International Monetary Fund** has released its biannual **World Economic Outlook Report**.

### Key Highlights

- IMF has cut down the global growth to 3.3% in 2019. Few reasons being: U.S.-China trade tensions, macroeconomic stress in Turkey and Argentina, tighter credit policies in China, mounting debt levels and increasing inequality etc.
- Beyond 2020, the IMF predicts that global growth will stabilise at around 3.5%, buoyed mainly by growth in China and India.

- The International Monetary Fund (IMF) has cut India's Gross Domestic Product (GDP) growth forecast for 2019-20, following similar action by the **Asian Development Bank (ADB)** and the **Reserve Bank of India (RBI)**.
- India's growth is projected to be 7.3% in 2019 (2019-20) and 7.5% in 2020. The growth will be driven by:
  - The continued recovery of investment and robust consumption.
  - A more expansionary stance of monetary policy and some expected impetus from fiscal policy.

### Recommendations

- At the global level, the report stated that there is a need for greater multilateral cooperation to resolve trade conflicts, to address climate change and risks from cybersecurity, and to improve the effectiveness of international taxation.
- The following are the recommendations specific to India:
  - In terms of the policy, it has called for continued implementation of structural and financial sector reforms in order to lower public debt and aid growth.
  - The report emphasized enhancing governance of public sector banks and reforms to hiring and dismissal regulations that would incentivize job creation and absorb the country's large demographic dividend.
  - Continued fiscal consolidation is needed to bring down public debt, strengthening goods and services tax compliance and lowering subsidies.

## Global Financial Stability Report, 2019

The **International Monetary Fund (IMF)** has released its **biannual Global Financial Stability Report (GFSR)**. The GFSR provides an **assessment of balance sheet vulnerabilities** across financial and non-financial sectors in advanced and emerging market economies.

### Key Highlights

- The latest GFSR has introduced a way to quantify vulnerabilities in the financial system, encompassing six sectors: **corporates, households, governments, banks, insurance companies, and other financial institutions**.



- The report specifically focuses on corporate sector debt in advanced economies, the sovereign–financial sector nexus in the Euro area, China’s financial imbalances, volatile portfolio flows to emerging markets and downside risks to the housing market.
- It recommends action by policymakers, including through the clear communication of any changes in their monetary policy outlook, the deployment and expansion of macroprudential tools, the stepping up of measures to repair public and private sector balance sheets, and the strengthening of emerging market resilience to foreign portfolio outflows.

## Migration and Development Brief of World Bank

The **World Bank** has released its biannual “**Migration and Development Brief**”. The brief aims to provide an update on key developments in the area of migration and remittance flows and related policies over the past six months.

### Key Highlights

- India has retained its position as the world’s top recipient of remittances. The Indian diaspora sent \$79 billion back home in 2018.
- India was followed by China, Mexico, the Philippines, and Egypt.
- In 2019, remittance flows to low- and middle-income countries are expected to reach \$550 billion, to become their largest source of external financing.
- The overall increase in remittance is driven by a stronger economy and employment situation in the United States and a rebound in outward flows from some **Gulf Cooperation Council (GCC)** countries and the Russian Federation.
- The global average cost of sending \$200 remained high, at around 7% in the first quarter of 2019, according to the **World Bank’s Remittance Prices Worldwide database**. Reducing remittance costs to 3% by 2030 is a global target under **Sustainable Development Goal (SDG) 10.7**.

- Renegotiating exclusive partnerships and letting new players operate through national post offices, banks, and telecommunications companies will increase the competition and thus lower the remittance prices.

### Remittances

- A remittance is funding that is sent or transferred to another party usually abroad. Remittances can be sent to another country via a wire transfer, mail, draft, or check. Remittances can be used for any type of payment such as an invoice, but it’s typically used to pay family members back in a person’s home country.
- These are basically the sum of two main components - **Personal Transfers in cash** or in kind between resident and non-resident households and Compensation of Employees, which refers to the income of workers who work in another country for a limited period of time.
- Remittances have played an increasingly large role in the economies of small and developing countries. Since the late 1990s, remittances have exceeded development aid, and in some cases make up a significant portion of a country’s Gross Domestic Product (GDP).

## Load Generation Balancing Report

The **Central Electricity Authority (CEA)** has released its **Load Generation Balancing Report 2018-2019**.

### Key Points

- India has again missed the target of becoming an electricity-surplus nation as its peak power deficit stood at 0.8% and the overall energy deficit remained 0.6% in 2018-19.
- CEA is an apex technical organization for facilitating the overall development of the Power Sector in the country to provide quality power for all at an affordable price.
- CEA functions under the Electricity Act, 2003.





# International Relations

## Highlights

- *President of Algeria Resigns*
- *Sudan's President Ousted by Army*
- *Crisis in Libya*
- *Elections in Ukraine*
- *Iran Threatens to Close the Strait of Hormuz*
- *President of India visits Bolivia*
- *President's Visit to Chile*
- *Parliamentary Election in Maldives*
- *Indo-Pacific Wing in MEA*
- *Iran Oil Import Waiver Lifted*
- *BCIM not a Part of BRI: China*

## President of Algeria Resigns

**Abdelaziz Bouteflika**, President of Algeria has resigned after remaining in power for more than two decades.

### Background

- Since February 22, 2019 tens of thousands of people protested throughout Algeria demanding that President Bouteflika must resign.



- **Constitutional Provisions**
  - Algeria's Constitutional Council has accepted Mr. Bouteflika's resignation and informed Parliament that his post was officially vacant.
  - Algeria's Constitution says that once the President officially resigns, the Speaker of the upper house of Parliament acts as an interim leader for up to 90 days during which a presidential election must be organized.
- **Demand of Protestors**
  - It is to be seen whether the protesters will now vacate the streets and accept the transition. Some

of them have called for a break with the system and demanded a democratic transition.

## Sudan's President Ousted by Army

President **Omar al-Bashir**, who ruled Sudan for 30 years, was overthrown in a coup by the armed forces.

- The president was forcefully removed after months of protest over rising costs of food and other necessities but the demands quickly widened for the removal of President Omar al-Bashir and his government.



### Reasons for Ouster

- **Economic Hardships and Civil War**
  - Mr. Bashir presided over a 21-year war in southern Sudan.
  - In 2011, following a referendum, South Sudan gained independence from Sudan. The referendum had been part of a peace deal agreed between Mr. Bashir and rebels from South Sudan.

Note:

- However, the split had significant financial repercussions, because South Sudan gained 75% of Sudan's oil resources.
- Sudan's economy - which had already been strained by more than a decade of US sanctions - was hit hard.
- US Sanctions: Sudan has suffered prolonged periods of isolation since 1993 when the United States added Bashir's government to its list of terrorism sponsors for harboring Islamist militants.
- In December 2018, the government of Sudan tried to prevent economic collapse, brought on by years of US sanctions and loss of oil revenue, with emergency austerity measures and a sharp currency devaluation.
- **Algeria's Influence**
  - Recently, Abdelaziz Bouteflika, president of Algeria has resigned after remaining in power for more than two decades.
  - This increased the wave of protests throughout Sudan.
- **ICC Charges**
  - Mr. Bashir has been indicted by the **International Criminal Court** in **The Hague** and is facing an arrest warrant over allegations of genocide in Sudan's Darfur region during an insurgency that began in 2003 and led to the death of an estimated 300,000 people.

## Crisis in Libya

General Khalifa Haftar, head of the **Libyan National Army (LNA)**, has launched a military campaign on the capital **Tripoli of Libya**.

### Background

- Anti-government protests began on February 15, 2011, leading to civil war between the opposition forces and Muammar Gaddafi loyalists.
- The capital city, Tripoli was captured and the government was overthrown after military intervention by western powers.
- In Libya, a UN-backed internationally recognized government was put in place called the **Government of National Accord (GNA)**.

- Libya has no single government currently, with LNA backing the Tobruk-based parliament which governs the East of Libya, and the GNA which controls Libya's western parts from Tripoli.
- The UN-backed government failed to provide stability to Libya. West Libya which was under GNA control was replete with inter-militia battles and kidnappings.
- The GNA commands no security forces, public administration scarcely exists, water, petrol and power shortages abound, and few banks operate.

### India's response

- India also evacuated its contingent of peacekeeping forces comprising of 15 CRPF personnel from Tripoli.
- India has also asked its citizens to exercise extreme caution.

### Impact

- The civil war in Libya may lead to a new migrant crisis from Africa into Europe.
- Libya has the largest oil reserve in Africa and one of the largest oil producer in the world. Instability in Libya may increase oil prices globally. This will impact India directly.

### Libya

- Libya is a mostly desert and **oil-rich country** in **northern africa**.



- Libya gained independence in 1951. Soon after oil was discovered and earned the country immense wealth.
- **Colonel Gaddafi** seized power in 1969 and ruled for four decades until he was toppled in 2011 following an armed rebellion assisted by Western military intervention.
- **Capital:** Tripoli
- **Currency:** Libyan dinar

## Elections in Ukraine

Recently, Volodymyr Zelenskiy has been elected as the new president of Ukraine.

### Issues Ukraine is facing

#### ➤ Confrontation with Russia

- Ukraine is at loggerheads with Russia over the occupation of **Crimean peninsula** by Russia.



- The annexation of Crimea from Ukraine followed a Russian military intervention in Crimea that took place in the aftermath of the 2014 Ukrainian revolution and was part of wider unrest across southern and eastern Ukraine.
- Last year Russia also arrested 24 Ukrainian naval officers from Kerch Strait for alleged border violations.
- Ukraine is also seeking **North Atlantic Treaty Organization (NATO)** and European Union membership, a move that would be offensive to Russia and that could obstruct attempts to resolve other tensions with Russia.

#### Euromaidan Movement

Euromaidan (European Square) was a wave of demonstrations and civil unrest in Ukraine, which began in November 2013 with public protests in Maidan Nezalezhnosti (Independence Square) in Kyiv, Ukraine.

#### ➤ The separatist movement in East Ukraine

- The Donbass region (the Donetsk and Luhansk regions) of eastern Ukraine is facing a pro-Russian separatist movement since 2014.
- According to the Ukrainian government, the movement is actively supported by the Russian government and Russian paramilitaries make up to between 15% to 80% of the separatists fighting against Ukraine government.

#### Normandy Format

Normandy format is also known as the Normandy contact group, or the Normandy Four is a diplomatic group of senior representatives of the four countries (Germany, Russia, Ukraine, and France) to resolve the war in Eastern Ukraine.

#### ➤ Corruption

- Corruption was one the key reason behind the ouster of a sitting president, Petro Poroshenko.
- Transparency International's Corruption Perceptions Index shows Ukraine at 120 among 188 countries.
- The newly elected president has vowed various severe measures against corruption.

#### ➤ Economic Crisis

- Ukraine's economy is recovering from the severe decline in the economy it experienced after the 2014 unrest, yet the gross domestic product is still substantially below its level in 2013.
- In December 2018, the International Monetary Fund (IMF) has given US\$3.9 billion packages to Ukraine.
- But further assistance is conditional on Ukraine making key reforms and tackling corruption.

#### India-Ukraine Relations

- Immediately after the breakup of the Soviet Union, the Government of India recognized the Republic of Ukraine as a sovereign independent country in December 1991.
- The Embassy of India in Kyiv was established in May 1992 and Ukraine opened its Mission in New Delhi in February 1993.
- India and Ukraine enjoy warm and friendly relations and cooperate in areas like Culture, Arts, Education, Mutual Legal Assistance, Outer Space cooperation.
- Defense Relations
  - India and Ukraine also have significant defense cooperation. Ukraine has been a source of military technology and equipment for India since its independence.
  - Indian companies are collaborating with Ukrainian companies in this area.
  - India is dependent on Ukraine's military-industrial complex which plays an instrumental role in the modernization and upkeep of its air force.

- **Diaspora**
  - Ukraine also has a significant size of the Indian community excluding students, it is estimated to be about two thousand.
  - There are more than 8,000 Indian students enrolled in various Ukrainian medical/technical universities.

## Iran Threatens to Close the Strait of Hormuz

Iran has said that it could close the strategic Strait of Hormuz shipping route if it faces more “hostility,” from the United States.

### Background

- Recently, US tightened sanctions on Iran and lifted off Significant Reduction Exceptions (SREs) waivers.
- However, Iran has said that it will continue to sell its oil and use the Strait of Hormuz. But if Iran is prevented from doing that it will close the strait.

### What is the Hormuz Strait?

- Strait of Hormuz is the channel linking the Persian Gulf (west) with the Gulf of Oman and the Arabian Sea (southeast).



- The strait is 35 to 60 miles (55 to 95 km) wide and separates Iran (north) from the Arabian Peninsula (south).
- It contains the islands of Qeshm (Qishm), Hormuz, and Hengām (Henjām). It is of great strategic and economic importance.

### Importance of Hormuz Strait

- **Strategic Location**
  - Strait of Hormuz connects the Indian Ocean with the Arabian/Persian Gulf.

- Strait of Hormuz separates the modern Iranian state from the countries of Oman and the United Arab Emirates.
- The Strait of Hormuz is a strategic artery linking the Middle East to the Asia Pacific, Europe, North America.

### Commercial Shipping

- In all recorded history, the seaway has connected Arab and Persian civilizations with the Indian subcontinent, Pacific Asia and the Americas. Porcelain from China and spices from the Indochina peninsula often passed through the strait on their way to Central Asia and Europe.
- All shipping traffic from energy-rich Gulf countries converges in the strait, including crude oil and liquefied natural gas exports from Iran, Iraq, Kuwait, Bahrain, Qatar, Saudi Arabia, and the United Arab Emirates.
- Thirty percent of the world's crude oil trade passes through Strait of Hormuz. It is also the route for nearly all the liquefied natural gas (LNG) from lead exporter Qatar.

### Impact of Closure

- Closure of the Strait of Hormuz or even threatening can lead to a rise in crude oil price due to supply concerns and unsettled stock markets.
- It may also disrupt trade between the Middle East and the rest of the world as commercial ships will not risk being confronted by the Iranian Navy.
- The closure may also have serious geopolitical repercussions as United States Navy's Central Command is located in the Persian Gulf. Any confrontation between the US and Iran may escalate and will have larger security implication in the whole region.

## President of India visits Bolivia

Recently, the President of India completed his visit to the Plurinational State of Bolivia.

### Key highlights

- First ever visit by an Indian President to Bolivia.
- Bolivia also conferred the highest State Honour of Bolivia on the President.





### **The Plurinational State of Bolivia**

- Bolivia is officially known as the Plurinational State of Bolivia.
- It is a landlocked country located in western-central South America.
- The capital of Bolivia is Sucre while the seat of government and financial center is located in La Paz.
- In 2009, a new constitution changed the country's official name to "Plurinational State of Bolivia" in recognition of the multi-ethnic nature of the country.

### **Outcome of Visit**

- 8 memorandum of understandings (MoUs) were signed between India and Bolivia concerning fields of culture, visa waiver for diplomats, the exchange between diplomatic academies, mining, space, traditional medicine, the establishment of Centre of Excellence in IT and the Bi-Oceanic Railway project.
- Bolivia also joined the International Solar Alliance by signing the framework agreement.
- **Lithium Deposit Exploration**
  - Both sides also agreed to work together for exploration and extraction of the vast Lithium deposits of Bolivia.
  - Lithium is a key resource used in making batteries that India needs for its clean technology initiatives such as increased use of electric cars. It will be a boost to India's FAME II scheme.
  - India agreed to facilitate Bolivian supplies of lithium Carbonate to India and foster joint ventures for Lithium battery/cell production plants in India.
- **Financial Aid**
  - Under the framework of South-South Cooperation, India gave a US\$ 100 million Line of Credit to

Bolivia for financing development projects in sectors that Bolivia may choose.

### **India-Bolivia Relations**

- The Indian Embassy in Peru is concurrently accredited to Bolivia since April 1981.
- Bolivia opened a resident Mission in India in 2012.
- Trade Relations
  - India-Bolivia bilateral trade has grown in the last two years and it stood at US\$ 875 million in 2018.
  - 60% of Bolivian gold is exported to India.
  - Bolivia is the 8th leading trading partner of India in the Latin America region.
  - There is a scope for diversifying trade basket to further strengthen the bilateral trade.

## **President's Visit to Chile**

Recently, the President of India completed his visit to the Republic of Chile.

### **Key Points**

- India-Chile commemorated the 70th anniversary of the Establishment of Diplomatic Relations between Chile and India.
- India and Chile are partners in the International Solar Alliance.
- India-Chile signed three Memorandum of Understandings (MoUs) in the fields of - mining, culture & disability.
- Chile is India's window to Latin America and the Pacific Alliance.
- Chile is the fifth largest trading partner of India in the Latin American region.
- India-Chile signed the Preferential Trade Agreement in 2017 to enhance the trade.
- The bilateral trade is growing and stood at US\$ 2.8 billion in 2017-18.

### **Republic of Chile**

- The capital of Chile is **Santiago**.
- It is a South American country occupying a narrow strip of land between the Andes to the east and the Pacific Ocean to the west.





- It borders Peru to the north, Bolivia to the northeast, Argentina to the east, and the Drake Passage in the south.
- The **Atacama desert**, one of the driest places in the world touches Chile in its northern side and is a source of sodium nitrate fertilizer.
  - It owes its aridity due to a constant temperature inversion of cool north-flowing Humboldt ocean current.
- **Chuquibambilla** is the World's largest copper town of Chile.

## Parliamentary Election in Maldives

The Maldivian Democratic Party (MDP) has won the parliamentary election in the 87-Member People's Majlis (Maldivian Parliament).

### Significance For India

- After a downward trend in relations during the presidency of Abdulla Yameen, that benefited China considerably, the relation between India and Maldives are warming up again under the new president Ibrahim Solih.
- Since September 2018, India and Maldives have seen a number of bilateral visits.

### India-Maldives Relation

- India and the Maldives share deep historical, cultural, and economic ties.
- India was among the first to recognize Maldives after its independence in 1965 and to establish diplomatic relations with the country. India established its mission at Malé in 1972.



- India's bilateral and financial assistance to the Maldives has been reciprocated through an "**India first**" policy by the Maldives.

### Importance of the Maldives for India

- The Maldives is an important aspect of India's 'Neighbourhood First' policy.
- Strategically located in the Indian Ocean, the Maldives archipelago comprising 1200 coral islands lies next to key shipping lanes which ensure uninterrupted energy supplies to countries like China, Japan, and India. More than 97% of India's international trade by volume and 75% by value passes through the region.
- As the pre-eminent South Asian power and a 'net security provider' in the Indian Ocean region, India needs to cooperate with the Maldives in security and defense sectors.
- India is also a preferred destination for Maldivians for education, medical treatment, recreation, and business.

### South Asian Association for Regional Cooperation (SAARC)

- The South Asian Association for Regional Cooperation (SAARC) is a regional intergovernmental organization and geopolitical union in South Asia formed in 1985.
- The member states include Afghanistan, Bangladesh, Bhutan, India, Nepal, Maldives, Pakistan and Sri Lanka.
- SAARC comprises 3% of the world's area, 21% of the world's population and 9.12% of the global economy, as of 2015.
- The organization promotes the development of economic and regional integration. It launched the South Asian Free Trade Area in 2006.
- SAARC maintains permanent diplomatic relations at the UN as an observer and has developed links with multilateral entities.

- Maldives is also a member of SAARC. It is important for India to have the Maldives on board to maintain its leadership in the region.
- Since China's naval expansion into the Indian Ocean - Maldives significance has steadily grown and now it's at the heart of international geopolitics.
- There is significant Indian diaspora in the Maldives. Innumerable Indians work across the hospitality, education, and health-care sectors of the Maldives economy.

## Indo-Pacific Wing in MEA

India has set up an Indo-Pacific division in the Ministry of External Affairs.

- The new division is intended to give a coherent architecture to the policy, which was articulated by the prime minister at the Shangri-La Dialogue in 2018.

### Importance of Separate Division

- MEA's territorial divisions are crucial for policy making, so the creation of an Indo-Pacific division is a big step by the government.
- The division will integrate the Indian Ocean Rim Association (IORA), ASEAN region and the Quad.
- India is planning to put greater energy to the IORA because the core of its Indo-Pacific policy is rooted in the Indian Ocean.
- The US also recently renamed its Pacific Command to the Indo-Pacific Command as it seeks to give significance to its Indo-Pacific policy.

### Highlights of PM Narendra

#### Modi's address at Shangri-La

- By projecting an equivalence in ties with the US, Russia, and China – India reaffirmed its principle of strategic autonomy and cautioned against the return of the 'great power rivalries'.
- India's Indo-Pacific strategy is not aimed at China's containment.
- India sees the Indo-Pacific as primarily a geographic domain — a "natural region".
- The Indo-Pacific region is ultimately multi-polar, hence rejecting or contesting the idea that either China or the United States could be the one regional hegemonic power.
- India is indispensable to the security of the Indian Ocean.

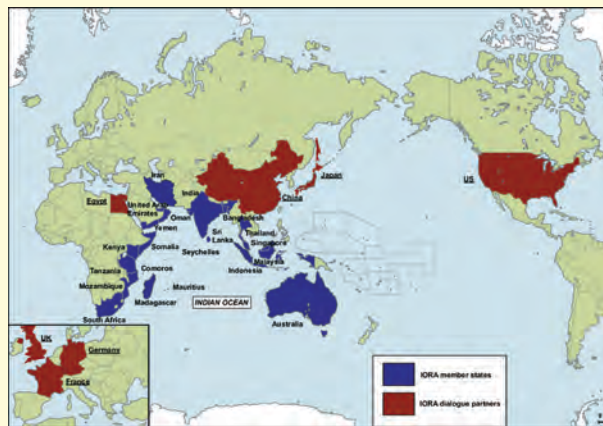
- Signified the interconnectedness of the Indian and Pacific Oceans and the importance of the oceans to security and commerce.

### Shangri-La Dialogue

- The Shangri-La Dialogue (SLD) is an intergovernmental security forum held annually by an independent think tank, the International Institute for Strategic Studies in Singapore.
- The Shangri-La Dialogue has evolved into a key strategic gathering of the Asia-Pacific region.
- It is attended by defense ministers, permanent heads of ministries and military chiefs of Asia-Pacific states.

### Indian Ocean Rim Association

- The Indian Ocean Rim Association is an intergovernmental organization which was established on 7 March 1997.
- IORA has 21 Member States, mainly littoral Indian Ocean states, and 7 other states as Dialogue Partners.



## Iran Oil

### Import Waiver Lifted

The US has stated that it will not renew exemptions from its sanctions for importing oil from Iran. There will be no Significant Reduction Exceptions (SREs) to any nation anymore.

- India is the world's third-biggest oil consumer. It meets more than 80% of its crude oil requirements and around 40% of its natural gas needs through imports.
- India is Iran's top oil buyer after China. In 2018-19, it imported 23.5 million tonnes from Iran; in the previous year, almost 10% of its total 220.4 million tonnes of crude import was from Iran.

- Iran was the fourth largest supplier of oil to India in 2018-19, and other suppliers may not provide the same benefits in the form of price and credit facilities.

### Key Points

- The exemptions were granted last November for a 180-day period for India and seven other countries, and are due to expire on May 2.
- India, China, and US allies Japan, South Korea, and Turkey will be the most impacted by the non-renewal of waivers.
- The other three currently exempted countries — Italy, Greece, and Taiwan — have already reduced their imports to zero.
- The US has said that India's "escrow account" used for Rupee-Rial trade cannot be operated after May 2 deadline.

#### Note:

An escrow account is a temporary pass-through account held by a third party during the process of a transaction between two parties.

- However, there is no change in the exemption given for India's investments in Chabahar port as a trade route to Afghanistan.
- The US will place financial curbs on any entities or companies violating the oil sanctions, including a ban on the use of the SWIFT banking international transaction system by the companies, seizure of any US assets of those companies, and curtailing any other dollar transactions.

### Impact of Sanctions

- **On Iran:** The significant reduction in oil export will deny Iran its principal source of revenue.
- **On Global Oil Supplies:** Iran has a 4% share of global oil production in 2018. Sanctions on Iran are likely to impact global oil supply chains.
  - Disruption in supply may also lead to a significant rise in oil prices.
  - However, the United States, Saudi Arabia, and the United Arab Emirates, three of the world's largest energy producers have said that they are committed to ensuring that global oil markets remain adequately supplied.

### Impact on India

- **Oil Supply for Refineries:** The decision of the US is likely to irk India, particularly since the US has also imposed sanctions on another of India's top suppliers, Venezuela.
- **Current Account Deficit:** Higher crude oil prices will widen the trade deficit and current account deficit, given that the value of imports goes up with crude oil.
  - Each dollar increase in the price of oil raises India's annual import bill by over Rs 10,500 crore, any spike in global crude prices could have a bigger impact on India's deficit numbers in the absence of the Iranian oil.
- **Rupee and Inflation:** The currency could be impacted if the trade and current account deficits were to widen. An increase in the import bill will tend to put pressure on the rupee. The rise in crude oil prices passed on to the consumer will increase inflation.

## BCIM not a Part of BRI: China

China has stated that the Bangladesh-China-India-Myanmar (BCIM) Corridor will not be a part of the Belt & Road Initiative.

### Key Points

- India's decision to skip the **Belt and Road Forum (BRF)** may have led to the exclusion of the **Bangladesh-China-India-Myanmar (BCIM) Economic corridor** from the list of projects covered by the China-led Belt and Road Initiative (BRI) umbrella.
- Citing sovereignty concerns, India, for the second time, has not officially participated in the BRF, as **China Pakistan Economic Corridor (CPEC)** — a flagship of the BRI—passes through **Pakistan occupied Kashmir (PoK)**.
- In the official communique of BRF, South Asia is covered by three major undertakings—the **China-Myanmar Economic Corridor (CMEC)**, the **Nepal-China Trans-Himalayan Multidimensional Connectivity Network** and the **China Pakistan Economic Corridor (CPEC)**.

### Bangladesh-China-India-Myanmar (BCIM) Corridor

- The 2800 km BCIM corridor proposes to link **Kunming in China's Yunnan province with Kolkata**, passing through nodes such as **Mandalay in Myanmar and Dhaka in Bangladesh** before heading to Kolkata.

#### ***China-Myanmar Economic Corridor (CMEC)***

- The 1,700-km corridor provides China another node to access the Indian Ocean.
- The CMEC will run from **Yunnan Province of China to Mandalay in Central Myanmar**.
- From there it will head towards Yangon, before terminating at the **Kyaukpyu Special Economic Zone (SEZ)** on the Bay of Bengal.
- The CMEC will reduce Beijing's trade and energy reliance on the Malacca straits — the narrow passage that links the Indian Ocean with the Pacific.
- China is worried that US Naval domination over the **Malacca straits** can threaten one of China's major economic lifelines.

#### ***Nepal-China Trans-Himalayan Multi-dimensional Connectivity Network***

- The **Nepal-China Trans-Himalayan connectivity network** starting from **Chengdu**, from where it is linked to **Tibet by the Sichuan-Tibet Highway and Railway**.
- China has visualized that that railway can eventually be connected with the Indian railway network, linking China and India across the Himalayas.

#### ***China Pakistan Economic Corridor (CPEC)***

- The CPEC is a bilateral project between Pakistan and China, intended to promote connectivity across Pakistan with a network of highways, railways, and pipelines accompanied by energy, industrial, and other infrastructure development projects.
- CPEC links the Western part of **China to the Gwadar Port in Balochistan**, Pakistan running some 3000 km from **Xinjiang to Balochistan via Khunjerab Pass** in the Northern Parts of Pakistan.

drishti

# Science and Technology

## Highlights

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- Nirbhay Missile
- Enzyme to arrest bacteria cell growth discovered
- Chytridiomycosis Disease
- Drug Resistant Fungal Infection
- Three-Person Baby
- Antibio-gramoscope Device
- 3D Printed Heart with Human Tissue
- Scientists Restore Brain Cell Activity
- Bubble Boy Disease
- World's First Malaria Vaccine
- Echidnas Milk as Antimicrobial
- Cloud Honeypots
- Malware Kronos
- New Human Ancestor Species Found
- New Genetic Method to Empower Conservation
- Cell-based Meat
- Mission DELHI

## EMISAT Satellite

The ISRO has launched the EMISAT satellite onboard the **PSLV-C45** from the **Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh**.

- The PSLV-C45 was also carrying 28 international nanosatellites — 24 from the US, 2 from Lithuania and one each from Spain and Switzerland.
- The flight of PSLV was also the longest mission of the PSLV, lasting around three hours.

### About EMISAT Satellite

- The EMISAT satellite is aimed at **electromagnetic spectrum measurement**.
- It was successfully placed in its intended **Sun-Synchronous Polar Orbit (SSPO)** of 748 km.
- It is an all weather and all terrain condition satellite, which will allow it to work through clouds, rain, forest and coastal areas.
- EMISAT is an **ELINT (Electronic Intelligence) satellite**, which means it will have a radar to measure the electromagnetic spectrum - so as to intercept and analyze radar signals, find their location, identify the hostile radars based on their **radio frequency (RF)** signature.

- This will be a vital tool for India when EMISAT along with the **Airborne Warning and Control System (AWACS)** can effectively locate, tackle and silence enemy radars, and secure Indian airspace.

### Polar Orbit

- A polar orbit travels north-south over the poles and takes approximately 90 minutes for a full revolution.
- These orbits have an inclination near 90 degrees. This allows the satellite to see virtually every part of the Earth as the Earth rotates underneath it.
- An orbit is called sun-synchronous when the angle between the line joining the center of the Earth and the satellite and the Sun is constant throughout the orbit.

### Significance of Launch

- This was the first time when the PSLV has placed objects in three different orbits.
- The fourth stage was restarted and stopped twice to bring PSLV to the altitude of 507 km after EMISAT launch.
- At the fourth stage three experimental payloads were deployed:
  - **Automatic Identification System (AIS)** for Maritime satellite applications capturing messages transmitted from ships



- **Automatic Packet Repeating System (APRS)** from AMSAT (Radio Amateur Satellite Corporation), India - assisting amateur radio operators in tracking and monitoring position data
- **Advanced Retarding Potential Analyzer for Ionospheric Studies (ARIS)** from Indian Institute of Space Science and Technology (IIST) - for the structural and compositional studies of the ionosphere.

## First Images of a Black Hole

The scientists at **Event Horizon Telescope Project** have released the first-ever image of a Black Hole (more precisely, of its shadow) on April 10, 2019.

- The targeted black hole is located in the center of galaxy **Messier 87**, in the constellation **Virgo**. It is located about 53 million light-years away from earth.
- The black hole has a mass of 6.5 billion Suns.
- The image was made possible by the **Event horizon telescope (EHT)**.
- The EHT picks up the radiation emitted by particles in the galaxy heated to a billion degrees as they revolve around the black hole close to the speed of light.

### What is a black hole?

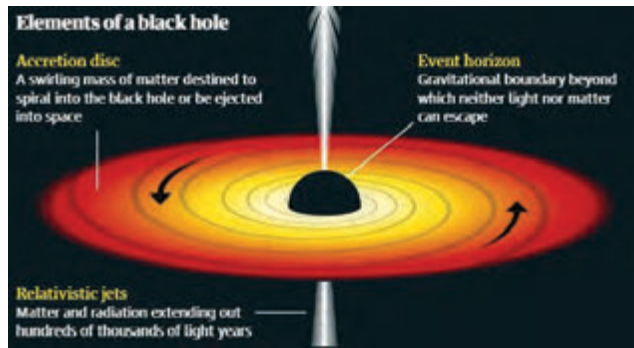
- The term 'black hole' was coined in the mid-1960s by **American Physicist John Archibald Wheeler**.
- Black hole refers to a point in space where matter is so compressed as to create a gravity field from which even light cannot escape.
- It was theorized by Albert Einstein in 1915.

### Event Horizon

- There is a region of space beyond the black hole called the event horizon. This is a **"point of no return" beyond which it is impossible to escape the gravitational effects of the black hole**.

### Event Horizon Telescope (EHT) Project

- EHT is an array of 8 radio telescopes (used to detect radio waves from space) located in different parts of the world. It combines data from several **Very-Long-Baseline Interferometry (VLBI)** stations around Earth with angular resolution sufficient to observe the objects having size of black hole's event horizon.



### The Event Horizon Telescope Array



### Black Holes & Dark Matter

- An international research team has ruled out the possibility that primordial black holes (formed in the early age of the universe) might be the primary source of dark matter.
- The theory that primordial black holes are a source of dark matter was proposed by **Professor Stephen Hawking**.

### What is Dark Matter?

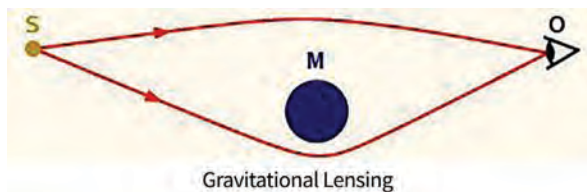
- Dark matter, though never detected, is believed to be present in the entire universe, its existence presumed because a number of observable celestial phenomena could not be possible if the universe did not have much more matter in it than is seen.
- It is believed to make up more than 95% of the Universe.
- Its gravitational force prevents stars in our Milky Way from flying apart.
- However, attempts to detect such dark matter particles using underground experiments, or accelerator experiments including the world's largest accelerator, the **Large Hadron Collider (LHC)**, have failed so far.

### Presence of Dark Matter in Universe

- In the solar system, Mercury, the planet closest to the Sun, takes just 88 days to make one revolution around the sun, while Neptune, the farthest one, takes 165 years to make one round.
- Laws of gravity expect us to see stars closer to the center of galaxies rotating faster than the stars on the edge.
- However, in most galaxies, the stars closer to the center and the stars at the edge of the galaxies take almost the same time to make one revolution.
- **This implied that something invisible matter enveloping the galaxies was giving an extra push to the outer stars, speeding them up.**
- This entity has remained as one of the unresolved puzzles in cosmology since the 1930s. It is named as 'Dark Matter'.
- The material is considered to be a 'matter' since it has gravitational attraction and it is 'dark' because it does not seem to interact with light (or any part of the electromagnetic spectrum).

### Primordial Black Holes

- When the big bang hypothesis was proposed, two Soviet physicists, Yakov Borisovich Zel'dovich and Igor Dmitriyevich Novikov, showed that at the initial instant of the big bang, the densities would have been very high at many points, resulting in the formation of small black holes.
- They were named 'primordial black holes'.
- Stephen Hawking investigated them in 1971. He computed that the mass of the primordial black holes could range from as low as one-hundredth of a milligram to as high as more than the mass of Thousand Suns.



#### Gravitational lensing

- When the black hole is in alignment with a distant star, due to gravitational attraction, light rays are bent inwards like a lens, making the star appear brighter. This is called '**gravitational lensing**'.

- This rare phenomenon can occur only when the star, the black hole and the observer on the Earth are aligned in a straight line.
- This phenomenon was **first proposed in Albert Einstein's General Theory of Relativity.**

## Meteorite Sheds Light on the Sun's Infant Years

By analyzing a piece of meteorite found in Kazakhstan in 1962, researchers have envisaged how the Sun behaved in its infancy.

### Key Findings

- Researchers found that during initial years Sun was able to generate superflares which were a million times stronger than the strongest solar flare ever recorded at the 1859 Carrington event.
  - The solar storm of 1859 (also known as the Carrington Event) was a powerful geomagnetic storm during solar cycle 10 (1855–1867).
  - A solar flare is a sudden flash of increased brightness on the Sun, sometimes they are also accompanied by a coronal mass ejection.
- Such superflares must have taken place 4.5 billion years ago when the Sun was barely forming.
- Researchers also inferred that irradiation by such superflares from the Sun is the **sources of elements like beryllium-7.**
- **Among the first-formed solids of the solar system were the calcium-aluminum-rich inclusions (CAI).** The CAIs are nearly 4.5 billion years old.

### Asteroid

- These rocks are generally found **between Mars and Jupiter** in an orbit called the asteroid belt.
- These are usually the **fragments of a planet** that never came together.

### Comet

- It is a chunk of ice and rock originating from the outer solar system. Some of them occasionally get **gravitationally pulled towards the inner solar system**, with the possibility of hitting Earth.
- When passing close to the Sun, the comet warms and begins to release gases, a process called outgassing.

- This produces a visible atmosphere or coma, and sometimes also a tail.

#### Meteoroid

- It is a space rock that's bigger than a dust grain but smaller than an asteroid. The dividing line between asteroid and meteoroid is fuzzy, but generally, space rocks bigger than boulders are asteroids and smaller ones are meteoroids.

#### Meteor

- The streak of light seen when a space rock — an asteroid or a comet — enters the earth's atmosphere and starts burning up. It's the scientific synonym for "shooting star."

#### Meteorite

- If a meteor doesn't entirely burn up, a piece of space rock that landed on Earth is called a meteorite.

#### Bolide

- Astronomers use the term to describe a bright fireball from an incoming meteor; geologists use it as a catch-all term for a comet or an asteroid that hit the Earth.

#### Coronal Mass Ejection

- A coronal mass ejection (CME) is a **significant release of plasma and accompanying magnetic field from the solar corona**. They are **often followed by solar flares**.

## Simulated Martian Base

Recently, a Chinese company **C-Space** has opened "**Mars Base 1**", a simulated Martian base of future astronauts in the desert hills of **Gobi Desert in China's Gansu Province**.

- The base is currently an educational facility and in the future, it will be expanded to be a tourist destination also.



## Gobi Desert

- The Gobi is a desert and semi-desert region of Central Asia. The Gobi (from the Mongolian Gobi, meaning "waterless place") stretches across huge portions of both Mongolia and China.
- The Gobi desert is bounded by the Altai Mountains and the grasslands and steppes of Mongolia in the north, and Tibetan Plateau to the southwest, and by the North China Plain to the southeast.

## Universe's First Molecule

Scientists have detected the **most ancient type** of molecule in our universe in space for the first time ever.

### Key Points

- **Helium hydride ion (HeH<sup>+</sup>)** was the first molecule that formed when, almost 14 billion years ago, the falling temperatures allowed recombination of the lighter elements (hydrogen, helium, deuterium and traces of lithium) **produced in the Big Bang**.
- Helium combined first with free electrons to form the first ever neutral atom, hydrogen was still ionised or present in the form of bare protons
- Helium atoms combined with these hydrogen ion into the "**helium hydride ion (HeH<sup>+</sup>)**", the universe's first molecular bond.
- Once the universe cooled down, hydrogen atoms started to interact with helium hydride, creating molecular hydrogen, which set the stage for star formation.
- Despite its importance in the history of the early Universe, HeH<sup>+</sup> has so far escaped detection in **astrophysical nebulae** — cloud of gas and dust in outer space.
- Helium hydride — a combination of helium and hydrogen — was detected roughly 3,000 light-years from Earth by **NASA's Stratospheric Observatory for Infrared Astronomy (SOFIA)**.
- The molecule was found in a planetary nebula, **NGC 7027**, which is the dusty remnant of a sun-like star.
- While **helium hydride** has been produced and tested in a laboratory setting, this discovery marks the first time that this molecule has been detected in space — which sheds light on the chemistry of the early universe.



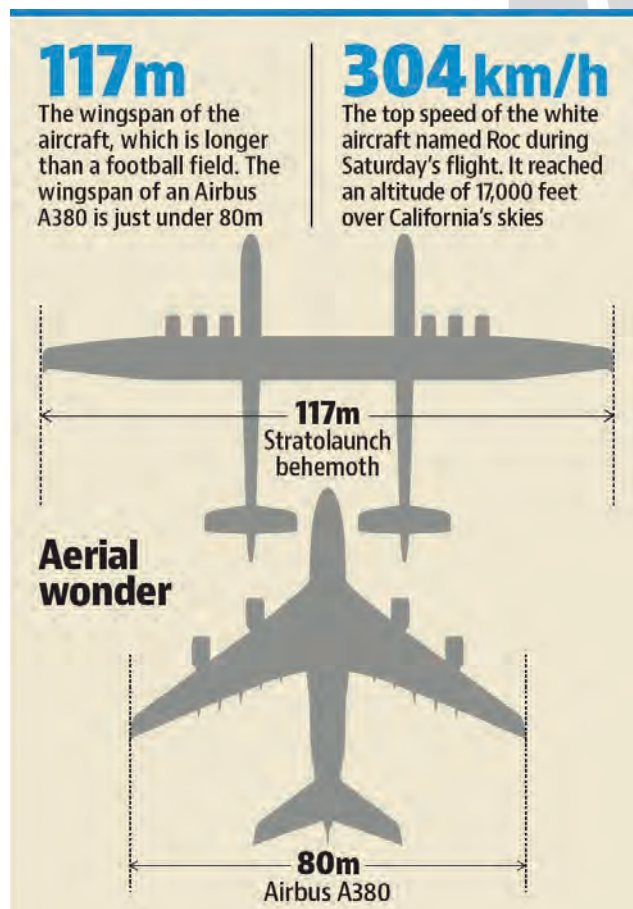
### Stratospheric Observatory for Infrared Astronomy

- It is a **Boeing 747SP jetliner** modified to carry a 100-inch diameter telescope. It is a joint project of **NASA and the German Aerospace Centre**.
- It is flown at approx 45,000 feet, where its observations are not impacted by interference from Earth's atmosphere.
- SOFIA returns to Earth after every flight, allowing scientists to regularly update the instrument with the latest technology. One of the most recent upgrades included adding a specific channel to detect signatures of **helium hydride**, which previous telescopes did not have.

## World's Largest Plane

World's largest airplane built by Scaled Composites, a partner of US based Stratolaunch Systems, has made its first test flight in the **Mojave Desert in California**.

- The plane, made of carbon composites, is named as Roc.



- The Stratolaunch Systems Corp was started by Microsoft co-founder **Paul Allen**.
- The plane is designed to drop rockets and other space vehicles weighing up to 500,000 pounds at an altitude of 35,000 feet.

## Young Scientist Programme (Yuvika)

The **ISRO has launched** a special programme for School Children called "Young Scientist Programme" or "YUva Vigyani Karyakram" from this year.

- The Program is primarily aimed at imparting basic knowledge on Space Technology, Space Science and Space Applications to the younger ones with the intent of arousing their interest in the emerging areas of Space activities.
- The programme will be of two weeks duration during summer holidays (second half of May 2019) and the schedule will include invited talks, experience sharing by the eminent scientists, facility and lab visits, exclusive sessions for discussions with experts, practical and feedback sessions.
- It is proposed to select 3 students each from each State/ Union Territory to participate in this programme covering CBSE, ICSE and State syllabus.
- The selection is based on the 8th Standard academic performance and extracurricular activities.
- Students belonging to the rural areas have been given special weightage in the selection criteria.

## Dhanush Artillery Guns

Recently, the Ordnance Factory Board (OFB) has handed over the first batch of six indigenously built Dhanush Artillery guns to the Army.

- Dhanush is an **upgraded version of the Swedish 155-mm Bofors howitzers**, which India procured in the mid-1980s.
- It is a 155-mm, 45-calibre gun with a maximum range of 40 km in salvo mode (simultaneous discharge of artillery), compared to the 39-calibre, 27-km range of the original guns, so it can be deployed in both deserts and mountains.
- The gun is fitted with inertial navigation system with Global Positioning System- (GPS) based gun recording

and auto-lying, an enhanced tactical computer for onboard ballistic computations, an onboard muzzle velocity recording, an automated gun sighting system equipped with camera, thermal imaging and laser range finder.

- It has achieved indigenization to the extent of about 81% and by the end of 2019, the indigenization level of the gun will go up to 91%.

**Note:**

“Dhanush” is also a **surface-to-surface short range** nuclear capable ballistic missile with a strike range of 350 kms developed by the Defence Research and Development Organisation (DRDO).

## Virtual Reality Centre of Indian Navy

Recently, Chief of Naval Staff Admiral Sunil Lanba inaugurated the first ‘**state-of-the-art**’ **Virtual Reality Centre (VRC)** at the Directorate of Naval Design (Surface Ship Group), New Delhi.

- This center would provide a major boost to the Indigenous warship design capabilities of the Indian Navy.
- It will also provide impetus to self-reliance and greater fillip to warship construction under “Make in India” initiative of the Indian government.

- **Augmented Reality (AR):** An enhanced version of reality where live direct or indirect views of physical real-world environments are augmented with superimposed computer-generated images over a user’s view of the real-world, thus enhancing one’s current perception of reality.
- **Virtual Reality (VR):** It can be referred to as immersive multimedia or computer-simulated reality which replicates an environment that simulates a physical presence in places in the real world or an imagined world, allowing the user to interact in that world.
- **Mixed reality (MR):** It can be referred to as hybrid reality that is the merging of real and virtual worlds to produce new environments and visualizations where physical and digital objects co-exist and interact in real time.

➤ **Extended reality:**

- Extended Reality (XR) is an **umbrella term** encapsulating **Augmented Reality (AR), Virtual Reality (VR), mixed reality (MR)** and **everything in between**.
- Although drawing the line between AR and VR experiences can be challenging, it is clear that many of the same underlying technologies will power revolutionary XR experiences.

## Nirbhay Missile

- Recently, **Defense Research & Development Organisation (DRDO)** has successfully conducted the sixth flight test of “**Nirbhay**” **cruise missile** from the Integrated Test Range (ITR), Chandipur Odisha.
- Nirbhay is an indigenously designed & developed Long Range **Sub-Sonic Cruise Missile** that can be armed with a 200-300-kilogram warhead.
- This nuclear-capable, solid fuel, missile has the **capability to cruise at 0.7 Mach**, and at altitudes as low as 100 m.
- The missile can be deployed from multiple platforms and has a range of 1000 km.

## Enzyme to arrest bacteria cell growth discovered

Recently, the scientists at the **Centre for Cellular & Molecular Biology (CCMB)** have come up with a way to inhibit the multiplication of bacteria even before the cell wall begins to grow.

- They have discovered a new enzyme which helps in **breaking cell walls of bacteria**. The finding is significant for it offers a potential for a new **drug delivery route to arrest the anti-bacterial resistance** through existing antibiotic drugs.
- Regular antibiotics target the machinery that creates the bacterial cell wall — a mesh-like structure that is made up of cross-linked sugars and peptides.
- However, this experiment shows how to target cell-wall formation at the beginning itself, earlier than when the present set of antibiotics act.
- With the rapid rise of antibiotic resistance, researchers across the world are exploring new ways to target



bacteria. In this context, the new findings can play a crucial role in fighting the battle against antibiotic resistance.

#### Centre for Cellular & Molecular Biology (CCMB)

- It is a premier research organization which conducts high quality basic research and training in frontier areas of modern biology, and promote centralized national facilities for new and modern techniques in the interdisciplinary areas of biology.
- It was set up initially as a semi-autonomous Centre on April 1, 1977 with the Biochemistry Division of the then Regional Research Laboratory (presently, Indian Institute of Chemical Technology, IICT) Hyderabad.
- **During 1981-82**, the CCMB was accorded the status of a full-fledged national laboratory with its own Executive Committee and Scientific Advisory Council.
- It is **located in Hyderabad and operates under the aegis of the "Council of Scientific and Industrial Research" (CSIR)**.
- It is designated as **"Center of Excellence" by the Global Molecular and Cell Biology Network, UNESCO**.

### Chytridiomycosis Disease

- Scientists have warned of deadliest disease "Chytridiomycosis" that already wiped out 90 species of frogs and toads.
- Chytridiomycosis is caused by a fungus — **Batrachochytrium dendrobatidis** — that attacks the skin of frogs, toads and other amphibians.
  - As the creatures use their skin to breathe and regulate their bodies' water levels, the damage caused by the disease eventually leads to heart failure and death.
  - It spreads through contact and water.
- The rapid global spread of the fungus is due to a **lack of animal trade rules and airport surveillance**, which allows wildlife to be imported without examination.
- The **fungus originated in Asia** and gradually became pandemic in Latin America and Australia owing to trade (import and export of amphibians as pets) with Asia.
  - This can be termed as a **negative externality of Globalisation on the wildlife**.
- Moreover, a genetic mutation of the fungus may have made it more dangerous. Governments and other agencies must focus on regulation and need to start

taking biosecurity and the illegal wildlife trade far more seriously to prevent the spread of diseases.

### Drug Resistant Fungal Infection

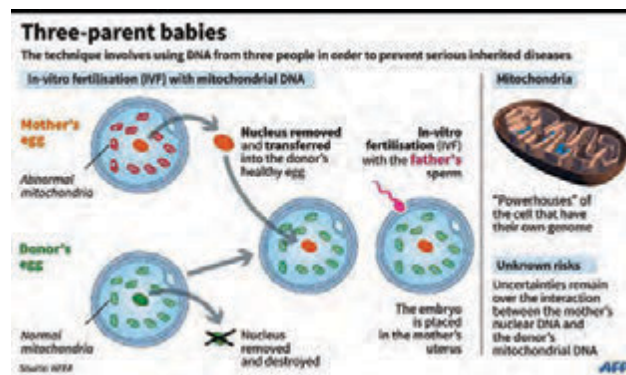
A fungal infection resistant to drugs is being detected in patients across the hospitals in the world.

- The fungus is named as **Candida Auris (C. Auris)**, which attacks people with weakened immune systems.
- It is quietly spreading across the globe. Over the past five years, it has been detected in Venezuela, Spain, Britain, India, Pakistan, and South Africa.
- Recently C. Auris was also detected in the United States.
- C. Auris is impervious to major antifungal medications, making it a new example of one of the world's most intractable health threats, the rise of drug-resistant infections.
- The symptoms of infection are fever, aches, and fatigue. Nearly half of patients who contract C. Auris die within 90 days, according to the Centre for Disease Control, USA.

### Three-Person Baby

A team of Greek and Spanish doctors has produced a baby (in Greece) using genetic material from two women and a man.

- The technique used is called as **'Maternal Spindle transfer'** in which maternal DNA is put into the egg of a donor woman, which is then fertilized using the father's sperm.
- The procedure was developed to help existing IVF treatments in which mothers have **mitochondrial diseases**.
- Mitochondrial diseases are long-term, genetic, often inherited disorders that occur when mitochondria fail to produce enough energy for the body to function properly.



Note:

## Antibiogramoscope Device

A team of professors at Anna University, Chennai has developed a device called Antibiogramoscope to deal with **antibiotic resistance**.

- The research was supported by the University Grants Commission (UGC) and Department of Science and Technology (DST).
- The team developed a liquid **Antibiotic Sensitivity Testing (AST) medium**. To this, a commercially available fluorescent molecule is added along with the sample (body fluid).
- This is transferred to the antibiogramoscope's microwells which are coated with one type of antibiotic.
- When bacteria grow in the medium, it produces a compound called **erucamide**, which binds to the **fluorescent molecule**, turning off its fluorescence.
- This means if we see fluorescence in some microwells, those antibiotics are effective in killing the bacteria.
- No fluorescence means the bacteria is growing despite the antibiotic which highlights antibiotic resistance.
- Antibiogramoscope has cleared validation tests at **National Accreditation Board for Testing and Calibration Laboratories (NABL)** accredited microbiological lab.

### Advantages of Antibiogramoscope Over Traditional Methods

- It identifies resistant strains of bacteria much quicker, helping physicians choose the right drug, all at a lower cost.
- The existing method uses a solid medium to grow bacteria, while this new method uses liquid medium giving superior results.
- The system is automated, needing no human intervention once the samples and medium are loaded.

#### National Accreditation Board for Testing and Calibration Laboratories (NABL)

- NABL is a Constituent Board of **Quality Council of India**.
- NABL has been established with the objective of providing Government, Industry Associations and Industry in general with a scheme of Conformity Assessment Body's accreditation which involves third-party assessment of the technical competence of testing including medical and calibration laboratories, proficiency testing providers and reference material producers.

- **Quality Council of India (QCI)** is a **non-profit autonomous society** registered under the Societies Registration Act, 1860.
- The aim of QCI is to establish an accreditation structure in the country and to spread quality movement in India by undertaking a **National Quality Campaign**.

## 3D Printed Heart with Human Tissue

Scientists in Israel have unveiled a 3D print of a heart with human tissue and vessels, advancing the possibilities for transplants.

### Key Points

- This is the **first time that anyone has successfully engineered and printed an entire heart replete with cells, blood vessels, ventricles and chambers**. People have managed to 3D-print the structure of a heart in the past, but not with cells or with blood vessels.
- The heart produced by scientists is about the **size of a rabbit's**. Scientists believe that larger human hearts would require the same technology but expanding the cells to have enough tissue to create a human-sized heart, is a challenge.
- The ink for this 3D print was developed by scientists **by taking a biopsy of fatty tissue from a patient**. This is crucial for eliminating the risk of **implant rejection**.
- Cardiovascular disease is the world's leading cause of death, according to the WHO, and transplants are currently the only option available for patients in the worst cases. But the number of donors is limited and thus many die while waiting. Sometimes, a patient's body even rejects the transplant, leading to his/her death.

## Scientists Restore Brain Cell Activity

In a radical experiment, scientists have **restored brain circulation and some cell activity in pigs brains**, hours after the animals died in a slaughter houses.

### Key Points

- The results, though done in pigs and not humans, challenge the long-held view that, after death, brain cells undergo sudden and irreversible damage.

- It was held that the brain cannot long survive without blood. Within seconds, oxygen supplies deplete, electrical activity fades, and unconsciousness sets in. If blood flow is not restored, within minutes, neurons start to die in a rapid, irreversible, and ultimately fatal wave.
- In the study, the researchers developed a novel system for studying intact, postmortem brains, dubbed as **BrainEx**.

### About BrainEx

- It's a network of pumps that pipe a synthetic solution — a substitute for blood — into the brain's arteries at a normal body temperature.
- The brains were placed in the BrainEx system four hours after the pigs' death, and were allowed to "perfuse" with the synthetic blood substitute for 6 hours.
- During this time, the BrainEx system not only preserved brain cell structure and reduced cell death, but also restored some cellular activity.
  - For example, some cells were metabolically active, meaning they used glucose and oxygen and produced carbon dioxide. Other cells reacted with an inflammatory response when stimulated with certain molecules.
- In contrast, the brains that were not treated with BrainEx rapidly decomposed.

### Ethical concerns

- Although scientists are a long way from being able to restore brain function in people with severe brain injuries. If some restoration of brain activity is possible, then the definition of brain death will need to change.
- More guidelines are required around the ethical issues raised by the study, which raises long-standing assumptions about what makes an animal — or a human — alive.
- One concern is also of '**how to detect consciousness**' and how long systems like BrainEx should be allowed to run.

### Significance

- The work could provide scientists with new ways of studying the brain, allowing them to examine functions in the entire, intact brain in a way that haven't been possible before.

- However, the researchers stressed that they did not observe any kind of activity in the pigs' brains that would be needed for normal brain function or things like awareness or consciousness.

### Way Forward

- Because the study lasted for only 6 hours, more research is needed to know whether BrainEx can preserve brains for longer than this time.
- In addition, a lot of questions remain about **how similar this model is to the real brain environment** as the system does not use real blood, and the brain is not bathed in fluid as it is inside the skull.
- The new technology opens up **opportunities to examine complex cell and circuit connections of the brain** and functions that are lost when specimens are preserved in other ways.
- The work also could stimulate research on ways to promote brain recovery after loss of blood flow to the brain, such as during a heart attack.

## Bubble Boy Disease

As per the recent study, U.S. scientists used 'HIV' in making a gene therapy that cured eight infants of "**bubble boy**" disease. The study details how scientists turned the **enemy 'HIV virus'** into a saviour, altering it so it couldn't cause disease and then using it to deliver a gene that babies with "bubble boy" disease lacked.

- Bubble Boy Disease, also known as **Severe Combined Immunodeficiency Syndrome (SCID)** is caused by a genetic flaw that keeps the bone marrow from making effective versions of blood cells that comprise the immune system.
- It affects 1 in 2,00,000 newborns, almost exclusively males. Without treatment, it often kills in the first year or two of life.
- The nickname '**bubble boy disease**' has come from **a famous case in the 1970s** — a Texas boy with SCID, lived for 12 years in a protective plastic bubble for isolation from germs.
- A bone marrow transplant from a genetically matched sibling can cure SCID, but most people lack a suitable donor. Transplants are risky too; the Texas boy died after one.
- Doctors think **gene therapy** could be a solution. It involves removing some of a patient's blood cells,

using the modified HIV to insert the missing gene, and returning the cells to the body.

## World's First Malaria Vaccine

The world's first malaria vaccine "RTS,S/AS01" has been rolled out in Malawi, Africa for children of age under two.

- RTS,S/AS01, trade name **Mosquirix**, is an injectable vaccine targeting **P. falciparum**, the most prevalent malaria strain in Africa.
- It is the first and only vaccine to show partial protection in young children. In clinical trials, the vaccine was found to prevent approximately 4 in 10 malaria cases, including 3 in 10 cases of life-threatening severe malaria.
- The WHO-coordinated pilot programme is a collaborative effort with Ministries of Health in Ghana, Kenya and Malawi and a range of in-country and international partners, including **PATH**, a non-profit organization, and GSK, the vaccine developer and manufacturer, which is donating up to 10 million vaccine doses for this pilot.

### Note:

PATH is an international non-profit team of innovators which advises and partners with public institutions, businesses, grassroots groups, and investors to tackle the world's toughest global health problems, including malaria.

- The malaria vaccine pilot aims to reach about 360,000 children per year across the three countries.
- Recently, the **World Bank released "World Malaria Report, 2018"**, according to which Malaria occurs in 91 countries but about 90% of the cases and deaths are in sub-Saharan Africa.

### Working of vaccine

- The vaccine aims to trigger the immune system to defend against the first stages of malaria when the *P. falciparum* parasite enters the human host's bloodstream through a mosquito bite and infects liver cells.
- The vaccine is designed to prevent the parasite from infecting the liver, where it can mature, multiply, re-enter the bloodstream, and infect red blood cells, which can lead to disease symptoms.

## Financial Support

- Financing for the pilot programme has been mobilized through an unprecedented collaboration among three key global health funding bodies: **Gavi, the Vaccine Alliance; the Global Fund to Fight AIDS, Tuberculosis and Malaria;** and **Unitaid**. Additionally, WHO, PATH and GSK are providing in-kind contributions.

## Weaknesses

- **It is inconvenient:** A child must receive four injections before age 2, sometimes at intervals that do not match the routine vaccine schedules for most other diseases.
- **Partly effective:** Testing in more than 10,000 African children from 2009 to 2014 showed that, even after four doses, the vaccine prevented only about 40 percent of detectable malaria infections.
- **Not long lasting:** It is unclear how long even those relatively low levels of protection last; previous trials followed vaccinated children for four years.
- **Develop Resistance:** It did not protect well against parasite strains that were poor genetic matches, raising a concern that, over time, parasites could evolve resistance to the vaccine as they have to drugs

### Malaria in India

India ranks very high in the list of countries with a serious malaria burden. In 2018, 3,99,134 cases of malaria and 85 deaths due to the disease were reported in the country, according to data from the National Vector Borne Disease Control Programme.

## Echidnas Milk as Antimicrobial

Recently, scientists have isolated an **antimicrobial protein** found in the milk of an egg-laying mammal 'Echidnas'.

- The protein can serve as an alternative to antibiotics used on livestock.
- The protein in the milk of echidna can puncture the cell membranes of multiple bacterial species, thus destroying the source of infection.
- There are many ways to produce the protein in large quantities and one among them is using *E. coli* bacteria. It can then be used to fight infections.
- The scientists pointed out that there is a rise of the antimicrobial resistance bugs in livestock which can be checked by the use of antibiotics in the animal husbandry industry.





### Monotremes: Egg Laying Mammals

- Egg laying mammals are also known as **Monotremes**.
- There are only five living monotreme species: the duck-billed platypus and four species of echidna (also known as spiny anteaters).
- All of them are found only in **Australia and New Guinea**.

## Cloud Honeypots

- According to a report by Sophos (an IT security company) "Exposed: Cyber attacks on Cloud Honeypots", over five million attacks were attempted on the global network of **honeypots**.
- Cybercriminals attempted attacks on **Mumbai Cloud server honeypot** more than 678,000 times in a month, which was second to Ohio in the US that recorded more than 950,000 login attempts.

### What is a Honey Pot?

- A honeypot is a system intended to mimic likely targets of cyberattackers for security researchers to monitor cybercriminal behavior.
- It is used to trap attackers into thinking that they have penetrated a network, allowing time for defenders to analyze their threat parameters and generate appropriate threat indicators to block an impending attack.

## Malware Kronos

A British cybersecurity researcher has pleaded guilty for developing a malware named "**Kronos**" aimed at **stealing banking information**.

- It can be noted that the same researcher was earlier hailed as a hero for finding a "kill switch" to the **WannaCry virus**.
  - WannaCry virus was a **crypto ransomware**, also known as WannaCrypt, which affected thousands of computers spread over 150 countries, including India in May, 2017.
- Kronos is a type of **Trojan**. Trojans are commonly spread via email attachments, and once downloaded, can give attackers free reign to snoop and steal sensitive information like financial data, emails, and passwords.
- It first appeared online on a Russian underground forum in 2014.

### Ransomware

- Ransomware usually locks computers, encrypts the data on it and prevents software and apps from running.
- It prevents users from accessing their devices and data until a certain ransom is paid to its creator or risk losing access forever.

### Trojan

- A Trojan is a type of malware that is often disguised as legitimate software, but can take control of your computer.
- It is designed to damage, disrupt, steal, or in general inflict some other harmful action on your data or network.

## New Human Ancestor Species Found

Scientists have identified a new human ancestor species previously unknown. It has been named as **Homo luzonensis**.

- Homo luzonensis is classified as a **separate species** on the basis of 13 bones and teeth from two adults and one child found in a cave on the **island of Luzon in the Philippines**.
- Unlike Homo sapiens, whose premolar teeth generally have a single root, Homo luzonensis' premolars had



two or three roots, similar to more primitive species such as *Homo erectus*, which lived in Africa and Asia between about 1.89 million and 143,000 years ago.

- The *Homo luzonensis* were around 3-4 feet tall and lived on the island of Luzon at least **50,000 to 67,000 years ago**.
- It is not a direct ancestor of modern day humans, but rather a distant ancient relative.

### Significance

- The fossils have an unexpected mix of both **ancient and more advanced traits of hominin** (the group consisting of modern humans, extinct human species and all our immediate ancestors).
- The teeth's small sizes and relatively simple shapes point to a more modern species. Foot bone resembles those of the ancient australopithecines.
- The discovery also adds to a growing body of evidence that human evolution is not as linear as was once thought.
- There are some questions which are unanswered such as how the species arrived on the island and who its ancestors were.

## New Genetic Method to Empower Conservation

A team of scientists at Stanford University and the **National Centre for Biological Sciences** at India's **Tata Institute of Fundamental Research** have developed a method for extracting genetic information.

- The new method is faster and cheaper and collects information from degraded and left-behind materials, such as feces, skin or saliva, and from food products suspected of containing endangered animals.
- This is significant as it will **help wildlife conservationists aiming to protect endangered species**, but they were unable to collect the DNA samples from rare and elusive animals.
- The new method relies on identifying multiple, short portions of DNA segments in a single experiment (**a multiplex PCR**), followed by 'next-generation sequencing', in which multiple fragments of DNA can

be decoded simultaneously, and several times, in an automated process.

- The team tested their method on Caribbean queen conches and tigers.

### Multiplex polymerase chain reaction (Multiplex PCR)

Multiplex polymerase chain reaction refers to the use of polymerase chain reaction to amplify several different DNA sequences simultaneously.

## Cell-based Meat

- The Cellular and Molecular Biology (CCMB), in collaboration with the **National Research Centre on Meat (NRCM)**, has initiated research aimed at producing meat through cellular agriculture or cells sourced from animals and later cultivated into the meat.
- It has also been called as '**cell-based meat**' or '**clean meat**' or '**ahimsa meat**' (non-violence meat) which will be is nutritionally equivalent to conventional animal meat.
- Significance of Cell-based Meat
  - Protecting biodiversity and environment
  - Stop use of animals in research purposes
  - Can address concerns relating to food security, environmental sustainability, and animal welfare.

## Mission DELHI

- Recently, Indian Council of Medical Research (ICMR) launched "**Mission DELHI**" (**Delhi Emergency Life Heart-Attack Initiative**) project.
- In the pilot phase, it will cater only to people living in a three-kilometer radius of the All India Institute of Medical Sciences (AIIMS).
- The project aims to reduce the mortality from a serious type of heart attack called **ST-Elevation Myocardial Infarction (STEMI)**, wherein one of the heart's major arteries, supplying oxygen-rich blood to the heart muscle, gets completely blocked.
- It aims to reduce the time it takes for people with a serious heart attack to receive clot-busting medicine.



# Environment and Ecology

## Highlights

- *Island Protection Zone, 2019*
- *India Denmark Cooperation on Offshore Wind Energy*
- *SC Suspended EC for Airport in Goa*
- *IMD's Monsoon Forecast*
- *Agreement to Save Coastal Wetlands*
- *Resilient Cities Asia-Pacific Congress 2019*
- *Antibacterial Properties of Ganga*
- *Decline in Usable Groundwater*
- *Global Energy and CO<sub>2</sub> Status Report*
- *Energy Transition Report*
- *State of the Global Climate: WMO*
- *Global Deal for Nature*
- *Earth Day*

## Island Protection Zone, 2019

The **Ministry of Environment, Forest and Climate Change (MoEFCC)** has recently notified **Island Protection Zone (IPZ), 2019** for Andaman and Nicobar.

### Key Points

- It allows eco-tourism projects 20 metres from the **high tide line (HTL)** in smaller islands like **Baratang, Havelock and Car Nicobar**, and at 50 metres in larger ones.
- It also allows for eco-tourism activities like mangrove walks, tree huts and nature trails in Island **Coastal Regulation Zone IA** (classified as the most eco-sensitive region of the islands which includes turtle nesting grounds, marshes, coral reefs etc).
- The notification further allows for the construction of roads, roads on stilts by reclaiming land in exceptional cases for defence installations, public utilities or strategic purposes in eco-sensitive zones.
- It states that in case construction of such roads pass through mangroves, a minimum three times the mangrove area destroyed during the construction process shall be taken up for compensatory plantation of mangroves elsewhere.
- The new notification also allows a number of new activities in the inter-tidal zone between Low Tide Line (LTL) and HTL which includes land reclamation and bunding for foreshore facilities like ports, harbours, jetties, transfer of hazardous substances from ships to ports, manual mining of atomic minerals, and mining

of sand for construction purposes with permission from local authorities in non-eco-sensitive sites.

- The legal changes in the IPZ are aligned with the NITI Aayog's proposal for holistic development in the Islands which is being taken forward under the guidance of the Island Development Agency.

### Concerns

- The notification has brought the norms for Andaman and Nicobar at par with Coastal Regulation Zone (CRZ) norms for other islands close to the main land and backwater islands where a No Development Zone (NDZ) only 20 metres from HTL has been stipulated.
- These changes can affect the fragile ecology of the region like marine biodiversity including corals and turtle nesting sites.

### Island Development Agency (IDA)

- The Island Development Agency (IDA) was set up in 2017 for the holistic development of islands.
- The IDA has identified 10 islands for development which include 5 islands in Andaman & Nicobar Islands (Smith, Ross, Little Andaman, Long and Avis) and 5 in Lakshadweep (Minicoy, Bangaram, Cheriyam, Suheli and Thinnakara).
- The Union Home Minister is the Chairman of the Agency. Other members of the Agency include cabinet secretary, home secretary, secretary (environment, forests and climate change), secretary (tourism) and secretary (tribal welfare).

Note:

## India Denmark Cooperation on Offshore Wind Energy

Recently, the Government has given its approval for a Cooperation Agreement between the Ministry of New and Renewable Energy of India and the Ministry for Energy, Utilities and Climate of the Kingdom of Denmark on strategic sector cooperation in the field of Renewable Energy with a focus on Offshore Wind Energy and a Letter of Intent to establish an Indo-Danish Centre of Excellence for renewable energy in India.

### Key Points

- The objective of the Cooperation Agreement is to promote cooperation between the two countries in the field of renewable energy with a special focus on Off-shore wind.
- The areas of cooperation would include technical capacity building for management of offshore wind projects, measures to develop and sustain a highly efficient wind industry, onshore as well as offshore, forecasting and scheduling of off-shore wind etc.
- The 'Indo-Danish Centre of Excellence in Integrated Renewable Power' would work on renewable energy resource assessments with a focus on the onshore and offshore wind; hybridisation of wind, solar, hydro and storage technologies; integration of renewable energy, Testing and R&D; and skill building.

### Note:

Onshore wind refers to turbines located on land, while offshore turbines are located out at sea or in freshwater.

### Onshore wind farms

- **Pros:**
  - The cost of onshore wind farms is relatively cheap, allowing for mass farms of wind turbines.
  - The shorter distance between the windmill and the consumer allows for less voltage drop off on the cabling.
  - Wind turbines are very quick to install, unlike a nuclear power station, which can take over twenty years, a windmill can be built in a matter of months.
  - Less emissions associated with the transportation of wind structures.

### ➤ Cons:

- They don't produce energy all year round due to often poor wind speed or physical blockages such as buildings or hills.
- Turbines are optimized at a specific speed, which can limit their efficiency as a result of the unpredictable speed and direction of winds at these locations
- Onshore wind farms are a danger to birds, Cause noise pollution and are aesthetically displeasing.

### Offshore wind farms

#### ➤ Pros:

- More efficient than onshore wind farms, as wind speed and direction are more consistent at these locations.
- Can be built to be much larger than onshore wind turbines; can, therefore, harness more energy.
- No physical restrictions in these locations to block wind flow.
- Wind farms have a relatively negative impact upon the environment as the builders are careful not to build in shipping lanes, fishing areas or in a delicate environment.

#### ➤ Cons:

- Expensive technology associated with transferring energy from the turbines.
- Endure more wear and tear from wind and waves than onshore wind farms, thereby increasing operation and maintenance costs.
- Long cables are used to transfer the energy which results in voltage drop off.

### Wind energy in India

- India has the 4<sup>th</sup> largest installed capacity in wind power after China, U.S and Germany. The total installed capacity of wind power in India as on March 2017 is around 32 GW.
- The potential of wind energy is concentrated in the states of—Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and Telangana. Tamil Nadu has the highest installed capacity in the country followed by Maharashtra and Gujarat.
- As per the National Institute of Wind Energy (NIWE) data, has wind energy potential of 302 GW at 100-meter hub-height.

- India is implementing **National Offshore Wind Energy Policy, 2015** with an objective to develop the offshore wind energy in the Indian Exclusive Economic Zone (EEZ) along the Indian Coastline.
  - The Ministry of New and Renewable Energy is the nodal ministry and the NIWE is the nodal agency for the development of offshore wind energy in India.

#### National Institute of Wind Energy (NIWE)

- NIWE has been established in Chennai in the year 1998, as an autonomous R&D institution by the Ministry of New and Renewable Energy (MNRE).
- It is a knowledge-based institution which offers services and seeks to find complete solutions for the kinds of difficulties and improvements in the entire spectrum of the wind energy sector by carrying out further research.

## SC Suspended EC for Airport in Goa

The Supreme Court (SC) has suspended the Environmental Clearance (EC) granted for the development of Greenfield International Airport at Mopa in Goa.

#### Key highlights

- The SC cited procedural flaws in the grant of EC
  - People living in the proposed project-area were not consulted properly.
  - Non-disclosure of vital information in the application form for clearance and in Environment Impact Assessment (EIA) Report as well.
  - Expert Appraisal Committee (EAC) did not analyze the EIA report properly before approving the EC.
  - The National Green Tribunal (NGT) did not carry out the merit review of the appeal made against the EC given to the Mopa Airport.
- A phrase '**Environmental Rule of Law**' was coined by SC. The court said that every branch of governance and institutions across the country should strive to enforce environmental rule of law.
- Proper structures for environmental decision making find expression in the guarantee against arbitrary action and the affirmative duty of fair treatment under Article 14 (Right to Equality; Equality before law) of the Constitution.

- The health of the environment is key to preserving the Right to Life as a constitutionally recognized value under Article 21 (Protection of Life and Personal Liberty) of the Constitution.

#### Environmental Rule of Law

- The environmental rule of law is based on four pillars of sustainable development – **economic, social, environmental and peace**.
- It **integrates environmental needs with the essential elements of the rule of law** and provides the basis for improving environmental governance.
- It **highlights environmental sustainability by connecting it with fundamental rights** and obligations.
- It reflects **universal moral values and ethical norms of behaviour**, and it provides a foundation for environmental rights and obligations.
- Without environmental rule of law and the enforcement of legal rights and obligations, environmental governance may be arbitrary, that is, discretionary, subjective, and unpredictable.

#### Environment Impact Assessment (EIA)

- It can be defined as the **study for predicting the effect of a proposed activity/project on the environment**.
- It is **statutory under the Environment Protection Act, 1986** for some projects.
- Process
  - **Screening** based upon scales of investment, type of development and location of development; is done to see whether a project requires an environmental clearance as per the statutory notifications.
  - **Scoping** is a process of detailing the Terms of Reference (ToR) of EIA, that is the main issues or problems in the development of a project.
  - **Impact Prediction** involves mapping the environmental consequences of the significant aspects of the project and its alternatives.
- **Public mandatorily needs to be informed and consulted on the proposed development after the completion of EIA report.**

## IMD's Monsoon Forecast

The **Indian Meteorological Department (IMD)** has released its Monsoon forecast.



### Key Points

- India is likely to have a 'near normal' Monsoon. The monsoon seasonal (June to September) rainfall is likely to be 96% of the Long Period Average (LPA) with a model error of  $\pm 5\%$ . The LPA of the season rainfall over the country as a whole for the period 1951-2000 is 89 cm.

#### Note:

Below normal is 90% to 96% while near normal is 96 to 104%. So 96% falls in both categories.

- IMD uses two models to make the monsoon forecast— **Statistical Ensemble Forecasting System (SEFS)** and the **Climate Forecast System (CFS)**.
- The SEFS model has predicted 96% of LPA while the CFS model has predicted 94% of LPA which falls under the below normal category.
- Weak El Nino is likely to prevail during the Monsoon season with reduced intensity in the later part of the season.
- Another reason for expecting a near-normal monsoon this year is the **neutral Indian Ocean Dipole (IOD)** which may turn positive during the monsoon season.
- Overall, the country is expected to have well-distributed rainfall scenario during the 2019 monsoon season, which will be beneficial to farmers in the country during the ensuing Kharif season.

### Statistical Ensemble Forecasting System (SEFS)

- SEFS uses five predictors. These predictors along with some equations are used by scientists to carry out statistical analysis to finally come out with a forecast.
- The Five predictors are **North Atlantic Sea Surface Temperature; Equatorial South Indian Ocean Sea Surface Temperature; East Asia Mean Sea Level Pressure; NW Europe Land Surface Air Temperature; and Equatorial Pacific Warm Water Volume.**
- The problem with this model is that it uses data from the past 100 years to come up with a forecast when many of the relationships between global climate factors have changed.

### Climate Forecast System (CFS)

- The **Climate Forecast System (CFS)** is a model representing the global interaction between Earth's oceans, land, and atmosphere.

- CFS uses the latest scientific approaches for taking in or assimilating, observations from data sources including surface observations, upper air balloon observations, aircraft observations, and satellite observations.

### Indian Meteorological Department (IMD)

- The vision of India Meteorological Department is to provide efficient Weather and Climate Services for the safety of life and property and to contribute towards the National development.
- IMD was established in 1875. It is the National Meteorological Service of the country and the principal government agency in all matters relating to meteorology, seismology and allied subjects.
- It functions under the Ministry of Earth Science.

### Indian Ocean Dipole (IOD)

- IOD is a system of oscillating sea surface temperatures in which the western Indian Ocean becomes alternately warmer and then colder than the eastern part of the ocean.
- A positive IOD occurs when the sea surface temperatures are greater than normal in the Arabian Sea and less than normal in the tropical eastern Indian Ocean. When the reverse is the case, a negative IOD is said to have developed.
- A positive IOD leads to greater monsoon rainfall and more active (above normal rainfall) monsoon days while negative IOD leads to less rainfall and more monsoon break days (no rainfall).

## Agreement to Save Coastal Wetlands

The **Central Marine Fisheries Research Institute (CMFRI)** and the **Indian Space Research Organisation (ISRO)** has signed a Memorandum of Understanding (MoU) to map, validate and protect smaller wetlands in coastal regions.

### Key Points

- It is an attempt to build resilience against the impact of climate change.
- MoU signed between the CMFRI and the Space Applications Centre of ISRO includes:
  - Identify and demarcate wetlands, and restore them through suitable livelihood options such as coastal aquaculture.



- Develop a mobile app and a centralized web portal that will have a comprehensive database of wetlands that are smaller than 2.25 hectares in the country.
- The collaborative move is part of a national framework for fisheries and wetlands, developed recently by the National Innovations in Climate Resilient Agriculture (NICRA) project of CMFRI.

### **National Innovations in Climate Resilient Agriculture (NICRA)**

- National Innovations on Climate Resilient Agriculture (NICRA) is a network project of the Indian Council of Agricultural Research (ICAR) launched in February 2011.
- The project aims to **enhance the resilience of Indian agriculture to climate change** and climate vulnerability through strategic research and technology demonstration.
- The research on adaptation and mitigation covers crops, livestock, fisheries, and natural resource management.

### **Central Marine Fisheries Research Institute (CMFRI)**

- The Central Marine Fisheries Research Institute was established by the Government of India in 1947 under the **Ministry of Agriculture and Farmers Welfare** and later it joined the **Indian Council of Agricultural Research (ICAR)** in 1967.
- ICAR is the largest network of agricultural research and education institutes in the world functioning under the **Department of Agricultural Research and Education, Ministry of Agriculture & Farmers' Welfare**.

## **Resilient Cities Asia-Pacific Congress 2019**

Recently, the fourth edition of **Resilient Cities Asia-Pacific (RCAP)** Congress was held in New Delhi. The first three being held in Bangkok, Thailand in 2015; in Melaka, Malaysia in 2016 and in Vietnam in 2017.

### **Key highlights**

- The 4th Resilient Cities Asia-Pacific 2019 Congress was organised by the International **Council for Local Environmental Initiatives (ICLEI)** – Local Governments for Sustainability.

- The Vice President of India highlighted the need to make sustainable solutions such as harvesting solar energy, enhancing green cover and water conservation an essential part of town planning.
- It offered cities and regions from Asia-Pacific a variety of innovative solutions that build resilience to climate change at the sub-national level.
- The event also offered a combination of high-level planarians and technical sessions on the implementation and achievement of the **Nationally Determined Contributions (NDCs)** and the New Urban Agenda of 2016.
- Discussions were held on the need for localizing the global frameworks; ensuring that targets that go along with Sustainable Development Goals consider local contexts, challenges, and realities.
- Some of the challenges discussed at the session were lack of continuous engagement with relevant stakeholders; limited engagement of the private sector, lack of infrastructure to mitigate vulnerability etc.

### **Objectives of the conference**

- To share and learn about good urban resilience practices.
- To showcase innovative ideas, solutions and initiatives.
- To provide local governments with exposure and access to tools and processes that help mainstream resilience considerations into policy and practice.
- To provide a networking platform to promote concerted and coordinated action in Asia among the main players in the field of urban resilience.
- To explore tangible opportunities for creating partnerships between local governments and the private sector.
- To bring together funders and cities and facilitate the match-making between available financial resources and current cities' needs.

### **Resilient Cities Asia-Pacific**

- Resilient Cities is the annual global platform for urban resilience and climate change adaptation where dialogues are conducted to forge partnerships, with the ultimate goal of identifying implementable solutions and creating lasting impacts for cities in the region.
- It was launched in 2010.

## Antibacterial Properties of Ganga

The study, 'Assessment of Water Quality and Sediment To Understand the Special Properties of River Ganga,' was commissioned by the Ministry of Water Resources, River Development & Ganga Rejuvenation and conducted by the Nagpur-based **National Environmental Engineering and Research Institute (NEERI)**.

### Key Points

- The study found that the Ganga river water contains a significantly higher proportion of organisms with antibacterial properties.
- Other Indian rivers also contain these organisms but the Ganga — particularly in its upper Himalayan stretches — has more of them.
- As part of the assessment, five pathogenic species of bacteria (*Escherichia*, *Enterobacter*, *Salmonella*, *Shigella*, *Vibrio*) were selected and isolated from the Ganga, Yamuna and the Narmada and their numbers compared with the bacteriophages present in the river water.

#### Note:

Bacteriophages are a kind of virus that kill bacteria, they are frequently found in proximity to each other.

- In the river Ganga, the bacteriophages were detected to be approximately 3 times more in proportion than bacterial isolates.
- Samples drawn from the Ganga contained almost 1,100 kinds of bacteriophage, and proportionally there were less than 200 species detected in the samples obtained from the Yamuna and the Narmada.
- The antibacterial properties varied widely along the length of the river. For instance, the stretch from Gomukh to Tehri had 33% more bacteriophage isolates than from Mana to Haridwar and Bijnor to Varanasi. In the stretch from Patna to Gangasagar, the bacteriophages were only 60% of that in the Gomukh to Tehri stretch.
- The super-phage isolated from Ganga and decoded for its lysine gene and cloned to produce lysine protein at IIT Roorkee holds great potential as an antibacterial pharmaceutical.

#### Note:

Lysine is an amino acid (building block of protein).

## Decline in Usable Groundwater

A team from the Indian Institute of Technology (IIT) Kharagpur and Athabasca University, Canada, has compiled the first estimates of Usable Groundwater Storage (UGWS) at the state-level across India using both in situ and satellite-based measurements.

### Key Points

- More than 85 % of the groundwater usage in India is linked with irrigation abstraction practices.
- The estimates show rapid depletion of usable groundwater storage during 2005-2013 in most of the northern parts and the eastern parts of the country.
- The southern and western Indian states like Andhra Pradesh, Maharashtra, Gujarat, Chattisgarh have shown replenishing usable groundwater storage trends.
- Factors behind groundwater depletion are:
  - **Lack of an organised water supply** leads to increased dependence on groundwater.
  - Depletion in groundwater is positively linked with the **increased cropping practice of water-intensive crops**.
  - **Overexploitation of the groundwater**: About 85% of rural drinking water needs and 65% of irrigation needs and 50% of urban drinking water and industrial needs are fulfilled from the groundwater.

### Implications of groundwater depletion

- Rapid depletion in UGWS would accelerate the **decline in food production and availability of drinking water**, two of the prime goals under UN Sustainable Development Goals 2030. This would affect more than 120 million people in the Gangetic states.
- **Summer groundwater droughts** that some states are facing, would intensify in recent future years and will become severe to very severe by 2050, with the possibility of spreading over all the seasons.
- **Decline in the flow in the adjoining rivers**, including Ganga, thus also **impacting river-aquifer interaction**.

### Recommendations

- In order to develop a sustainable groundwater management programme, it is important to know the exact water-stress.

- India needs to develop a robust quantitative approach, possibly with the help of advanced hydrosience and data science techniques to understand the conjunctive water demands and usages.

## Global Energy and CO<sub>2</sub> Status Report

Recently the **International Energy Agency (IEA)** has released its 2<sup>nd</sup> Global Energy and CO<sub>2</sub> Status Report. The annual Report provides a picture of global trends and developments across fuels, renewable sources, and energy efficiency and carbon emissions, in 2018.

### Key highlights

- **Global energy consumption** in 2018 increased at nearly twice the average rate of growth since 2010, driven by a robust global economy and higher heating and cooling needs in some parts of the world.
- Demand for all fuels increased, led by natural gas, even as solar and wind posted double-digit growth. The United States had the largest increase in oil and gas demand worldwide.
- CO<sub>2</sub> emitted from coal combustion was responsible for over 0.3°C of the 1°C increase in global average annual surface temperatures above pre-industrial levels.
- India's emissions growth was higher than that of the United States and China, primarily due to a rise in coal consumption. China, the United States, and India together accounted for nearly 70% of the rise in energy demand.
- India's per capita emissions were about 40% of the global average and contributed 7% to the global carbon dioxide burden. The United States, the largest emitter, was responsible for 14%.
- Although steps are being taken to fulfil **India's Intended Nationally Determined Contributions (INDC)**, India's energy intensity improvement declined 3% from last year even as its renewable energy installations increased more than 10% from last year.

### India's Intended Nationally Determined Contributions (INDCs)

- As per its commitments to the United Nations Framework Convention on Climate Change, India's INDCs are:

- to reduce the emissions intensity of its GDP by 33 to 35% by 2030 from 2005 levels.
- to achieve about 40% cumulative electric power installed capacity from non-fossil fuel based energy resources by 2030, and
- to create an additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent through additional forest and tree cover by 2030.

### International Energy Agency (IEA)

- The IEA works to ensure reliable, affordable and clean energy for its 30 member countries and beyond. Its mission is guided by four main areas of focus: energy security, economic development, environmental awareness and engagement worldwide.
- Founded in 1974, the IEA was initially designed to help countries co-ordinate a collective response to major disruptions in the supply of oil, such as the crisis of 1973. **Headquarters:** Paris.

## Energy Transition Report

The World Economic Forum has recently published **Fostering Effective Energy Transition 2019 Report**. The report contains the **Energy Transition Index (ETI)**, which compares the energy sectors of 115 countries and analyses their readiness for the energy transition.

### Key findings

- Energy systems have globally become less affordable and less environmentally sustainable than they were five years ago.
- Access to energy has improved and currently, less than 1 billion people are living without access to electricity.
- The biggest challenge facing attempts to future proof global energy demands is the lack of readiness among the world's largest emitters.
- Environmental sustainability of energy production has improved marginally, indicating a general lack of substantive progress.
- India is amongst the countries with high pollution levels and has a relatively high CO<sub>2</sub> emission intensity in its energy system.
- Despite this, India has made significant progress in improving energy access in recent years.
- India has made fast progress towards universal electrification due to strong political commitment,

a stable policy regime, use of grid expansion and decentralized generation sources, and a supportive environment for investment in infrastructure.

### **Energy Transition Index**

- Energy transition index ranks countries on how well they are able to balance energy security and access with environmental sustainability and affordability.
- **Sweden** is at the top followed by Switzerland and Norway in the top three.
- **India** has moved up two places from last year to rank **76<sup>th</sup>** on a global energy transition index.
- India is the second best in the BRICS bloc of emerging economies, with Brazil being the best at 46<sup>th</sup> place globally.
- However, India is the only amongst the five economies to improve its rank since last year.

## **State of the Global Climate: WMO**

The **World Meteorological Organization (WMO)** has recently published the Statement on the State of the Global Climate on the sidelines of a high-level meeting on climate and sustainable development.

### **Key findings**

- 2018 was the fourth warmest year on record.
- The levels of carbon dioxide concentrations have continuously increased in 2018. Increasing levels of greenhouse gases in the atmosphere are key drivers of climate change.
- Global Mean Sea Level for the period from January to July 2018 has been 2 to 3 mm higher than for the equivalent period in 2017.
- Ocean Heat Content provides a direct measure of the energy that accumulates in the upper layers of the ocean. For each three-month period in 2018, the ocean heat content in the upper 700m and upper 2000m were either the highest or second highest on record.
- Observations in the open-ocean over the last 30 years have shown a clear trend of decreasing pH (Ocean acidification). Changes in pH are linked to shifts in ocean carbonate chemistry that can affect the ability of marine organisms such as molluscs and reef-building corals, to build and maintain shells and skeletal material.

- The extent of Arctic and Antarctic sea ice was below average throughout 2018 and was at record-low levels for the first two months of the year.
- Preliminary results for 2018, based on a subset of glaciers, indicate that the hydrological year 2017-18 was the 31st consecutive year of negative mass balance (mass balance is the gain or loss of ice from the glacier system).
- WMO also underlined the extreme weather events experienced all over the world in 2018, including the severe flooding in Kerala in August 2018.

### **Impact of climate change**

- **Natural hazards:** In 2018, natural hazards, such as flood, hurricane, associated with extreme weather and climate events affected nearly 62 million people.
- **Food security:** Exposure of the agriculture sector to climate extremes is threatening to reverse gains made in ending malnutrition. New data by the Food and Agriculture Organization and World Food Programme shows a continuing rise in world hunger after a prolonged decline.
- **Displacement:** According to the International Organization for Migration, over 2 million people were displaced due to disasters linked to weather and climate events as of September 2018.

### **World Meteorological Organization (WMO)**

- The World Meteorological Organization (WMO) is an intergovernmental organization with a membership of 192 Member States and Territories.
- It originated from the International Meteorological Organization (IMO), which was established after the 1873 Vienna International Meteorological Congress.
- Established by the ratification of the WMO Convention in March 1950, WMO became the specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences.'
- WMO is headquartered in **Geneva, Switzerland**.

## **Global Deal for Nature**

A group of scientists have proposed a bold new science policy to reverse the **sixth mass extinction**, called **A Global Deal for Nature (GDN)**.



**Key Points**

- The Global Deal for Nature is a time-bound, science-based plan to save the diversity and abundance of life on Earth.
- It analyzed how much of the planet we need to maintain to ensure that our ecosystems continue to harbour an abundance of species, and provide services essential for human life, including carbon sequestration.
- The three overarching goals of the GDN are to protect biodiversity by conserving at least 30% of the earth's surface by 2030; mitigate climate change by conserving the earth's natural carbon storehouse; and reduce major threats.
- As a complement to the protection targets, GDN offers policy recommendations for reducing the threats that exert pressure on the natural world, such as:
  - Slowing and stopping the clearing of intact natural habitats for agriculture, directing cropland to lands that have already been degraded, and focusing on reducing food waste.
  - Putting in place proactive approaches to govern roads, dams and energy development projects.
  - Managing fisheries according to scientific targets.
  - Reducing plastic and chemical pollution, which harms the air, water, land and species on which we depend.
- GDN estimates that the cost of nature conservation measures across half the Earth could be \$100 billion per year. Current spending on conservation is less than 10% of that.

**Earth Day**

Earth Day was celebrated on April 22.

**Key Points**

- Worldwide events were held to demonstrate support for environmental protection. The theme of Earth Day 2019 was **"Protect Our Species"**.
- It was first celebrated in 1970, and is now **coordinated globally by the Earth Day Network** and celebrated in more than 193 countries each year.
- The idea of commemorating such a day was propounded by **Gaylord Nelson**, an American environmentalist and politician.
- According to the United Nations, International Earth Day is celebrated to remind us that the Earth and its ecosystems provide us with life and sustenance.
- Earth Day also recognizes a collective responsibility, as called for in the 1992 Rio Declaration (Earth Summit), to promote harmony with nature and the Earth to achieve a just balance among the economic, social and environmental needs of present and future generations of humanity.
- This day provides an opportunity to raise public awareness around the world to the challenges regarding the well-being of the planet and all the life it supports.

**Earth Day Network**

- Earth Day Network is a nonprofit organization whose mission is to diversify, educate and activate the environmental movement worldwide.
- EDN Headquarters is located in Washington DC, USA.
- Recently the Earth Hour 2019 was observed on March 30 from 8:30 pm to 9:30 pm local time with the theme #Connect2Earth.



# Art & Culture

## Highlights

- 100 years of Rowlatt Satyagraha
- A centenary of Jallianwala Bagh massacre
- Bengal famine of 1943-44 was man-made
- Battle of Kangla Tongbi
- Alexander Statue in Athens
- World Heritage Day
- Mahavir Jayanti
- Konyak Dance

## 100 years of Rowlatt Satyagraha

April 2019 marks the **100 years anniversary of Rowlatt Satyagraha** which was started by Mahatma Gandhi.

### Rowlatt Act

- Rowlatt Satyagraha was in response to the British government enacting the **Anarchical and Revolutionary Crimes Act of 1919**, popularly known as the **Rowlatt Act**. Gandhiji called for a countrywide campaign against the Rowlatt Act.
- This act was passed on the recommendations of Sedition Committee chaired by Sir Sidney Rowlatt.
- This act had been hurriedly passed in the Imperial Legislative Council despite the united opposition of the Indian members.
- It gave the government enormous powers to repress political activities and allowed detention of political prisoners without trial for two years.

### Response to Gandhi's Call

- Mahatma Gandhi wanted non-violent civil disobedience against such unjust laws, which would start with a **hartal on 6 April 1919**.
- But before it could be launched, there were large-scale violent, anti-British demonstrations in Calcutta, Bombay, Delhi, Ahmedabad, etc.
- Especially in Punjab, the situation became explosive due to wartime repression, forcible recruitments, and ravages of disease.
- In towns across the North and West India, life came to a standstill, as shops shut down and schools closed in response to the bandh call.
- The Satyagraha lost momentum with the Jallianwala Bagh Massacre on 13<sup>th</sup> April 1919.

## A centenary of Jallianwala Bagh massacre

13th April 2019 marks the hundredth anniversary of Jallianwala Bagh Massacre in Amritsar.

### How Events Unfolded?

- Both Extremists and the moderate faction of the Indian National Congress supported the British efforts during World War 1 in hope that, British will grant self-government to India after the war.
- The **Montagu-Chelmsford Reforms 1919** proved to be a mere eyewash in the name of self-government. Congress said that the reforms are "disappointing" and "unsatisfactory".
- The government now armed itself with extraordinary powers to suppress any voice against the reforms and passed **Anarchical and Revolutionary Crimes Act of 1919**, popularly known as the **Rowlatt Act**.

### Jallianwala Bagh Massacre

- On April 9, 1919, two nationalist leaders, **Saifuddin Kitchlew** and **Dr. Satyapal**, were arrested by the British officials without any provocation except that they had addressed protest meetings, and taken to some unknown destination.
- This caused resentment among the Indian protestors who came out in thousands on April 10 to show their solidarity with their leaders.
- Soon the protests turned violent because the police resorted to firing in which some of the protestors were killed. To curb any future protests government put martial law in place and law and order in Punjab was handed over to **Brigadier-General Dyer**.

- On **13<sup>th</sup> April, Baisakhi day**, a large crowd of people mostly from neighbouring villages, unaware of the prohibitory orders in the Amritsar gathered in the Jallianwala Bagh.
- Brigadier – General Dyer arrived on the scene with his men. The troops surrounded the gathering under orders from General Dyer and blocked the only exit point and opened fire on the unarmed crowd killing more than 1000 unarmed men, women, and children.

### Hunter Commission

- On October 14, 1919, the Government of India announced the formation of the **Disorders Inquiry Committee** to investigate the Jallianwala Bagh shooting.
- The committee was commonly known as **Hunter Commission** after the name of chairman, Lord William Hunter. It also had Indian members.
- In the final report submitted in March 1920, **the committee unanimously condemned Dyer's actions.**
- However, the Hunter Committee **did not impose any penal or disciplinary action against General Dyer.**

### Nationalist Response

- Rabindranath Tagore renounced his knighthood in protest.
- Mahatma Gandhi gave up the title of Kaiser-i-Hind, bestowed by the British for his work during the Boer War.
- Gandhi was overwhelmed by the atmosphere of total violence and withdrew the movement on April 18, 1919.
- The Indian National Congress (INC) appointed its own non-official committee that included Motilal Nehru, C.R. Das, Abbas Tyabji, M.R. Jayakar, and Gandhi to look into the shootings.
  - They criticized Dyer's act as inhuman and also said that there was no justification in the introduction of the martial law in Punjab.

## Turning Point in Indian Freedom Struggle

# JALLIANWALA MASSACRE

April 13, 1919

**1919:** ■ Resentment was high in Punjab after the ruthless British drive to recruit soldiers for World War-I and forced contribution for the war fund

**MARCH 30 AND APRIL 6:** ■ Gandhiji's call for a country-wide 'hartal' to protest against the Rowlatt Act of 1919 received a tremendous response from Punjab

**APRIL 9:** ■ Ram Navami day, the Hindu-Muslim solidarity in the celebrations and the unity during the 'hartal' days made Punjab Lt Governor Michael O'Dwyer's administration panicky

■ Gandhiji's entry into Punjab was banned  
 ■ Two popular leaders of Amritsar, Saifuddin Kitchlew and Satya Pal arrested

**APRIL 11:** ■ Continuing provocations by Britishers led to mass demonstrations in Lahore, Kasur and Gujranwala. Police action in Amritsar led to violence and the city's law & order was handed over to Brigadier-General Reginald Dyer

**APRIL 13:** ■ Baisakhi day, a meeting was called in Jallianwala Bagh. Suddenly Dyer appeared there with troops, blocked the exits and without any warning to the people, ordered firing on the completely peaceful and defenceless crowd. The fusillade continued till Dyer's ammunition ran out. Over a thousand people were reported killed and many more injured

**MAY 31:** ■ Rabindranath Tagore renounced his Knighthood in protest. The country was now getting charged up to fight British rule

**OCT 14:** ■ British government forms a committee of inquiry into the events in Punjab

**NOV 19:** ■ Appearing before the Hunter Committee set up to investigate the ghastly act, Dyer admitted that he acted so to strike terror not only in the city of Amritsar, but throughout Punjab

Source: Excerpts from Recollections and Reflections by Chinmali H. Setaivad



Memorial at Jallianwala Bagh, Amritsar

**KBK Infographics**

### British Apology

- Britain has never officially apologized for the massacre.
- The Labour Party in Britain has been asking for a formal apology saying that those who lost their lives in the massacre deserve a "full, clear and unequivocal apology for what took place".
- Recently, British Prime Minister Theresa May described the Jallianwala Bagh massacre in Amritsar as a "shameful scar" on British Indian history but stopped short of a formal apology.

## Bengal famine of 1943-44 was man-made

Researchers, using old weather data and modern simulation methods, have proved that the Bengal famine of 1943-44 was not caused by an agricultural drought but was man-made, a conclusion long acknowledged by historians.

### About Research

- This new study was led by Prof Vimal Mishra of



IIT Gandhinagar's civil engineering department, which has been published in Geophysical Research Letters.

- Using observations from weather stations and simulations with a hydrological model that estimated soil moisture content, the research reconstructed agricultural droughts and established a link between famines and agricultural droughts in India in the half-century between 1870-2016.
- They estimated a measure called soil moisture percentile, or SMP. When the SMP was less than 20, it was categorised as drought.

### Key Highlights

- The majority of famines were caused by large-scale and severe soil moisture droughts that hampered food production.
- Out of six major famines during the period (1873-74, 1876, 1877, 1896-97, 1899, 1943), the researchers concluded that the first five were linked to soil moisture.
- The period 1873-1874 and 1943-1944 did not identify as drought periods, because of two possible reasons - either they were too localised, or the famine was caused by factors other than soil moisture deficits.
- For the 1873-1874 famine, which was localised to Bihar and Bengal, the paper concludes that it was the first of these two reasons.
- However, the 1943 Bengal famine was not caused by drought but rather was a result of a complete policy failure during the British era.

### Bengal famine of 1943-44

- About 2-3 million are estimated to have died in Bengal famine of 1943.
- The new study identified 1937-1945 as a "period under drought based on severity, area, and duration".
- The drought was most widespread during August and December 1941 — prior to the famine.
- During World War II, market supplies and transport systems were disrupted Because of British policies and prioritisation of distribution of supplies to the military and other select groups.
- In early 1943, military and political events adversely affected Bengal's economy, which was further exacerbated by refugees from Burma.
- Additionally, wartime grain import restrictions imposed by the British government played a major role in the famine.

- Other factors included malaria, starvation, and malnutrition spread in the region.

## Battle of Kangla Tongbi

The **Platinum Jubilee of the Battle of Kangla Tongbi** was commemorated on 07 Apr 2019 by Army Ordnance Corps at Kangla Tongbi War Memorial near Imphal, honoring the valiant brave hearts of Ordnance Personnel of 221 Advance Ordnance Depot.

- The Battle of Kangla Tongbi, considered one of the fiercest battles of World War II, was fought by Ordnance personnel of 221 Advance Ordnance Depot (AOD) on the night of 6/7 April 1944.
- Japanese forces had planned a three pronged offensive to capture Imphal and the surrounding areas.
- In their attempt to extend their line of communication to Imphal, the 33rd Japanese Division cut in behind the 17<sup>th</sup> Indian Division at Tiddim (Myanmar) and establishing themselves firmly on the main Kohima – Manipur highway, started advancing towards Kangla Tongbi.
- Here at Kangla Tongbi, a small but determined detachment of 221 AOD put up stiff resistance against the advancing Japanese forces.
- The position of 221 AOD was not at all sound from a tactical point of view. It was exposed to the enemy from all sides and had to rely on its own combatant manpower for its defence.
- Major Boyd, the Deputy Chief of Ordnance Officer (DCOO) was made in charge of the operations for defence of the Depot. A Suicide squad comprising of Major Boyd, Havildar/Clerk Store Basant Singh, Conductor Panken and other personnel from the Depot was created.
- On 06 Apr 1944, orders were received to evacuate 4,000 tons of ammunition, armaments and other warlike stores. On the night of 6/7 April 1944, the Japanese mounted a heavy attack on the Depot, rushing downhill into a deep nallah which was used as a covered approach to the Depot.
- A camouflaged bunker had been cited by the Depot on this approach. The Bren Gun Section in this bunker having spotted an enemy section within range, opened fire. This shook the enemy and forced the Japanese to withdraw leaving many dead. The Bren Gun was manned by none other than Hav/Clerk Store Basant Singh.



- For this act of gallantry, Major Boyd was awarded the Military Cross (MC), Conductor Panken, the Military Medal (MM) and Hav/Clerk Store Basant Singh, the Indian Distinguished Service Medal (IDSM).

### Notre Dame Cathedral burned

- A fire broke out in Paris's Notre Dame Cathedral on April 15, 2019, which caused enormous damage to the Church.
- It is reported that blaze has destroyed the cathedral's roof and spire, but its structure remains sound. Most of the relics were rescued from the blaze.

### Historical significance of Notre Dame

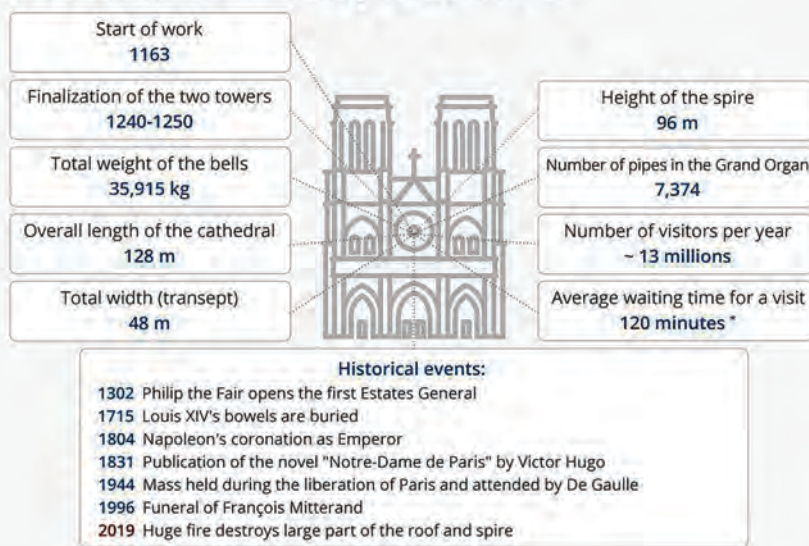
- According to the official cathedral history, Paris Bishop Maurice de Sully during the reign of King Louis VII started the construction of the cathedral dedicated to the Virgin Mary in 1163.
- It took 182 years to complete the construction of the Notre-Dame de Paris and was completed in 1345.
- It is located on a small island called the Ile de la Cite in the middle of the River Seine.
- It has its own share of both the glorious and the tragic historical moments.
- It was at Notre Dame in 1431 that Henry VI, king of England, was crowned king of France.
- It housed several statues of kings which attracted the anger of protesters during the French Revolution in 1789. They ransacked the cathedral, destroyed the royal statues and brought down the original spire.
- When Catholicism was banned in France during the Revolution, Notre-Dame was turned into a Temple of Reason.
- But in 1801, after a reconciliation agreement was signed between Napoleon Bonaparte and Pope Pius VII, the cathedral was returned to the Catholic Church.
- Napoleon chose the damaged church for his coronation as Emperor of France in 1804. The crumbling cathedral remained a venue for imperial events for years.
- In 1844, King Louis Philippe ordered its renovation. Architect Eugène Emmanuel Viollet-le-Duc and his team started the ambitious project and in 20 years, he restored it, with a new spire.

- It had priceless artefacts in its possession such as the Holy Crown of Thorns, believed to have been worn by Jesus before the crucifixion, a piece of the "True Cross" upon which he was said to be crucified, and a nail from the crucifixion.
- It is believed that King Louis IX of France brought the Crown of Thorns and the fragment of the cross from the Latin Empire of Constantinople to Paris in the 13<sup>th</sup> century.

### Architecture specialty of Notre Dame

- Two distinct features of Notre-Dame are its **flying buttresses** and **gargoyles**.
  - The **flying buttresses** are arching supporting structures providing stability to a roof or vault of the main hall, and they connect with a vertical support outside.
  - A **gargoyle** is a carved or formed grotesque located on an angle along the gallery of the north tower of Notre-Dame, known as "Le Stryge". It was carved during the 19<sup>th</sup> CE restoration of the cathedral. It appears as a vampire, sitting with its hands on the chin, tongue protruding, staring down at the city.
- A classic gargoyle functions as a drain pipe for rainwater, however gargoyle on this cathedral does not serve this purpose. Therefore, the expression "**chimeras**" is used for those kinds of stone monsters.

### Notre Dame Cathedral By The Numbers



Note:

## Alexander Statue in Athens

Recently, a statue of **Alexander the Great** has been installed in central Athens, Greece. Three decades after it was finished by **Yannis Pappas**, one of the greatest Greek sculptors of the 20th century.

- In the bronze statue, Alexander bears no arms and is depicted at a very young age.
- In the past, statues of the Alexander have been erected in other parts of Greece, but not in Athens.
- The long delay is mainly due to bureaucratic reasons and Greek authorities delayed installing so as not to raise tensions during efforts to resolve a row with neighboring Macedonia over its name.
- The figure, the history and the legacy of Alexander were found in recent years at the center of the dispute between the two countries over the use of the name Macedonia.
- The Republic of Macedonia was renamed as Republic of North Macedonia in January 2019 and since the two sides have stepped up efforts to strengthen bilateral cooperation in many sectors.

### About Alexander

- Alexander the Great, also known as Alexander III or Alexander of Macedonia was born in **356 BCE in Pella, Macedonia**. He died in **323 BCE in Babylon**.
- He was the king of Macedonia (336–323 BCE), who overthrew the Persian empire.
- He spent most of his ruling years on an unprecedented military campaign through Asia and northeast Africa, and by the age of thirty, he had created one of the largest empires of the ancient world, stretching from Greece to northwestern India.

### Alexander Invasion of India

- In 326 BCE, Alexander invaded India, after crossing the river Indus he advanced towards Taxila.
- He then challenged **king Porus**, ruler of the kingdom between the rivers Jhelum and Chenab.
- The Indians were defeated in the fierce battle of Hydaspes.
- Alexander captured Porus and, like the other local rulers he had defeated, allowed him to continue to govern his territory.

- Alexander remained in India for **19 months** (326-325 BCE), which were full of fighting and in July 325 BCE Alexander and his army returned westward for home.

### Republic of North Macedonia

- After declaring independence from Yugoslavia in 1991, the 'Republic of Macedonia' chose the name "Macedonia".
- But that title severely strained relations with neighbor Greece, which also has a region called Macedonia.
- The 'Greek region of Macedonia' lies in the northern, mountainous part of the country and includes its second-largest city, Thessaloniki, as well as the UNESCO World Heritage Site of Philippi.
- In January 2019, the country renamed as 'Republic of North Macedonia' ending a decade long dispute with Greece.

## World Heritage Day

Every year, **April 18** is celebrated as World Heritage Day. In 1982, ICOMOS established 18 April as the International Day for Monuments and Sites. UNESCO approved it the following year during its 22nd General Conference.

### Key Points

- Every year, a theme is proposed for the day which guides the celebrations. The theme for this year's celebrations is '**Rural Landscapes**', which is related to the theme of the 2019 ICOMOS Scientific Symposium on Rural heritage that will take place in Marrakesh, Morocco in October.
- This year's International Day for Monuments and Sites offers the opportunity for National and International Scientific Committees to raise awareness about the relevance of rural landscapes, the challenges that encompass their conservation, the benefits that these efforts provide, and how rural landscapes are intrinsically related with sustainable development.
- In the ICOMOS "Principles concerning rural landscapes as heritage", adopted by the ICOMOS General Assembly in 2017, rural landscapes are defined as "**terrestrial and aquatic areas co-produced by human-nature interaction used for the production of food and other renewable natural resources, via agriculture, animal husbandry and pastoralism, fishing and aquaculture, forestry, wild food gathering, hunting,**

and extraction of other resources, such as salt. Rural landscapes are multifunctional resources. At the same time, all rural areas have **cultural meanings** attributed to them by people and communities: **all rural areas are landscapes**".

#### The International Council on Monuments and Sites (ICOMOS)

- It is the only **global non-government organization (headquartered in Paris)**, which is dedicated to promoting the application of theory, methodology, and scientific techniques to the conservation of the architectural and archaeological heritage.

#### United Nations Educational, Scientific and Cultural Organization (UNESCO) and World Heritage Sites

- Formed in 1945, it is a specialized agency of the United Nations (UN) based in Paris.
- It seeks to build peace through international cooperation in Education, the Sciences and Culture.
- As of January 2019, it has 193 member states.
- The UNESCO selects landmarks or areas around the world which are of cultural, historic or scientific significance, known as **World Heritage Sites**.
- A UNESCO World Heritage site can be any place such as a forest, lake, building, island, mountain, monument, desert, complex or a city; which has a special physical or cultural significance. There are currently 1,092 sites on this list, of which 37 are in India.
- In India, out of 37, 29 are Cultural properties, 7 are Natural properties and 1 is named as mixed.
- Khangchendzonga National Park is the only World Heritage site in India which is categorized as Mixed.
- In 2016, Nalanda Mahavihara and the Architectural Work of Le Corbusier in Chandigarh (total 17 sites across the world) have been listed in the World Heritage list.
- In 2017, historic city of Ahmedabad and in 2018, Victorian Gothic and Art Deco Ensembles of Mumbai was added in the list.

## Mahavir Jayanti

17<sup>th</sup> April 2019 marked the occasion of the 'Mahavir Jayanti'.

- It is one of the most auspicious festivals in the Jain community.

- This day marks the **birth of Vardhamana Mahavira**, who was the 24<sup>th</sup> and the last Tirthankara who succeeded the 23<sup>rd</sup> Tirthankara, Parshvanatha.
- According to Jain texts, Lord Mahavira was born on the 13th day of the bright half of the moon in the month of Chaitra.
- The idol of Mahavira is carried out on a chariot, in a procession called rath yatra. On the way, 'stavans' or Jain prayers are recited. The statues of the Lord Mahavira are given a **ceremonial bath called abhisheka**.

#### Lord Mahavira

- Mahavir was born to King Siddhartha of **Kundagrama** and Queen Trishala, a Lichchhavi princess in the year **540 BC** in the **Vajji kingdom**, identical with modern day Vaishali in Bihar.
- Mahavira belonged to the **Ikshvaku dynasty**.
- Lord Mahavir was named as **Vardhamana**, which means **"one who grows"**.
- He abandoned the worldly life at the age of 30 and attained 'kaivalya' or omniscience at the age of 42.
- It is believed that the Mahavira passed away and attained nirvana (liberation from the cycle of birth and death) at the age of 72 in 468 BC at a place called **Pavapuri** near modern Rajgir in Bihar.

#### Jainism

- The word Jaina comes from the term **Jina**, meaning **conqueror**.
- Jainism attaches utmost importance to ahimsa or non-violence. It preaches **5 mahavratas (the 5 great vows)**:
  - Ahimsa (Non-violence)
  - Satya (Truth)
  - Asteya or Acharya (Non-stealing)
  - Aparigraha (Non-attachment/Non-possession)
  - Brahmacharya (Celibacy/Chastity)
- Among these 5 teachings, the Brahmacharya (Celibacy/Chastity) was added by Mahavira.
- The **three jewels or Triratna** of Jainism include **Samyak Darshana (right faith)**, **Samyak Gyana (right knowledge)** and **Samyak Charitra (right conduct)**.
- Jainism is a **religion of self-help**. There are no gods or spiritual beings that will help human beings. It does not condemn the varna system.

- In later times, it got divided into two sects: **Shvetambaras (white-clad)** under **Sthalabahu** and **Digambaras (sky-clad)** under the leadership of **Bhadrabahu**.
- The important idea in Jainism is that the entire world is animated: even stones, rocks, and water have life. Non-injury to living beings, especially to humans, animals, plants, and insects, is central to Jaina philosophy.
- According to Jaina teachings, the cycle of birth and rebirth is shaped through karma. Asceticism and penance are required to free oneself from the cycle of karma and achieve the **liberation of the soul**.
- The practice of "**Santhara**" is also a part of Jainism. It is the ritual of fasting unto death. Svetambara Jains call it Santhara whereas Digambaras call it Sallekhana.

## Konyak Dance

Recently, the Guinness World Records has acknowledged Konyak dance as record holder for the "**largest traditional dance**".

- Around 4,700 Konyak Naga women, in their colourful traditional attire came together on April 5, 2019, in an attempt to set a Guinness World Record for the "Largest Traditional Konyak Dance".
- In their attempt, Konyak people danced to the beat of traditional instruments and sang a ceremonial song for five minutes and one second.
- The programme was organised at Mon (Nagaland) during the **Aoleang Monyu festival** of the Konyak tribe which is celebrated every year in the first week of April to welcome the spring.

### Konyak Tribe

- This is one of the 16 Naga tribes and people of this community live mainly in the Mon district of Nagaland, India.
- They are recognized among other Naga by their tattoos, which they have all over their face and hands.
- The Konyak language belongs to the Northern Naga sub branch of the Sal subfamily of Sino-Tibetan.

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# Social Issues

## Highlights

- *The shape of an urban employment guarantee*
- *State of World Population-2019: UNFPA*
- *India vs China in School Education*

## The shape of an urban employment guarantee

India is in the midst of a massive job crisis especially Indian cities and towns as per leaked **Periodic Labour Force Survey (PLFS) report** of the **National Sample Survey Office (NSSO)**.

### Key Points

- As per the report, the unemployment rate in India has reached 45-year high (6.1%) in 2017-18 affecting India's cities and towns aggravatingly.
- Aside from unemployment, low wages and precarity continue to be widespread along with having the majority of the population working in the informal sector.
- As per Census 2011, India has 4,041 cities and towns with an urban local body (ULB) in the form of a Municipal Corporation, Municipal Council or Nagar Panchayat.
- However, many programmes have been launched to transform urban areas, but most **Urban Local Bodies** are struggling to carry out basic functions because of a lack of financial and human capacity.
- Further, with increasing unchecked urbanisation, they are facing more challenges due to the degradation of **urban ecological commons**.
- To propel the economic engine of the country, there is a need to promote the sustainable development of India's small and medium towns.

### An idea of Urban

#### Employment Guarantee Programme

- In the context of the present employment crisis, it is worthwhile to consider introducing an **employment guarantee programme** in urban areas.
- Urban informal workers with limited formal education would undertake public works such as building and

maintenance of roads, footpaths and bridges for a guaranteed 100 days in a year, at ₹500 a day.

- Such a programme would give urban residents a statutory right to work and thereby ensure the right to life guaranteed under Article 21 of the Constitution.
- Along with addressing the concerns of underemployment and unemployment, such a programme can bring in much-needed public investment in towns to improve the quality of urban infrastructure and services, restoring urban commons, skilling urban youth and increasing the capacity of ULBs.
- In Madhya Pradesh, the Government has launched the "**Yuva Swabhiman Yojana**" which provides employment for both skilled and unskilled workers among urban youth.

### Way Forward

- It is essential for the proper implementation of **Employment Guarantee Programmes** that ULB receives funds from the Centre and the State at the beginning of each financial year so that funds are available locally. Wages would be disbursed in a decentralised manner at the local ULB.
- Another novel aspect is the creation of a skilling and apprenticeship programme for unemployed youth with higher education to assist with administrative functions in municipal offices, government schools, or public health centres, and for the monitoring, measurement, or evaluation of environmental parameters.
- A new set of "**green jobs**" which include the creation, restoration/rejuvenation, and maintenance of urban commons such as green spaces and parks, forested or woody areas, degraded or waste land, and water bodies, should be created.
- Since it is an urban programme, it should have a wider scope than the **Mahatma Gandhi National**

**Rural Employment Guarantee Act (MGNREGA);** this would provide employment for a variety of works for people with a range of skills and education levels.

- There is a need to emphasise that it would not come at the expense of MGNREGA but rather the two would go hand-in-hand.
- Both State and Central governments must treat towns as **“engines of growth”** for the economy rather than spaces where thousands toil to make a living.
- This programme should be administered by the ULB in a participatory manner by involving ward committees.
- An urban employment guarantee programme not only improves incomes of workers but also has multiplier effects on the economy.
- It will boost local demand in small towns, improve public infrastructure and services, spur entrepreneurship, build skills of workers and create a shared sense of public goods

## State of World Population-2019: UNFPA

According to **State of World Population-2019 report** by the **United Nations Population Fund (UNFPA)**, India's population grew at an average of 1.2% annually between 2010 and 2019 which is more than double the annual growth rate of China.

- The release of the report also **marks 50 years of the UNFPA** being established to support countries to bring down fertility levels.
- It also marks 25 years of **International Conference on Population and Development (ICPD)** in 1994, where 179 governments agreed on a rights-based approach to sexual and reproductive health to address population growth.

### Note:

Reproductive health can be defined as a state of well-being related to one's sexual and reproductive life.

### Key findings

- The **world's population rose to 7.715 billion in 2019, up from 7.633 billion in 2018**, with the global average life expectancy of 72 years.
- The **least developed countries** recorded the highest population growth, with countries in Africa registering an average of 2.7% a year.
- Much of the overall increase in global population till 2050 is projected to occur in high fertility countries, mostly in Africa, or in countries with large populations, such as Nigeria and India.
- **India's population grew at 1.2% a year** between 2010 and 2019, marginally higher than the global average of 1.1% a year in this period.
- Around half of India's population in 24 states have achieved the **replacement fertility rates of 2.1 children per women**, which is the desired family size when the population stops growing.
  - However, the country's large youth population will continue to fuel population growth even as the size of the ageing population increases.
  - **Replacement level rate** is roughly **2.1 children per woman** for most countries, although it may vary with mortality rates.
  - In India, the **total fertility rate** per woman declined from 5.6 in 1969 to 3.7 in 1994 and **2.3 in 2019**.
- As of 2019, India's population stood at 1.36 billion, growing from 942.2 million in 1994 and 541.5 million in 1969.
- **India's Age structure:** 27% of India's population was in the age bracket of 0-14 years and 10-24 years, while **67% of the country's population was in the 15-64 age bracket**. 6% of the country's population was of the age 65 and above.
- India registered an **improvement in life expectancy at birth**. The life expectancy at birth in 1969 was 47 years, growing to 60 years in 1994 and **69 years in 2019**.
- The findings on **women aged between 15-49 years** were published for the first time in this report. It includes data on women's ability to make decisions over **three key areas**:
  - **Sexual intercourse with their partner**
  - **Contraception use**
  - **Health care**
- According to the analysis, the absence of reproductive and sexual rights has major and negative repercussions on women's education, income and safety, leaving them "unable to shape their own futures."
- Early marriage continues to remain an obstacle to female empowerment and better reproductive rights.
- The report highlights the threat to women's and girls' reproductive rights posed by emergencies caused by conflict or climate disasters.

**United Nations Population Fund**

- UNFPA is the **United Nations sexual and reproductive health agency**. It was established as a trust fund in 1967 and began operations in 1969.
- In **1987**, it was officially renamed as '**United Nations Population Fund**'. However, the original abbreviation, UNFPA (United Nations Fund for Population Activities), was retained.
- The mandate of **UNFPA is established by the United Nations Economic and Social Council (ECOSOC)**.
- UNFPA is a **subsidiary organ of the UN General Assembly**.
- UNFPA is **entirely supported by voluntary contributions** of donor governments, intergovernmental organizations, the private sector, and foundations and individuals, **NOT** by the United Nations regular budget.
- UNFPA works directly to tackle **Sustainable Development Goal 3 on health, Goal 4 on education and Goal 5 on gender equality**.

**Replacement level rate**

- It is defined as the average number of children born per woman – at which a population exactly replaces itself from one generation to the next, without migration.

## India vs China in School Education

India has three times more school than China, but that's not translating into better education system, according to a new study recently released by NITI Aayog.

**Key Points**

- Today India has 3-4 times more schools than China but most of the country's schools are performing dismally.
- Though in the past decade, many initiatives have been introduced to speed up the reach of education to the masses but India seems to be heading towards only achieving the target of quantitative reach rather than qualitative reach.
- Despite years of effort and changing syllabuses, teacher trainings as well as students assessments, the situation has not improved due to structural flaws.

- India today suffers from the twin challenges of "unviable sub-scale schools" and a "severe shortage of teachers" which makes in-school interventions only marginally fruitful.

**Problems facing India's education system**

- **Number of Schools:** India has adopted the strategy of building schools near every habitation, resulting in a proliferation of schools with tiny population and inadequate resources.
  - As a result of increase only the quantitative parameter in case of schools, around 1.5 crores Indian students study under unviable conditions.
- **Shortage of Teacher:** Teacher vacancies have compounded the problem. The country today has a shortage of more than 10 lakh teachers.
  - Moreover, the teachers that do exist are inadequately distributed, there is more teacher-student ratio in urban areas than the case with rural areas.
  - Apart from academic work, teachers are also engaged in managing midday meals, conducting surveys and in administrative and election duties.
- **Low learning levels: Annual Status of Education Reports (ASER)** found that nearly half of class 5 children cannot read a class 2 text. Dropout rates increase as children move up. Around 30% enrolled in class 1 graduate from class 12. Teachers aren't knowledgeable enough, also curriculum lacks relevance, particularly at the secondary level.
- **Core academic institutions:** State Councils of Educational Research and Training (SCERT) and District Institutes of Education and Training (DIETs)- are understaffed and skills like curriculum design analysis are often missing.

**Recommendations**

- **Consolidating several such schools** within a short distance of one another, and providing transport and allowances. School consolidation, pioneered in states like Rajasthan and Jharkhand, has already reaped rich dividends.
- Move teachers from surplus to **deficit schools, restructure the teacher cadres, and increase investment** in teacher recruitment. Madhya Pradesh has undertaken an online teacher rationalization process, moving nearly 10,000 teachers from surplus to deficit schools.

Note:

- Move away from just **completing the syllabus to focusing** on the competencies students have mastered. Students should be taught based on their learning levels rather than grades. Extra time should be carved out to bridge the learning gaps.
- **Reconsider vocational education** in secondary education.
- Institution like SCERTs and DIETS should be filled with people having relevant skill set through competitive process along with having stringent annual performance review mechanism.

- There is a need of automating some system like **maintaining academic register, real-time data monitoring of school** performance assessment, etc.

### **Way Forward**

Truly transforming public education system requires implementation of the above recommendations as well as bold measures like changing the way we manage public finances and making education budget more flexible. It will need political will and coming together of bureaucracy, civil society and public sector.





# Miscellaneous

## Highlights

- NIRF & ARIIA Rankings 2019
- NuGen Mobility Summit 2019
- Data Users Conference on Census 2021
- State of World Population-2019: UNFPA
- Survey 2019: Ambitions Beyond Growth: UNESCAP
- Global Measles Cases up by 300%: WHO
- Index of Cancer Preparedness
- World Homoeopathy Day 2019
- World Health Statistics Overview, 2019
- Five Coffee Varieties got GI Tag
- Alexandrine Parakeet

## NIRF & ARIIA Rankings 2019

The President of India has announced the results for the **National Institutional Ranking Framework (NIRF)-2019** and **Atal Ranking of Institutions on Innovation Achievements (ARIIA)-2019**. These were the fourth edition of NIRF Rankings and the first edition of ARIIA ranking.

### Key highlights

- **NIRF Rankings 2019**
  - NIRF rankings 2019 has been given under **9 categories**: Overall, Universities, Engineering, Medical, Management, Law, Architecture, Pharmacy and Colleges.
  - **Indian Institute of Madras (IIT Madras)** topped the list in '**overall category**'.
  - **IISc Bengaluru** has topped '**University category**'.
  - **Miranda House, Delhi** has secured the top position in **Colleges category**.
  - **IIT Madras** in the **engineering category**.
  - National Law School of India University, Bangalore in the Law category, IIT Kharagpur in Architecture category, AIIMS in the medical category, IIM Bangalore in the management category and Jamia Hamdard, New Delhi in the 'Pharmacy Category'.
- **ARIIA Rankings 2019**
  - **IIT Madras** has topped the '**Public funded Institutions Category**'.
  - **Vellore Institute of Technology, Tamil Nadu** has topped the '**Private Institutions Category**'.

### National Institutional Ranking Framework (NIRF)

- The National Institutional Ranking Framework (NIRF) was launched by the Ministry of Human Resource Development in 2015.
- This framework outlines a methodology to rank institutions across the country.
- The parameters broadly cover Teaching, Learning and Resources, Research and Professional Practices, Graduation Outcomes, Outreach and Inclusivity, and Perception.

### Atal Ranking of Institutions on Innovation Achievements (ARIIA)

- It is an initiative of Ministry of Human Resource Development (MHRD) to systematically rank all the major higher education institutions and universities in India on indicators related to "Innovation and Entrepreneurship Development" amongst students and faculties.
- Major Indicators are Budget & Funding Support, Infrastructure & Facilities, Awareness, Promotions & support for Idea Generation & Innovation, Promotion & Support for Entrepreneurship Development, Innovative Learning Methods & Courses, Intellectual Property Generation, Technology Transfer & Commercialization, Innovation in Governance of the Institution.
- The objective of ARIIA ranking is to inspire Indian institutions to reorient their mindset and build ecosystems to encourage high-quality research, innovation and entrepreneurship.

Note:

## NuGen Mobility Summit 2019

The **International Centre for Automotive Technology (ICAT)** will organise NuGen Mobility Summit, 2019, at **Manesar, NCR in November 2019**.

### Key Points

- The **objective of the Summit** is to share new ideas, learnings, global experiences, innovations and future technology trends for faster adoption, assimilation and development of advanced automotive technologies for a smarter and greener future.
- It will help in building a platform for bringing together all stakeholders in the automotive industry to understand global advancements in technologies.
- Track demonstrations, drive-touch-feel activity and lab demonstrations on upcoming vehicle technologies like connected mobility, electric mobility, alternate fuels, intelligent transportation systems, hydrogen fuel cell, hydrogen IC engine, vehicle dynamics, advanced materials and lightweight, end of life vehicles and recycling will be the attractions of this event.

### International Centre for Automotive Technology (ICAT)

- ICAT provides services for testing, validation, design and homologation of all categories of vehicles and has a mission to assist the automotive industry in adopting cutting edge technologies in vehicle evaluation and component development to ensure reliability, durability and compliance to the current and future regulations in new generation mobility solutions.
- It is a division of **NATRIP Implementation Society (NATIS)** under the **Department of Heavy Industries**.
- **National Automotive Testing and R&D Infrastructure Project (NATRIP)** is the largest and most significant initiative in the automotive sector which represents a joining of hands between the Government of India, a number of State Governments and Indian Automotive Industry to create a state of the art testing, validation and R&D infrastructure in the country.

## Data Users Conference on Census 2021

Recently data users conference was organised by the Registrar General of Indian on Census 2021.

### Key Points

- For the first time in 140 years long Census exercise in India, data is proposed to be collected through a mobile app.
- Enumerators would be encouraged to use their own mobile phone or else there is also option to collect and record the data through paper schedules which will eventually be submitted electronically by them.
- Census 2021 will be conducted in **two phases**. In the first phase, **House Listing Operations** would be conducted in any two months chosen by the States between April-September 2020.
- In the second phase, actual **population enumeration** would be done in February 2021, followed by the Revision round in March 2021.
- In Jammu and Kashmir and snowbound areas of Himachal Pradesh and Uttarakhand, population enumeration would be conducted in September 2020, followed by the revision round from in October 2020.
- The data users conference is the first formal interaction of the census organization with various stakeholders. The results of deliberations will form the basis for finalizing the questions and the methodology for the census.

### Census in India

- A systematic and modern population census, in its present form, was conducted non-synchronously between 1865 and 1872 in different parts of the country. This effort culminating in 1872 has been popularly labelled as the first population census of India.
- However, the first synchronous census in India was held in 1881. Since then, censuses have been undertaken uninterruptedly once every ten years.
- The responsibility of conducting the decennial Census rests with the Office of the Registrar General and Census Commissioner, India under Ministry of Home Affairs.

## State of World Population-2019: UNFPA

The **United Nations Population Fund (UNFPA)** has recently released the **State of World Population-2019 Report**.

**Key Points**

- The world's population rose to 7.715 billion in 2019 with the global **average life expectancy of 72 years**.
- The least developed countries recorded the highest population growth, with countries in Africa registering an average of 2.7% a year.
- Much of the overall increase in global population till 2050 is projected to occur in high fertility countries, mostly in Africa, or in countries with large populations, such as Nigeria and India.
- The findings on women aged between 15-49 years were published for the first time. It includes data on women's ability to make decisions over three key areas:
  - Sexual intercourse with their partner,
  - Contraception use and
  - Health care.
- According to the analysis, the absence of reproductive and sexual rights has major and negative repercussions on women's education, income and safety, leaving them "unable to shape their own futures."
- Early marriage continues to remain an obstacle to female empowerment and better reproductive rights.
- The report also highlights the threat to women's and girls' reproductive rights posed by emergencies caused by conflict or climate disasters.
- **India's population grew at an average of 1.2% annually** between 2010 and 2019 which is more than double the annual growth rate of China.
- Around half of India's population in 24 states of India have achieved the replacement fertility rate of 2.1 children per woman. The total fertility rate per woman stood at 2.3 children in 2019.

**Note:**

Replacement level rate is the average number of children born per woman – at which a population exactly replaces itself from one generation to the next, without migration.

- India's life expectancy at birth improved to 69 years in 2019.
- The release of the report marks 25 years of International Conference on Population and Development (ICPD).

**International Conference on  
Population and Development (ICPD)**

- ICPD was organised in Egypt in 1994 where 179 Member States agreed to lay out a far-sighted plan for

advancing human well-being that places the human rights of individuals, rather than numerical population targets, at the centre of the global development agenda.

- The plan emphasises the value of investing in women and girls, both as an end in itself and as a key to improving the quality of life for everyone. And it affirms the importance of sexual and reproductive health, including family planning, as a precondition for women's empowerment.
- It calls for an end to gender-based violence and harmful traditional practices, including female genital mutilation.

**United Nations Population Fund (UNFPA)**

- United Nations Population Fund, formerly the **United Nations Fund for Population Activities** is the United Nations sexual and reproductive health agency. It was established as a **trust fund in 1967** and began operations in 1969.
- It strives to deliver a world in which every pregnancy is wanted, every birth is safe and every young person's potential is fulfilled.
- UNFPA is entirely supported by **voluntary contributions** of donor governments, intergovernmental organizations, the private sector, foundations and individuals, not by the United Nations regular budget.
- UNFPA works directly to achieve **Sustainable Development Goal 3** on health, Goal 4 on education and Goal 5 on gender equality.

## Survey 2019: Ambitions Beyond Growth: UNESCAP

A report, **Survey 2019: Ambitions Beyond Growth** was Published by the **United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)**.

- The aim of the report is to find out what will it take to realize the ambitious 2030 Agenda of sustainable development goals.

**Key findings**

- An additional annual investment of \$1.5 trillion would allow countries in the Asia-Pacific region to achieve the Sustainable Development Goals (SDGs) by 2030.
- It has urged the countries in the Asia Pacific to look beyond mere economic growth.

- Countries facing high and growing levels of inequality and environmental degradation will have to change course from pursuing a growth path that neglects the people and the planet.

- The report argues that keeping the old paradigm of prioritising GDP growth at all costs is neither feasible nor desirable.

- Instead, UNESCAP proposes an investment package, equivalent to 5% of the combined GDP of Asia-Pacific developing countries in 2018, that includes:

- \$669 billion to support basic human rights and develop human capacities
- \$590 billion to achieve clean energy for all and live in harmony with nature
- \$196 billion for improved access to transport, information and communications technology (ICT), and water and sanitation.

#### ➤ **Emphasis on quality of education**

- Significant savings could be achieved through a greater emphasis on education quality and outcomes.
- It cites UNESCO estimates in 2014 that globally, \$129 billion was wasted annually due to the disconnect between schooling years and the acquisition of basic skills alone.
- Asia-Pacific developing countries on average could save more than 30% through efficiency gains without compromising on education performance.

#### **United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)**

- The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) is the regional development arm of the United Nations for the Asia-Pacific region.
- The objective of UNESCAP is to work to overcome some of the region's greatest challenges by providing results-oriented projects, technical assistance and capacity building to member States.
- It has 53 Member States and 9 Associate Members from Asia-Pacific Region including India.
- **Established:** 1947; **Headquarters:** Bangkok, Thailand



## **Global Measles Cases up by 300%: WHO**

Recently, the **World Health Organization (WHO)** has released new measles surveillance data for 2019.

### **Key highlights**

- **Measles cases rose 300% worldwide** through the first three months of 2019 compared to the same period in 2018.
- The current outbreak is mostly among children **in both developing as well as developed countries.**
- The major reasons for rising in measles cases in developed countries are the **anti-vaccine movement and Vaccine Hesitancy seen recently in many parts of Europe and the United States.** Such movements are driven by **fraudulent claims linking the vaccine against measles to the risk of autism in children.**
- In poorer countries, fewer people are vaccinated and **a larger portion of the population is left vulnerable to the virus.** This creates the environment for a large outbreak to occur - such as those in the Democratic Republic of the Congo, Kyrgyzstan, and Madagascar.

### **Vaccine Hesitancy**

- Vaccine hesitancy refers to **delay in acceptance or refusal of vaccines despite the availability of vaccination services.**
- In 2019, WHO has added Vaccine hesitation to the list of ten threats to global health in 2019.
- **Reasons for Vaccine Hesitancy**
  - **Compulsory nature** of vaccines is seen as forcing by state.



- **Temporal adverse health** outcomes due to vaccination.
- **Unfamiliarity** with vaccine-preventable diseases.
- **Lack of trust** in corporations and public health agencies.
- **Steps to Address Vaccine Hesitancy**
  - **Detecting** and **addressing** vaccine-hesitant subgroups.
  - **Educating** all **health care providers** involved with immunization on best practices.
  - **Educating children, youth** and **adults** on the importance of immunization for health.

#### India and Measles

- India has one of the **highest incidences of Measles in the world**. According to WHO Data, in 2018, **more than 68,000 confirmed cases of measles** were reported in India.
- However, India has made important gains in recent years. **Measles deaths have declined by 51% from an estimated 100,000 in the year 2000 to 49 000 in 2015.**

#### Government Initiatives

- **Measles-Rubella (MR) vaccination:** The **Ministry of Health and Family Welfare** launched the **Measles-Rubella (MR) vaccination** programme in 2017.
  - The MR campaign **targets around 41 crore children across the country**, the largest ever in any campaign.
  - All children aged between 9 months and less than 15 years will be given a **single shot of Measles-Rubella (MR) vaccination irrespective of their previous measles/rubella vaccination status or measles/rubella disease status.**
- Other Initiatives include **Universal Immunization Programme (UIP), Mission Indradhanush** and **Intensified Mission Indradhanush.**

### Index of Cancer Preparedness

The **Economist Intelligence Unit (EIU)** has recently released the Index of Cancer Preparedness (ICP).

#### Key Key highlights

- **Australia** tops the ICP, followed by the Netherlands and Germany.

- **Saudi Arabia**, Romania, and Egypt face at the bottom in Index.
- **India's** overall rank is 19<sup>th</sup>.
- The highest scores on average are found in policy and planning, but the countries' performances get weaker when moving from policy to implementation to overall health system readiness and governance.

#### Index of Cancer Preparedness (ICP)

- The objective of the ICP is to allow benchmarking of national efforts and identify best practice in addressing the cancer challenge.
- It draws on a wide range of data relevant to cancer policy and control from 28 countries.
- The ICP explores the issue of cancer preparedness through three broad domains: policy and planning; care delivery; health systems and governance.
- According to the index, the four essentials of cancer preparedness are **essential investment** (appropriate spending and resources), **roadmap** (effective planning), **foundation** (functioning health systems), and **intelligence** (availability and quality of cancer-related data).

#### Cancer

- Cancer is a generic term for a large group of diseases characterized by the growth of abnormal cells beyond their usual boundaries that can then invade adjoining parts of the body and/or spread to other organs.
- Cancer is the second leading cause of death globally.
- World Cancer Day is observed on 4<sup>th</sup> Feb every year.

### World Homoeopathy Day 2019

Every year, 10 April is celebrated as 'World Homoeopathy Day' all over the world to commemorate the birth anniversary of the founder of Homoeopathy, Dr Christian Friedrich Samuel Hahnemann.

#### Key Points

- A two-day international convention was organized by the Central Council for Research in Homoeopathy (CCRH) in New Delhi.
- **"Linking Education and Clinical Practice with Research: Advancing Scientific Collaborations"** was the theme of the conference.

- Discussions were held on a wide range of topics like Linking education and clinical practice with research, Homoeopathic Education: Research component, Utilisation of existing research by clinicians, Drug Development & Validation, Research initiatives by students, etc.

### Homoeopathy

- The word 'Homoeopathy' is derived from two Greek words, Homois meaning similar and pathos meaning suffering.
- It simply means treating diseases with remedies, prescribed in minute doses, which are capable of producing symptoms similar to the disease when taken by healthy people.
- It is based on the natural law of healing – "**Similia Similibus Curantur**" which means "**likes are cured by likes**".
- It was given a scientific basis by Dr Samuel Hahnemann (1755-1843) in the early 19<sup>th</sup> century.

#### Central Council for Research in Homoeopathy (CCRH)

- Central Council for Research in Homoeopathy (CCRH) is an apex research organization under Ministry of AYUSH which undertakes, coordinates, develops, disseminates and promotes scientific research in Homoeopathy.
- The Central Council for Research in Homoeopathy (CCRH), formally constituted in 1978, was set up as an autonomous organization and registered under the Societies Registration Act, 1860.
- **Headquarters:** New Delhi.

## World Health Statistics Overview, 2019

The **World Health Organisation (WHO)** has released its **annual World Health Statistical Overview, 2019**.

### Key Points

- World health statistics 2019 summarises recent trends and levels in **life expectancy** and **causes of death**, and reports on the health and health-related **Sustainable Development Goals (SDGs)** and associated targets.

- The life expectancy of Women is higher than men. For men and women combined, average life expectancy has increased by 5.5 years to 72 years in 2016 since the turn of the century.
- Healthy life expectancy (the number of years lived in full health) increased to 63.3 years in 2016.
- The life expectancy gap is narrowest where women lack access to health services. Maternal deaths contribute "more than any other cause" to reducing female life expectancy.

## Five Coffee Varieties got GI Tag

The **Department for Promotion of Industry and Internal Trade (DPII)**, under the **Ministry of Commerce and Industry**, has recently awarded GI tag to five varieties of Indian coffee.

### Key Points

- **Coorg Arabica, Chikmagalur Arabica, Bababudangiris Arabica** coffee from Karnataka, **Wayanad Robusta** coffee from Kerala and **Araku Valley Arabica** coffee from Andhra Pradesh were awarded the tag.
- The move is expected to help the growers get the maximum price for their premium produce.
- **The Araku valley coffee** is produced by the tribals, who follow an organic approach in which they emphasise management practices involving substantial use of organic manures, green manuring and organic pest management practices.
- **Bababudangiris Arabica coffee** is selectively hand-picked and processed by natural fermentation.
- **Coorg Arabica coffee** is specifically grown in Kodagu district of Karnataka.
- **Wayanad Robusta coffee** is grown specifically in Wayanad district of Kerala.
- **Chikmagalur Arabica coffee** is grown in Chikmagalur district which is situated in the Deccan plateau, falling under the Malnad region of Karnataka.
- **Karnataka** is the largest coffee producing state in India followed by **Kerala, Andhra Pradesh** and **Tamil Nadu**.
- India is the only country in the world where the entire coffee cultivation is grown under shade, hand-picked and sun-dried.

**Arabica**

- This variety of coffee has a delicate flavour and balanced aroma coupled with a sharp and sweet taste.
- Arabicas are harvested between November to January and are typically grown on higher altitudes ranging from 600 to 2000 metres in cool, moisture-rich and subtropical weather conditions.
- It has about half the amount of caffeine compared to Robustas.

**Robusta**

- It has a very strong taste, a grainy essence and an aftertaste somewhat similar to that of peanuts.
- It is harvested from December to February and is grown in a hot and humid climate with temperature ranging from 20 degree Celsius to 30 degree Celsius.

**Coffee Board of India**

- It is a statutory organization constituted under the Coffee Act, 1942.
- It functions under the Ministry of Commerce and Industry.
- The Board mainly focuses its activities in the areas of research, extension, development, market intelligence, external & internal promotion for coffee.
- **Headquarters:** Bangalore.

**Alexandrine Parakeet**

District administration of Jhalawar in Rajasthan is using the **Alexandrine Parakeet**, as the mascot of voter awareness program for the 2019 Lok Sabha polls.

**Alexandrine Parakeet**

- Apart from focusing on the upcoming polls, the administration is concentrating on the conservation of parakeet
- The district administration has made a cartoon series under **Systematic Voters' Education and Electoral Participation (SVEEP)** programme which is based on Gagrani parakeet.

**Systematic Voters' Education and Electoral Participation (SVEEP)**

- Started in 2009, SVEEP is the flagship programme of the **Election Commission of India for voter education, spreading voter awareness** and promoting voter literacy in India.
- SVEEP is designed according to the **socio-economic, cultural and demographic profile of the state** as well as the history of electoral participation in previous rounds of elections and learning thereof.

**Alexandrine Parakeet**

- Also known as **Gagrani parakeet**, it derives its name from the Gagrani fort of Jhalawar.
- It is protected under the **Schedule 1 (B) of the Wildlife protection act (WPA) 1972**. It is **native to South and South East Asia**.
- It is '**Near Threatened**' in the **Red list of the IUCN** and in **Appendix II of CITES**.
- The male parakeet has a **red ring on its neck and red spots on wings**.
- **Poaching and habitat destruction** have led to a sharp decline in the population of the bird.



## Key Points

## Details

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## Summary



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Summary



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# Current Affairs (CONSOLIDATION)

**MAY 2019**  
**(PART – I & II)**

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# Polity and Governance

## Highlights

- 'State' Under Article 12 of the Constitution
- SC Upholds Karnataka Law Granting Reservation in Promotion for SC/ST
- SC Vacates Stay on Retrospective Applicability of Black Money Law
- Madras High Court on Powers of Puducherry LG
- PepsiCo Sues Potato Farmers

## 'State' Under Article 12 of the Constitution

In **Sanjaya Bahel vs Union of India, 2019** case the Delhi High Court has ruled that the United Nations is not a 'State' within the meaning of **Article 12 of the Constitution of India** and is not amenable under the jurisdiction of the Court under **Article 226** of the Constitution.

### Key Points

- Part III (Article 12 to Article 35) consists of a list of Fundamental Rights.
- In order to safeguard the rights and freedom of individuals, there is a need of constitutional protection from the acts of the State itself.
- According to **Article 12** 'the State' includes the Government and Parliament of India and the Government and the Legislature of each of the States and all local or **other authorities** within the territory of India or under the control of the Government of India. Dispute and discussion around the phrase 'other authorities' of Article 12 has evolved over time.
- Earlier, a restrictive interpretation was given to this term, i.e the authorities exercising governmental or sovereign function would only be covered under other authorities.
- The liberal interpretation says that it is not necessary for an authority to be engaged in sovereign or governmental function to come under the definition of the state. The bodies like State Electricity Boards, LIC, ONGC and IFC also come under 'other authorities'.
- In **R.D Shetty case**, Justice P.N Bhagwati gave **5 Point test** to determine whether a body is an agency or instrumentality of the state:

- Financial assistance given by the State and magnitude of such
- Any other forms of assistance whether of the usual kind or extraordinary
- Control of management and policies of the corporation by the State – nature and extent of control
- The functions have public importance
- State conferred or State protected monopoly status

## SC Upholds Karnataka Law Granting Reservation in Promotion for SC/ST

Recently, the Supreme Court upheld the constitutional validity of the **Karnataka Extension of Consequential Seniority to Government Servants Promoted on the Basis of Reservation Act 2018**.

### Key Points

- The judgment underlines that "a 'meritorious' candidate is not merely one who is 'talented' or 'successful' but also one whose appointment fulfils the constitutional goals of uplifting members of the Schedule Caste/Schedule Tribes community and ensuring a diverse and representative administration".
- Providing reservation for SCs and STs is not at odds with the principle of meritocracy. Merit must not be limited to narrow and inflexible criteria such as one's rank in a standardised exam, but rather must flow from the actions a society seeks to reward, including the promotion of equality in society and diversity in public administration.

- **Article 335** of the Indian Constitution recognises that special measures need to be adopted for considering the claims of SCs and STs in order to bring them to a level-playing field. Centuries of discrimination and prejudice suffered by the SCs/STs pose real barriers of access to opportunity.
- The Constitution mandates realisation of **substantive equality** in the engagement of the fundamental rights with the directive principles, inclusion, together with the recognition of the plurality and diversity of the nation constitutes a valid constitutional basis for defining efficiency.
- If efficiency is grounded in exclusion, it will produce a pattern of governance which is skewed against the marginalised.

### Background

- In **Indra Sawhney case (1993)**, the SC has held that reservations under Article 16(4) of the Constitution could only be provided at the time of entry into government service and not in matters of promotion.
- In 1995, Parliament adopted the **77<sup>th</sup> Amendment** by which **clause (4A)** was inserted into Article 16 to enable reservation to be made in promotion for Scheduled Castes (SCs) and Scheduled Tribes (STs).
- The validity of this amendment and of the legislation enacted in its pursuance were challenged before the Supreme Court in the **Nagaraj case (2006)**. The SC upheld the constitutional validity of these amendments and ruled that:
  - In order to make provision for reservation in promotions for SCs/STs, the State has to collect quantifiable data showing backwardness of the class and inadequacy of its representation.
  - It will also have to see that the reservation provision does not breach the ceiling-limit of 50%.

## SC Vacates Stay on Retrospective Applicability of Black Money Law

The Supreme Court (SC) quashed the stay, put by the Delhi High Court, on the retrospective applicability of **Black Money (Undisclosed Foreign Income and Assets) and Imposition of Tax Act, 2015**.

### Key Points

- The Act was enacted in 2015. It was mentioned in the Act that it will come into effect from April 1, 2016. However, in July, 2015, the government issued a notification changing the date of commencement of the Act to July 1, 2015.
- The Delhi High Court order had held that the 2016 black money law cannot be allowed to operate with retrospective effect from July 2015.

### Black Money (Undisclosed Foreign Income and Assets) and Imposition of Tax Act, 2015

- The Act penalises the concealment of foreign income and provides for criminal liability for attempting to evade tax in relation to foreign income.
- The Act gave one-time opportunity to Indian residents to declare undisclosed foreign income and assets.
- The concerned person had to pay tax at the rate of 30% and an equal amount by way of penalty if found having undisclosed overseas wealth.
- However, in case of non-declaration, the provisions included slapping of tax at the rate of 30% along with a penalty equal to three times the amount of tax evaded or 90% of the undisclosed income or the value of the asset.
- The Act provides for punishment of jail for 3-10 years for the willful evasion.

## Madras High Court on Powers of Puducherry LG

Recently, the Madras High Court ruled that the Lieutenant-Governor (L-G) of Puducherry could not interfere with the day-to-day administration of the Union Territory when an elected government was in place.

### Key Points

- The Court said incessant interference from the L-G would amount to running a 'parallel government'.
- Further, the court observed that the Central government as well as L-G should be true to the concept of democratic principle of Separation of Power. Otherwise, the constitutional scheme of the country of being democratic and republic would be defeated.
- According to the Court, there are significant differences in the powers conferred on the legislatures of

Puducherry and Delhi under **Articles 239A and 239AA of the Constitution**, respectively.

- The L-G of Delhi enjoys greater powers than the L-G of Puducherry. The L-G of Delhi is vested with 'Executive Functions' that enable him to exercise powers in matters connected to public order, police and land.
- Articles 239 and 239AA of the Constitution, as well as the Government of National Capital Territory of Delhi Act, 1991, clearly underline that the role of Centre is more prominent in the UT of Delhi, where the L-G is the eyes and ears of the Centre.
- The Delhi Assembly has the power to legislate on all subjects except law & order and land, whereas the Puducherry Assembly can legislate on any issue under the Concurrent and State Lists.
- The manner in which the L-G functions vis-à-vis the elected government (Council of Ministers) is also spelt out in the Rules of Business of the Government of Pondicherry, 1963.

**Note:**

In an earlier judgment the Supreme Court has clarified that the L-G of Delhi has no independent decision-making power and has to act on the aid and advice of the elected government. The Court also said that the L-G must work 'harmoniously' with the ministers.

## PepsiCo Sues Potato Farmers

Recently, PepsiCo sued some farmers from Gujarat asking them to pay Rs. 1.05 crore for alleged violation of Intellectual Property Rights. Later the company withdrew its suit.

### Key Points

- PepsiCo has registered two hybrid potato varieties FL 1867 and FL 2027 under the **Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001** in 2016.
- The company has said that farmers infringed its patent rights by illegally growing its potato variety registered under the **Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001**.

### Background

- The breeding activities and exploitation of new varieties are the decisive factors for improving rural

income. It is important to provide an effective system of plant variety protection with an aim to encourage the development of new varieties of plants for the benefit of society.

- Engaging debates were held in the country on how intellectual property rights should be introduced in Indian agriculture after the country joined the World Trade Organisation in 1995 and agreed to implement the Agreement on **Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.
- The choice before India was to either enact a law that protected the interests of farming communities or to accept the framework of plant breeders' rights given by the International Union for the Protection of New Plant Varieties (**UPOV Convention**). The latter option was rejected primarily because it denies the farmers the freedom to reuse farm-saved seeds.
- The Government of India enacted 'The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001' adopting a unique system.
- The legislation recognizes the contributions of both commercial plant breeders and farmers in plant breeding activity and also provides to implement TRIPS in a way that supports the specific socio-economic interests of all the stakeholders.

### Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001

- **Objectives of the Act**
  - Establish an effective system for the protection of plant varieties and rights of plant breeders.
  - Protect the rights of farmers for their contributions towards conserving, improving and making available plant genetic resources for the development of new plant varieties.
  - Accelerate agricultural development and stimulate research for the development of new plant varieties.
  - Facilitate the growth of seed industry to ensure the availability of high quality seeds and planting material.
- **Rights under the Act**
  - **Breeders' Rights:** Exclusive right to produce, sell, distribute, import or export the protected variety. Breeder can appoint agent and may exercise for civil remedy in case of infringement of rights.

- **Farmers' Rights:** A farmer who has developed a new variety is entitled for **registration and protection as a breeder of the variety**; farmer's variety can also be registered as an extant variety; a farmer can save, use, sow, share or sell his farm produce including seed of a protected variety except the sell of a branded seed of a protected variety; and farmers can get compensation for non-performance of a variety.
- **Researchers' Rights:** Use any of the registered variety for conducting experiment or research.
- **Registration of Variety:** A variety is eligible for registration under the Act if it essentially fulfills the criteria of **Distinctiveness, Uniformity and Stability (DUS)**. The Central Government issues notification specifying the genera and species for the purpose of registration of varieties. So far, more than 150 crop species have been notified for the purpose of registration.
- **Validity of Registration:** The certificate of registration remains valid for nine years in case of trees and vines and six years in case of other crops. It may be renewed on payment of renewal fees. However, the total period of validity shall not exceed eighteen years in case of trees and vines and fifteen years in other cases.
- **Reasonable Seed Price:** Farmers have the right to access seed of registered varieties at a reasonable price. When this condition is not met, the breeder's exclusive right over the variety is suspended under the provisions concerning **compulsory licensing**, and the breeder is obligated to license the seed production, distribution and sales of the variety to a competent legal entity.
- **Benefit Sharing:** Plant breeders and legal entities including farmers, who provide Plant Genetic Resources (PGR) to breeders for developing new varieties, shall receive a fair share of benefit from the commercial gains of the registered varieties.
- **Rights of Community:** It is compensation to village or local communities for their significant contribution in the evolution of variety which has been registered under the Act. Any person/group of persons, on behalf of any village/local community in India, can file a claim for contribution in the evolution of any variety.

#### Protection of Plant Varieties and Farmers' Rights Authority

- To implement the provisions of the Act, the **Ministry of Agriculture and Farmers Welfare** established the **Protection of Plant Varieties and Farmers' Rights Authority in 2005**.
- The Authority comprises chairperson and 15 members.
- General functions of the Authority include - registration of plant varieties; developing DUS (Distinctiveness, Uniformity and Stability) test guidelines for new plant species; maintenance of the **National Register of Plant Varieties**; maintenance of **National Gene Bank** etc.

#### International Union for the Protection of New Plant Varieties (UPOV)

- The UPOV is an **intergovernmental organization** with headquarters in **Geneva** (Switzerland).
- UPOV was established by the **International Convention for the Protection of New Varieties of Plants**. The Convention was adopted in Paris in 1961 and it was revised in 1972, 1978 and 1991.
- The UPOV Convention provides the basis for members to encourage plant breeding by granting breeders of new plant varieties an intellectual property right: the breeder's right.
- In the case of a variety protected by a breeder's right, the authorization of the breeder is required to propagate the variety for commercial purposes. The breeder's right is granted by the individual UPOV members.
- Only the breeder of a new plant variety can protect that new plant variety. It is not permitted for someone other than the breeder to obtain protection of a variety.
- There are no restrictions on who can be considered to be a breeder under the UPOV system: a breeder might be an individual, a farmer, a researcher, a public institute, a private company etc.
- India is **not** a member.





# Economic Scenario

## Highlights

- Anil Kakodkar Committee
- Payment and Settlement Systems in India: Vision 2019 - 2021 Document
- RBI allows Foreign Investors to invest in Municipal Bonds
- Credit Risk Officers for NBFCs
- RBI Extends Ombudsman Scheme to Non-Deposit Taking NBFCs
- NSE Penalised in Co-location Case
- RBI Raises Cap on Home Loan under PSL
- WTO's New Delhi Meet
- Services Trade Restrictiveness Index of OECD
- E-Way Bill Reformed
- NABARD Fund for Rural Agriculture Startup
- Honey Mission
- Competition Commission of India

## Anil Kakodkar Committee

The **High-Level Committee** constituted by the **Petroleum Ministry** has submitted the report. It was tasked to examine the following issues:

- The preparation of action plan to create synergy among R&D Centres of Oil & Gas PSUs;
- Tax issues and ways to benefit from GST by the Oil & Gas PSUs.

### Key Highlights

- The Committee has brought out the **strategy to reduce the import dependency of the nation** in the report and has recommended short-term, medium-term and long-term strategies.
- It has suggested a **higher natural gas price** for producers from existing discoveries among measures to bring down India's dependence on crude oil imports.
- The Committee has recommended a more **remunerative price for (both new and existing) marginal/deep sea gas discoveries** to boost production of natural gas.
- The recommendation is significant as at present only new difficult discoveries have been allowed a higher price of natural gas by the Ministry.
- It has **advocated for shift to a gas-based economy in line with the global trends** as the outlook for gas is better. At present, natural gas has a 6% share in India's energy basket while the global average is around 24%.
- The Committee has also **recommended increasing the use of biomass**, essentially surplus agricultural residue, for harnessing biofuels.

- It has also **recommended seeking more means for developing, biofuels and biogas**. The Committee has made major recommendations to accelerate domestic research to commercialise indigenous resources to enhance hydrocarbon supply.
- The Committee **recommendations cover those discoveries that have been awarded under the New Exploration Licence Policy (NELP) and pre-NELP regimes**.

### New Exploration Licencing Policy (NELP)

- New Exploration Licensing Policy (NELP) was formulated by the Government of India, during 1997-98 to provide a level playing field to both Public and Private sector companies in exploration and production of hydrocarbons with Directorate General of Hydrocarbons (DGH) as a nodal agency for its implementation.
- Since then, licenses for exploration are being awarded only through a competitive bidding system and National Oil Companies (NOCs) are required to compete on an equal footing with Indian and foreign companies to secure Petroleum Exploration Licences (PELs).
- The activities in the Exploration and Production (E&P) sector have been significantly boosted by this policy and it has opened up E&P sector to private and foreign investment with 100% Foreign Direct Investment (FDI).
- NELP was replaced by Hydrocarbon Exploration and Licencing Policy (HELP) in 2016.

Note:



### Hydrocarbon Exploration and Licensing Policy (HELP)

- HELP was announced in 2016 by the Government to reduce import dependency on oil and gas by 10% by 2022. Four main facets of this policy are:
- Uniform license for exploration and production (E&P) of all forms of hydrocarbon.
  - An open acreage policy.
  - Easy to administer revenue sharing model.
  - Marketing and pricing freedom for crude oil and natural gas produced.
- While the uniform licence enables the contractor to explore conventional as well as unconventional oil and gas resources like shale gas and gas hydrates under a single license, the Open Acreage Policy enables companies to choose the blocks from the designated area.
- The policy shifts production-linked payment system to administer the revenue-sharing model under which the government will receive a share of the gross revenue from the sale of oil, gas etc.

## Payment and Settlement Systems in India: Vision 2019 - 2021 Document

The Reserve Bank of India (RBI) has recently released the 'Payment and Settlement System in India: Vision 2019 - 2021' document.

### Key Points

- With its core theme of 'Empowering Exceptional (e) payment Experience', the vision document aims at **empowering every Indian with access to a bouquet of e-payment options that is safe, secure, convenient, quick and affordable.**
- With its 36 specific action points and 12 specific outcomes, it also aims to achieve a 'highly digital' and 'cash-lite' society through the goal posts of **competition, cost-effectiveness, convenience and confidence (4Cs).**
- The vision document has envisaged **four times growth in digital transactions** in two years.
- The RBI expects accelerated growth in individual retail electronic payment systems, both in terms of number of transactions and increased availability.

- Payment systems like UPI and IMPS are expected to register average annualised growth of over 100%, and NEFT at 40%, over the vision period.
- A 35% growth has been targeted in the use of digital modes of payment for the purchase of goods and services through increase in debit card transactions at Point-of-Sale (PoS) terminals during the vision period.
- **No specific target** has been considered by the vision document **for reducing cash in circulation.** The enhanced availability of PoS infrastructure is expected to reduced demand for cash and thus, over time, achieve a reduction in Cash in Circulation (CIC) as a percentage of GDP.
- The document talks about creating **customer awareness**, setting up a **24x7 helpline** and **self-regulatory organisation for system operators and service providers**, among others.
- The **RBI is authorised under the Payment and Settlement System Act (PSSA), 2007 to regulate payment and settlement system** in India.

### Note:

According to the PSSA, 2007 a payment system is a system that enables payment to be effected between a payer and a beneficiary, involving clearing, payment or settlement service or all of them, but does not include a stock exchange. It includes both paper-based such as cheque, demand draft and **digital** such as NEFT, BHIM app, settlement systems.

## RBI allows Foreign Investors to invest in Municipal Bonds

The Reserve Bank of India (RBI) has eased norms for Foreign Portfolio Investors (FPIs) by allowing them to invest in Municipal Bonds under prescribed limits.

- The limits for investing in Municipal bonds is the same as that of FPI investment in State Development Loans (SDLs), which is currently 2% of outstanding loans.
- Investing in municipal bonds in India is not a popular opinion as majority municipalities are not cash rich, but if FPIs start investing in these bonds, the domestic players also might find interest and also could prove to be a good income source for municipalities.

Note:

### Municipal Bonds

- Municipal bonds are **bonds issued by Urban Local Bodies (ULBs)** – municipal bodies and municipal corporates (entities owned by municipal bodies) to raise money for financing specific projects specifically infrastructure projects.
- These Bonds **have tax-free status if they conform to certain rules** and their interest rates are market-linked.
- **Bangalore Municipal Corporation was the first ULB to issue Municipal Bond** in India in 1997.
- In 2015, SEBI made fresh guidelines for the issue of municipal bonds for enabling the ULBs to mobilise money.
- These bonds are **known as revenue bonds when raised for one project**.
- ‘Municipal bond’ could help corporations directly raise funds without looking to State grants or agencies such as the World Bank and help in financing projects such as Smart Cities.

### State Development Loan (SDL)

- State Development Loans (SDLs) are **market borrowings by State Governments. RBI co-ordinates the process of selling these securities**.
- Each State is allowed to issue bonds up to a certain limit each year.
- Generally, the coupon rates on SDLs are higher than those of Government securities (popularly called G-secs) of the same maturity.
- SDLs are, however, considered safer than loans by State Government undertakings because RBI has the power to make repayments out of Central Government allocation to states which lie in an account with RBI.
- SDLs are normally sold through an auction process, just like Central Government securities. SDLs too are traded in the secondary market but are much less liquid than Central G-secs.

#### Note:

The **primary market** is where securities are created. It's in this market that firms float new stocks and bonds to the public for the first time. An Initial Public Offering (IPO) is an example of a primary market. The **secondary market** is where investors buy and sell securities they already own. The secondary market is commonly referred to as the stock market. Example: Sensex.

## Credit Risk Officers for NBFCs

The Reserve Bank of India (RBI) has asked the Non-Banking Finance Companies (NBFCs) with an asset size of more than Rs 5,000 crore to appoint **Credit Risk Officer (CRO)** with clearly specified role and responsibilities.

### Key Highlights

- The primary role of the risk officer will be **identification, measurement and mitigation of risks** and **all credit products (retail or wholesale) shall be vetted by the CRO** from the angle of inherent and control risks.
- The CRO is **required to function independently** so as to ensure the highest standards of risk management.
- The CRO's role in deciding credit proposals should be **limited to being an advisor**.
- The CRO should be a senior official in the hierarchy of an NBFC and shall possess adequate professional qualification/ experience in the area of risk management.

### Terms of Service

- The CRO should be **appointed for a fixed tenure** with the approval of the board.
- In case the NBFC is listed, any change in the incumbency of the CRO should also be reported to the stock exchanges.
- The board should put in place policies to safeguard the independence of the CRO. In this regard, the **CRO should have direct reporting lines to the MD & CEO/ Risk Management Committee (RMC)** of the board.
- The CRO should not have any reporting relationship with the business verticals of the NBFC and should not be given any business targets. Further, **there should not be any 'dual hatting'** i.e. the CRO should not be given any other responsibility.

### Background

- RBI's move comes in the wake of ongoing rating downgrades of non-banks which has raised fears of another liquidity crisis after IL&FS.
- The troubled NBFC sector is facing difficulties like credit squeeze, overleveraging, excessive concentration, massive mismatch between assets and liabilities and misadventures by some large entities like the IL&FS group.

**Non-Banking Finance Companies (NBFC)**

- An NBFC is a financial institution that provides banking services without meeting the legal definition of a bank, i.e. one that does not hold a banking license.
- It is established as a company registered under the Companies Act, 1956 but its operations are covered under a country's banking regulations.
- NBFCs may be engaged in the business of loans and credit facilities, savings products, investments and money transfer services.
- The Reserve Bank of India is entrusted with the responsibility of regulating and supervising the Non-Banking Financial Companies by virtue of powers vested under Reserve Bank of India Act, 1934.
- All NBFCs are either deposit-taking or Non-deposit taking.
- The different NBFCs are as follows:
  - Investment and Credit Company (ICC)
  - Infrastructure Finance Company (IFC)
  - Systemically Important Core Investment Company (CIC-ND-SI)
  - Infrastructure Debt Fund (IDF-NBFC)
  - Non-Banking Financial Company-Micro Finance Institution (NBFC-MFI)
  - Non-Banking Financial Company – Factors (NBFC-Factors)

## RBI Extends Ombudsman Scheme to Non-Deposit Taking NBFCs

The Reserve Bank of India (RBI) has announced the extension of the Ombudsman Scheme for Non-Banking Financial Companies (NBFCs), to all eligible non-deposit taking NBFC having an asset size of Rs100 crore or above with customer interface.

**Key Points**

- As per the scheme, a customer can register complaints against an NBFC on grounds such as non-observance of fair practices code, non-payment of deposits or interest by the NBFC, failure to provide adequate security documents or requisite notice, failure to ensure transparency, among others.

- It has been done to ensure **expeditious redressal of complaints** against deficiency in services concerning loans and other matters relating to deficiency in the services by NBFCs.
- However, the scheme still excludes various NBFC groups such as Infrastructure Finance Companies (NBFC-IFC), Core Investment Company (CIC), Infrastructure Debt Fund-Non-Banking Financial Company (IDF-NBFC) and also NBFCs under liquidation.

### Ombudsman Scheme for Non-Banking Financial Companies (NBFCs)

- The Scheme was launched in February 2018, for redressal of complaints against NBFCs registered with RBI and covered all deposit accepting NBFCs.
- The scheme also **provides for an appellate mechanism** under which the complainant / NBFC has the option to appeal against the decision of the Ombudsman before the appellate authority.
- The offices of the NBFC Ombudsmen are functioning at **Chennai, Kolkata, Mumbai and New Delhi** and handle complaints of customers in the respective zones.

## NSE Penalised in Co-location Case

The Securities and Exchange Board of India (SEBI) has barred the National Stock Exchange (NSE), which has the largest market share in equity segment and almost a monopoly in equity derivatives, from accessing the securities market for six months.

**Key Points**

- The capital markets regulator also ordered the exchange to disgorge around ₹1,000 crore to the **Investor Protection and Education Fund** for its alleged **failure to exercise proper due diligence while putting in place the TBT (Tick-By-Tick) architecture under co-location facility** thereby affecting market fairness and integrity.
- The act (not to follow due diligence while offering co-location facility) is categorised as fraudulent and unfair trade practice under the SEBI (Prohibition of Fraudulent and Unfair Trade Practices) Regulations, 2003.

**Note:**

Co-location refers to the system wherein a broker's server is kept in the exchange premises to reduce latency or delay in computing terms while executing trades. TBT is an information dissemination system where market data is sent out one by one in a sequential manner.

- Between 2011 and 2014, under co-location services, some brokers trading from the same premises where NSE's algorithmic trading servers were located were able to get faster access to the trading systems, thereby gaining an unfair advantage (front running) over others.

**Front Running**

- Front-running is when a broker or any other entity enters into a trade because they have the foreknowledge of a big non-publicised transaction that will influence the price of the asset, resulting in a likely financial gain for the broker.
- Front-running is also known as tailgating. Front-running is illegal and unethical because it takes advantage of private information that is not available to the public.

**Investor Protection and Education Fund**

- Investor Education and Protection Fund (IEPF) has been set-up under the Companies Act, 2013. IEPF is **maintained under the Consolidated Fund of India**. The amounts which have remained unpaid or unclaimed by shareholders for seven years — be it dividends, matured deposits or debentures and share application money — are required to be transferred to IEPF.
- **Investor Protection and Education Authority** is mandated to administer IEPF to promote investor education, awareness and protection, and to make refunds of shares, unclaimed dividends and mature deposits.

## RBI Raises Cap on Home Loan under PSL

RBI has raised eligibility cap on home loans for **Regional Rural Banks (RRB)** and **Small Finance Banks (SFB)** to ₹35 lakh in metropolitan areas and ₹25 lakh in other centres. All such loans will be now classified by these banks as **priority sector loans**.

- It is done to bring SFBs and RRBs at a **level playing field** with other Scheduled Commercial Banks.
- **The loan limit under PSL is revised:** The family income of ₹3 lakh per annum for Economically Weaker Sections (EWS) and ₹6 lakh per annum for Low-Income Groups (LIG) is set, in alignment with the income criteria specified under the **Pradhan Mantri Awas Yojana**.

**Priority Sector**

- It means those sectors which the Government of India and RBI consider as **important for the development of the basic needs of the country** and are to be given priority over other sectors. The banks are mandated to encourage the growth of such sectors with adequate and timely credit.
- Priority Sector includes categories such as Agriculture, Micro, Small and Medium Enterprises (MSME), Export Credit, Education, Housing, Social Infrastructure, Renewable Energy etc.

**RBI guidelines for PSL for scheduled commercial banks**

- 40% of the total net bank credit should go to priority sector advances.
- 10% of the priority sector advances or 10% of the total net bank credit, whichever is higher should go to weaker section.
- 18% of the total net bank credit should go to agricultural advances. Within the 18 targets for agriculture, a target of 8% of Adjusted Net Bank Credit (ANBC) or Credit Equivalent Amount of Off-Balance Sheet Exposure, whichever is higher is prescribed for Small and Marginal Farmers, to be achieved in a phased manner.
- 7.5 of ANBC or Credit Equivalent Amount of Off-Balance Sheet Exposure, whichever is higher should go to Microenterprises.

## WTO's New Delhi Meet

A **World Trade Organisation (WTO)** ministerial meet of developing countries was recently organised in New Delhi.

**Key highlight**

- India, along with other participating countries, **signed a declaration urging members of the WTO**



to “engage constructively” to prevent any delay in filling out vacancies of its appellate body for trade dispute settlement.

- The dispute settlement system of the WTO is a central element in providing security and predictability to the multilateral trading system.
- The declaration also highlights the need to “preserve” the Special and Differential Treatment (S&D) mechanism.

### Background

- The meeting was held at a time when the multilateral rule-based-trading system is facing serious and grave challenges.
- In the recent past, there have been increasing unilateral measures and countermeasures by members, deadlock in key areas of negotiations and the impasse in the Appellate Body, which threatens the very existence of ‘Dispute Settlement Mechanism’ of the WTO and impacts the position of the WTO as an effective multilateral organisation.
- The WTO is struggling to appoint new members to its understaffed Appellate Body that hears appeals in trade.

### WTO’s Appellate Body

- The Appellate Body, set up in 1995, is a standing committee of seven members that presides over appeals against judgments passed in trade-related disputes brought by WTO members.
- Countries involved in a dispute over measures purported to break a WTO agreement or obligation can approach the Appellate Body if they feel the report of the panel set up to examine the issue needs to be reviewed on points of law.
- The Appellate Body can uphold, modify, or reverse the legal findings of the panel that heard the dispute. Countries on either or both sides of the dispute can appeal.
- The Appellate Body’s report, once adopted by the WTO’s disputes settlement body, are final and binding on the parties.
- The WTO’s dispute settlement procedure is seen as being vital to ensuring smooth international trade flows.

### Problems in the Appellate Body

- Over the last two years, the membership of the body has dwindled to just three persons instead

of the required seven. This is because the United States, which believes the WTO is biased against it, has been blocking appointments of new members and reappointments of some members who have completed their four-year tenures.

- The understaffed appeals body has been unable to stick to its 90 days deadline to dispose off the appeals in the last few years, and the backlog of cases has prevented it from initiating proceedings in appeals that have been filed in the last year.
- Two members of the Body will complete their tenures in December this year, leaving the body with just one member.
- At least three people are required to preside over an appeal, and if new members are not appointed to replace the two retiring ones, the body will cease to be relevant.

### Special and Differential (S&D) Treatment Provisions

- The WTO Agreements contain special provisions which give developing countries special rights and developed countries the possibility to treat developing countries more favourably than other WTO Members.
- The special provisions include:
  - longer time periods for implementing Agreements and commitments
  - measures to increase trading opportunities for developing countries
  - provisions requiring all WTO members to safeguard the trade interests of developing countries
  - support to help developing countries build the capacity to carry out WTO work, handle disputes, and implement technical standards
  - provisions related to least-developed country (LDC) members.

## Services Trade

### Restrictiveness Index of OECD

A study, commissioned by the Indian Ministry of Commerce and Industry, has found **problems with the Services Trade Restrictiveness Index (STRI) of the Organisation for Economic Cooperation and Development (OECD).**



### Key Points

- The study has found that the outcomes of the index are biased and counter-intuitive. The OECD index has a large number of problems associated with it, including some significant design issues that render it impractical for use.
- For example, the index seems to **show the Indian services sector as one of the most restrictive**, particularly in policy areas like foreign entry, despite the fact that since 1991, the one area that has seen maximum liberalisation in India is Foreign Direct Investment (FDI).
- Initial work also suggests that there are both theoretical and empirical inconsistencies in the OECD methodology.
- In addition, the **data seems to have been generated by rather arbitrary procedures and reflects a developed country bias**.
- India approached several developing countries during the recently-concluded WTO talks in New Delhi **to build consensus around the new method of measuring trade restrictiveness in the services sector**.
- The manufacturing trade has a well-documented system of classification of commodities, to find, how restrictive any country's policies are. But, the problem in services is that for a long time there wasn't any way to know whether a country's policies were restrictive. Hence, a robust and unbiased index for quantifying the restrictiveness of the services trade is needed.

### Services Trade Restrictiveness Index (STRI)

- Launched in 2014, STRI **ranks countries based on their services trade policies in 22 sectors** such as computer services, air transport, legal services construction etc.
- STRI is now available for 2018 for a total of 45 economies (36 OECD and the rest non-OECD). The countries and sectors represent over 80% of global trade in services.
- There is also a **Digital STRI** that identifies, catalogues, and quantifies cross-cutting barriers that affect **services traded digitally**.
- The STRI indices take values between zero and one, one being the most restrictive.
- **In STRI 2018:** India has a STRI score **above average** in all sectors.

## E-Way Bill Reformed

Recently, the Government has announced certain changes in the **e-way bill system** to tackle the **Goods and Services Tax (GST) evasion**.

### Key Points

- The enhanced system would come with **auto-calculation of distance between the source and the destination, based on the PIN codes**.
- The user would be allowed to enter the actual distance as per the movement of goods, which will be limited to 10% more than the auto calculated distance displayed, according to the e-way bill portal.
- **Generation of multiple e-way bills based on one invoice will not be permitted**. This means, if the e-way bill is generated once with a particular invoice number, then no one can generate another e-way bill with the same invoice number.
- The e-way bill portal, which has been developed by the National Informatics Centre (NIC), would also **generate a report for users on the list of e-way bills about to expire**. This would help the user to analyse the data and ensure that the goods reach the destination within the valid time period.
- Transporters of goods worth over ₹50,000 would be required to present an e-way bill during transit to a GST inspector, if asked. Failure to produce an e-way bill can attract a penalty of ₹10,000 or amount of tax sought to be evaded, whichever is higher.
- These enhanced features are expected to add value to both, businesses and tax officers, as the mixed bag aims at propelling ease of doing business together with acting as a deterrent for tax evaders.

### E-way Bill

- Touted as an anti-evasion tool, the electronic way or e-way bill was rolled out in April 2018 under the GST system, for moving goods worth over ₹50,000 from one state to another. The same for intra or within the state movement was rolled out in a phased manner.
- The e-way bill must be raised before the goods are shipped and should include details of the goods, their consignor, recipient and transporter.
- When an e-way bill is generated, a unique e-way bill number (EBN) is allocated and is available to the supplier, recipient, and the transporter.

Note:

- An e-way bill is valid for 1 day for a distance less than 100 Kms and additional 1 day for every additional 100 Kms or part thereof.
- The validity of e-way bills can be extended.

## NABARD Fund for Rural Agriculture Startup

The **National Bank for Agriculture and Rural Development (NABARD)** recently announced a ₹700-crore venture capital fund for equity investments in agriculture and rural-focused startups.

### Key Points

- NABARD has been contributing to other funds till now and this is the first time that the rural development bank has launched a fund of its own.
- The fund has been launched by Nabventures, a subsidiary of NABARD, and has a proposed corpus of Rs 500 crore with an option to retain over-subscription of Rs 200 crore, called as the greenshoe option.

**Note:** A greenshoe option is an over-allotment option. In the context of an initial public offering (IPO), it is a provision in an underwriting agreement that grants the underwriter, the right to sell investors more shares than initially planned by the issuer, if the demand for a security issue proves higher than expected.

### Nabventure

- Nabventure was established by the NABARD to provide early-stage support to agriculture and rural enterprises and start-ups.
- It was incorporated by the NABARD under the Companies Act 2013.

## Honey Mission

The **Khadi and Village Industries Commission (KVIC)** has distributed more than one lakh bee-boxes among farmers and unemployed youths across the country in less than two years under its '**Honey Mission**' initiative to increase honey production and farmers' income.

- Under the Honey Mission, KVIC provides awareness, training and Bee Boxes along with bee colonies to the farmers.

- '**Honey Mission**' was launched in August 2017 in line with the '**Sweet Revolution**'.
- According to the KVIC, the Mission has **created more than 10,000 new jobs**, besides creating around **25,000 additional man-days** through the fabrication of bee boxes and honey extractors.

### Khadi and Village Industries Commission (KVIC)

- KVIC is a **statutory body** established under the Khadi and Village Industries Commission Act, 1956.
- The KVIC is charged with the planning, promotion, organisation and implementation of programmes for the development of Khadi and other village industries in the rural areas in coordination with other agencies engaged in rural development, wherever necessary.
- It functions under the Ministry of Micro, Small and Medium Enterprises.
- Headquarters: Mumbai.

## Competition Commission of India

The Competition Commission of India (CCI) celebrated its 10th Annual Day on 20th May 2019.

### Competition Commission of India (CCI)

- CCI is a statutory body established under the Competition Act, 2002.
- CCI was created to enforce the Competition Act **to prohibit anti-competitive agreements** and abuse of dominant position by enterprises and to **regulate combinations (acquisition, acquiring of control and M&A)**.
- It is the duty of the Commission to **eliminate practices having adverse effect on competition, promote and sustain competition, protect the interests of consumers and ensure freedom of trade** in the markets of India.
- The Commission is also required to give opinion on competition issues on a reference received from a statutory authority established under any law and to undertake competition advocacy, create public awareness and impart training on competition issues.
- **CCI consists of a Chairperson and 6 Members appointed by the Central Government.**



# International Relations

## Highlights

- China Proposes ASEAN+3 FTA
- Google & Amazon to Face Antitrust Scrutiny
- Masood Azhar Listed as a Global Terrorist
- Strait of Hormuz
- Iran Sanctions: India Lines Up Alternative Sources
- UNDRR Global Assessment Report
- USA Removes India from Currency Watch List
- India Kyrgyzstan Relations
- US Withdraws GSP for India
- Vice-President of India visits Vietnam
- Christchurch Call

## China Proposes ASEAN+3 FTA

China has started pushing for a free trade pact between ASEAN + 3 (which includes the ten-member ASEAN, China, Japan and South Korea) at the East Asia Summit. This would effectively mean that among the 16 countries negotiating the **Regional Comprehensive Economic Partnership (RCEP)**, all except India, Australia and New Zealand, would get included in the proposed pact.

### Key Points

- RCEP is a proposed **free trade agreement** among 16 nations (ten-member ASEAN and Australia, China, India, Japan, South Korea and New Zealand).
- The ASEAN+3 proposal is intended to put pressure on India to give China concessions similar to those given by other countries at the RCEP negotiations.
- Also, such a proposal is a message to India that China is ready to ignore India if India remains non-flexible at the RCEP negotiations.
- The move may also result in Australia and New Zealand putting more pressure on India to be more flexible in the RCEP negotiations, as they would not want to be excluded from the proposed pact.
- Earlier, it was Japan which was insistent on India's participation in the negotiations for a regional bloc as it believed that the country could act as a balancing factor and block China's efforts to increase its influence over the region. However, if China reaches some kind of understanding with Japan on the matter, it could be a rough road ahead for India.

- RCEP members have proposed that over 90% traded items should have zero tariffs but India is hesitant about falling in line. India is especially apprehensive about Chinese goods swamping its market, forcing domestic producers to cut production or shut down.
- If finalized, the RCEP will result in the largest free trade bloc in the world accounting for 25% of the global GDP and 30% of the world trade.

## Google & Amazon to Face Antitrust Scrutiny

Google and Amazon are under scrutiny for their **influence on consumer privacy**, labor conditions, public discourse and violation of antitrust law.

- US government's antitrust enforcement agencies, the Federal Trade Commission and the Department of Justice are carrying out Antitrust Investigations against Amazon and Google respectively.
- In 2018, The Competition Commission of India (CCI) has also imposed Rs.136 crore fine on Google for unfair business practices and for infringing antitrust conduct in India.

### Issues with Google and Amazon

- **Amazon:** Amazon's Prime program amounts to a predatory pricing scheme designed to choke out competitors.
  - Amazon's Marketplace platform, where third-party sellers can list products, are accused of one-sided contracts and disputes over advertising policies.
  - Amazon's continued growth also threatens to give it a monopoly power (a market situation in which

there is only one buyer) over other industries like shipping.

- Some consumer groups and vendors have complained that Amazon edges out new competition, particularly as the company enters into new business lines like groceries and fashion.
- **Google:** It is accused of abusing its dominance of the online search market by showing its biases towards certain ads and searches.
- In 2017, European regulators also slapped a \$1.7 billion penalty on Google for barring websites from selling ads from rivals alongside some Google-served ads near search results.

### What is Antitrust Law?

- Antitrust law, also referred to as a competition law, aims to protect trade and commerce from unfair restraints, monopolies and price fixing.
- It ensures that fair competition exists in an open-market economy.
- The Competition Act, 2002 is India's antitrust law. It replaced the Monopolistic and Restrictive Trade Practices Act of 1969.

#### The Competition Act, 2002 prohibits:

- Anti-competitive agreements.
- Abuse of dominant position by enterprises.
- Regulates combinations (Mergers and Acquisition), which causes or likely to cause an appreciable adverse effect on competition within India.

#### Competition Commission of India

- From the provisions under the Competition Act, 2002, the central government has established the Competition Commission of India in 2003.
- CCI consists of a Chairperson and 6 Members appointed by the Central Government.
- It is the duty of the Commission to eliminate practices having adverse effect on competition, promote and sustain competition, protect the interests of consumers and ensure freedom of trade in the markets of India.
- The Commission also give opinion on competition issues on a reference received from a statutory authority established under any law and to undertake competition advocacy, create public awareness and impart training on competition issues.

## Masood Azhar Listed as a Global Terrorist

Jaish-e-Mohammad (JeM) chief Masood Azhar was listed as a designated global terrorist by the **UN Security Council 1267 Committee**. The terrorist organization, Jaish-e-Mohammad, was itself sanctioned by the 1267 Committee in 2001.

### Significance of the UNSC Listing

- It is a victory for India in a decade-old diplomatic battle waged primarily by it and supported by US, UK and France at the UNSC towards continuous efforts on fight against terrorism.
- A UNSC designation will subject Azhar to an asset freeze, travel ban and an arms embargo, thereby restricting his activities globally.
- An asset freeze under the sanctions committee requires that all states freeze, without delay, the funds and other financial assets or economic resources of designated individuals and entities.
- It demonstrates the international community's resolve to fight against terrorism and "**its enablers**".
- The U.S. has further sought "**sustained actions**" from Pakistan against terrorism, consistent with its international obligations.

### UNSC Committee 1267

- In 1999, the UNSC Committee was established pursuant to **Resolution 1267 (1999)**, which imposed a limited air embargo and asset freeze on the Taliban. Over time, measures became a targeted asset freeze, travel ban and arms embargo against designated individuals and entities.
- On June 17, 2011, after the adoption of resolution 1988 (2011), the Committee split into two.
- The 1267 Committee was henceforth known as the Al Qaeda Sanctions Committee, mandated to oversee implementation of the measures against individuals and entities associated with Al Qaeda.
- A separate Committee was established pursuant to resolution 1988 (2011) to oversee implementation of the measures against individuals and entities associated with the Taliban.
- On December 17, 2015, the UNSC adopted resolution 2253 (2015) to expand the listing criteria to include



individuals and entities supporting the Islamic State in Iraq and the Levant (ISIL).

- The Committee currently comprises all 15 members of the Security Council and makes its decision by consensus. The current Chair of the Committee, for the period ending 31st December 2019, is Indonesia. The two Vice-Chairs for 2019 are the Russian Federation and Peru.

## **Strait of Hormuz**

Recently, four commercial vessels were sabotaged near **Fujairah (an emirate of the UAE)**, one of the world's largest bunkering hubs lying just outside the Strait of Hormuz.

- The incident has come at a time of heightened tensions in the Gulf. The US has deployed aircraft carrier, bomber planes and defense missiles to the region amid rising tensions with Iran.
- Iran has threatened to block oil shipments through the Strait of Hormuz if the US succeeds in halting its energy exports.

### **Background**



- In 2015, Iran agreed to a long-term deal referred to as the Joint Comprehensive Plan of Action (JCPOA) on its nuclear program with the P5+1 (US, UK, France, China, Russia & Germany).
- Under the accord, Iran agreed to limit its sensitive nuclear activities and allow in international inspectors, in return for the lifting of crippling economic sanctions.
- The US withdrew from the deal in 2018 and also recently eliminated the exceptions to US sanctions on Iranian oil.
- Sanctions have pushed Iran's economy towards crisis. Recently, Iran has threatened to scale back its obligations under the 2015 nuclear deal and to close the Strait of Hormuz.

### **Strait of Hormuz**

- The waterway separates Iran and Oman, linking the Persian Gulf to the Gulf of Oman and the Arabian Sea.
- The Strait is 33 km wide at its narrowest point, but the shipping lane is just three km wide in either direction.
- Most of the crude exported from Saudi Arabia, Iran, the UAE, Kuwait and Iraq – all members of the Organization of the Petroleum Exporting Countries (OPEC) – is shipped through this waterway.
- It is also the route used for nearly all the liquefied natural gas (LNG) produced by the world's biggest LNG exporter, Qatar.
- The UAE and Saudi Arabia have sought to find other routes to bypass the Strait, including building more oil pipelines.

## **Iran Sanctions: India Lines Up Alternative Sources**

As the American administration has ended waivers on Iranian oil imports, India and seven other countries will not be able to import Iranian oil.

### **Background**

- In 2015, P5+1 (US, Russia, UK, China, France & Germany) countries reached a deal with Iran on lifting of economic sanctions on Iran provided Iran would give up a bulk of its nuclear program and would also submit itself to inspections from time to time.
- However, the US contends that the nuclear agreement did nothing to deter Iran from eventually obtaining nuclear weapons, and hence wants the restrictions imposed by the accord to be permanent.
- US also wants Iran to abandon its ballistic missile development program and to stop supporting militant groups in Lebanon, Syria, Yemen and elsewhere that the United States regards as terrorist organizations.

### **Significance for India**

- India is the world's third largest oil importer, and a large share of that comes from Iran (23.5 million tonnes in 2018-9).
- Not only is Iran India's third largest supplier there are also other associated benefits like – 60-day credit, free insurance, free on board (FOB) basis and a barter-of-goods arrangement.



- India also sees Iran as a conduit to Central Asia, a region that India considers strategically vital.
- India has also invested in Chabahar port in Iran and highways that provide an alternative route to both Afghanistan and Central Asia, bypassing Pakistan, thereby making Iran important for long term interests of India.

### Alternatives to Iranian Oil

- India does have alternate options – Saudi Arabia, the UAE, and even the United States are potential suppliers that could replace Iran as an oil source. Apart from it, the discovery of huge oil fields in Guyana, offers an alternative source to India.
- Guyana Oil Import: India is looking to secure an interest in Guyana's oil fields that are being hailed as one of the world's largest oil fields in recent times. India is looking for farm-in opportunities in Guyana.

#### Note:

Under a "farm-in" contract, an energy firm acquires a stake in a discovered or producing field, the lease of which is owned by another firm.

## UNDRR Global Assessment Report

A Global Assessment Report on Disaster Risk Reduction (GAR) released by the **United Nations Office for Disaster Risk Reduction (UNDRR)**, has warned of new and much **larger threats, due to extreme climate changes** to economies, **particularly in the Asia Pacific**.

- The GAR was launched at the 'Global Platform for Disaster Reduction (2019)' organised by the UNDRR in Geneva, Switzerland from 13 to 17 May, 2019.

### Key Findings

- About \$5.2 billion was spent on reducing disaster risk between 2005 and 2017, representing just 3.8% of total humanitarian spending.
- **Development aid** used for things such as early warning systems, building stronger schools and hospitals, and helping farmers grow hardier crops in drought-prone areas was **minuscule compared with funding for disaster response**.
- It identifies a range of major threats to human life and property, including air pollution, diseases, earthquakes, drought and climate change.

- There is also a growing potential for **one type of disaster to produce or exacerbate another** as happens often in the case of heavy rains which trigger landslides and mudslides following wildfires or periods of long drought.
- It warns that failure to act more urgently to manage intertwined risks could slow or even reverse progress towards the UN goals on sustainable development, which include eradicating poverty and hunger.
- Human losses and asset losses relative to gross domestic product tend to be higher in the countries with the least capacity to prepare, finance and respond to disasters and climate change, such as Small Island Developing States.
- Economic losses to the extent of **4% of GDP annually** are projected, if countries don't invest in DRR (Disaster Risk Reduction).
- It has been estimated that an annual investment of \$6 billion in DRR strategies would generate benefits of up to \$360 billion each year.
- The report urges governments to put the Sendai Framework into action, shifting focus from disaster management to reducing risk.

### United Nations Office for Disaster Risk Reduction (UNDRR)

- The UNISDR was **established in 1999** as a dedicated secretariat to facilitate the implementation of the **International Strategy for Disaster Reduction (ISDR)**.
- It is headquartered in **Geneva, Switzerland**.
- It is mandated to serve as the focal point in the United Nations system for the coordination of disaster reduction and to ensure synergies among the disaster reduction activities.
- It is an **organisational unit of the UN Secretariat** and is led by the UN Special Representative of the Secretary General for Disaster Risk Reduction (SRSG).
- UNISDR's Strategic Framework 2016-2021 has a vision to substantially reduce disaster risk and losses for a sustainable future with the **mandate to act as the custodian of the Sendai Framework**, supporting countries and societies in its implementation, monitoring and review of progress.

### Global Platform for Disaster Reduction (GP) 2019

- The Global Platform for Disaster Risk Reduction (GP) is a biennial multi-stakeholder forum, critical component of the monitoring and implementation process of the Sendai Framework for Disaster Risk Reduction (2015-2030).

- The theme of GP 2019 is “**Resilience Dividend: Towards Sustainable and Inclusive Societies**”.

#### **Sendai Framework for Disaster Reduction 2015-30**

- It was adopted at the **Third United Nations World Conference on Disaster Risk Reduction**, held from March 14 to 18, 2015 in Sendai, Miyagi, Japan.
- The present Framework applies to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters caused by natural or man-made hazards, as well as related **environmental, technological and biological hazards and risks**.
- It aims to guide the multi hazard management of disaster risk in development at all levels as well as within and across all sectors.
- It is the successor instrument to the **Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters**.

## **USA Removes India from Currency Watch List**

The United States has removed India and Switzerland from its currency **monitoring watch list** of major trading partners.

- US removed India from its currency monitoring list of major trading partners after certain developments and steps were taken by India to avert concerns surrounding foreign exchange irregularities and due to a significant bilateral surplus with the United States.

### **What is the Currency Monitoring Watch List?**

- The US Department of Treasury releases the semi-annual report where it has to track developments in international economies and inspect foreign exchange rates.
- India, along with China, Japan, Germany, Switzerland and South Korea, was placed in the bi-annual currency watch list of countries with potentially questionable foreign exchange policies.
- China because of its “persistently weak currency” continues to be in monitoring list.
- Inclusion in the list **does not subject to any kind of penalty and sanctions** but it **deteriorates the global financial image of the country** in the financial markets in terms of foreign exchange policies including undervaluation of currencies to gain export advantages.

### **Significance of the move**

- This is a positive development for India as it is out of the currency watch list radar, which could have ultimately led to a tag of being a currency manipulator. Countries which indulge in manipulating the currency exchange rate for gaining unfair competitive advantage in international trade often end up with the tag of a currency manipulator.
- Exclusion from the list will certainly pave the way for negotiations in Indo-US bilateral trade relations and can reduce trade related differences, particularly **Generalized System of Preferences (GSP)**.
- It will also improve India’s global financial image in the international financial market.

## **India Kyrgyzstan Relations**

The President of Kyrgyzstan **Sooronbay Jeenbekov**, who holds the **current chair of the Shanghai Cooperation Organization**, was the guest at the swearing-in ceremony of the Prime Minister of India. India is likely to extend a \$100 million line of credit to Kyrgyzstan to enable the transfer of defense equipment.

- The Central Asian Republic has shared a request for defense equipment from India, taking the strategic relationship beyond the current level of bilateral exercises and the construction of a joint mountain warfare training centre in the city of **Balykchy (Kyrgyzstan)**.

### **Bilateral Relations**

- India enjoys strong bilateral ties with Kyrgyzstan since 1991 when the country was declared an independent nation.
- India was one of the first countries to establish diplomatic ties with independent Kyrgyzstan in 1992.
- Since the establishment of diplomatic relations in 1992, the two countries have signed several framework agreements, including on **Culture, Trade and Economic Cooperation, Civil Aviation, Investment Promotion and Protection, Avoidance of Double Taxation, Consular Convention** etc.
- The commercial trade between India and Kyrgyzstan was \$24.98 million in 2016-17. Indian exports to Kyrgyzstan in that fiscal year stood at \$22.66 million while Kyrgyzstan's exports to India stood at \$2.32 million.
- Apparel and clothing, leather goods, drugs and pharmaceuticals, fine chemicals, and tea are some

of the important items from our export basket to Kyrgyzstan.

- Indian diaspora in Kyrgyzstan - About 9,000 Indian students are studying medicine in various medical institutions in the country. Also, there are many businessmen living in Kyrgyzstan who are involved in trade and several other services there.
- The Kyrgyz leadership have been largely supportive of India's stand on Kashmir. They also support India's bid for a permanent seat at the UNSC and India's role in the **Shanghai Cooperation Organization (SCO)**.
- Recent initiatives by India to fast-track the construction, operationalisation, simplification and streamlining of procedures for transport over the **International North-South Transport Corridor** as well as construction of the **Chabahar sea-port** and its hinterland will go a long way in improving connectivity between the two countries.
- In 2011, the joint '**Khanjar**' series of exercises was started.

### **Kyrgyzstan and Central Asia**

- Kyrgyzstan is a country in Central Asia which is bounded by Kazakhstan on the northwest and north, by China on the east and south, and by Tajikistan and Uzbekistan on the south and west. The capital is **Bishkek**.
- The Central Asia region (CAR) is rich in minerals, especially hydrocarbons.
- India as an extended neighbor of CAR has major geo-strategic and economic interests in this region.
- The future prospects for cooperation between Central Asia and India in the field of energy security seem to be very important. Peace and stability in CAR and Afghanistan seems to be the most crucial factor for India's security.



tariff rates in the markets of industrialized countries was originally presented at the first **United Nations Conference on Trade and Development (UNCTAD)** conference in 1964.

- The GSP was adopted at UNCTAD in New Delhi in 1968 and was instituted in 1971.
- There are **currently 13 countries which grant GSP preferences to developing and least developed countries**: Australia, Belarus, Canada, the European Union, Iceland, Japan, Kazakhstan, New Zealand, Norway, the Russian Federation, Switzerland, Turkey and the United States of America.
- GSP is the largest and oldest US trade preference program. Established by the Trade Act of 1974, GSP promotes economic development by eliminating duties on thousands of products when imported from one of the 120 designated beneficiary countries and territories.

### **Impact of GSP Withdrawal**

- India has been the biggest beneficiary of the GSP regime.
- In 2018, \$6.3 billion of Indian merchandise exports to U.S. were covered by GSP.
- The sectors which could face the impact of withdrawal of GSP regime are gem and jewelry, leather and processed foods.
- However, India has said that the impact is "minimal" given that Indian exporters were only receiving duty-free benefits of \$190 million on the country's overall GSP-related trade of \$5.6 billion.
- This could impact India's competitiveness in items groups such as raw materials in the organic chemicals sector and intermediary goods in the US market, alongside items such as iron or steel, furniture, aluminum and electrical machinery.
- The impact on small industries in the country could be significant. Such industries would lose their market share in the U.S. without fiscal support to help them maintain their edge.

### **Why GSP was Revoked?**

- India's new e-commerce rules — which have impacted American companies like Amazon and Walmart (majority owner of Flipkart).
- Price controls on medical devices (cardiac stents).
- Tariffs on products like smart watches and high-end mobile phones.
- Lack of greater market access for the U.S. dairy industry.

## **US Withdraws GSP for India**

The US has announced that it will terminate India's designation as a beneficiary of its **Generalized System of Preferences (GSP)** from June 5, 2019.

### **What is GSP?**

- The idea of granting developing countries preferential

## Vice-President of India visits Vietnam

Vice President of India Shri M. Venkaiah Naidu has undertaken an official visit to **Vietnam** from May 9-12, 2019.

### Key Highlights

- India and Vietnam agreed to further **strengthen cooperation in defense and security, peaceful uses of atomic energy and outer space, oil and gas, renewable energy, agriculture and innovation-based sectors.**
- Both countries expressed commitment to **enhancing trade and investments** and agreed to facilitate **direct air connectivity to promote tourism, trade and people-to-people relations.**
- Both sides reiterated the importance of **building a peaceful and prosperous Indo-Pacific region** on the basis of **respect for national sovereignty and international law.**
- They expressed full commitment to an **open, transparent, inclusive and rules-based regional architecture** based on freedom of navigation and overflight, unimpeded economic activities and peaceful settlement of disputes in accordance with the international law.
- Vietnam appreciated India's long-standing development partnership engagement, like scholarships and training programs, concessional Lines of Credit for defense industry cooperation and implementing other socio-cultural infrastructure projects in Vietnam under Indian grants-in-aid.
- Vice President also delivered a keynote address at the 16th UN Day of Vesak at the Tam Chuc Pagoda in Hanam Province in Vietnam.

#### Note:

**Vesak**, also known as **Buddha Jayanti**, is traditionally observed by Buddhists as 'Buddha's Birthday'.

## Christchurch Call

India joined **France, New Zealand, Canada** and several other countries in launching a major initiative in Paris to **combat terrorism and extremism online and to secure the internet.**

### What is the Christchurch call?

- It is an initiative named after the **New Zealand city** where 51 people were killed in an attack on mosques.
- The Christchurch attack highlighted the urgent need for an action and enhanced cooperation among the wide range of actors with influence, over this issue, including governments, civil society, and online service providers, such as social media companies, to eliminate terrorist and violent extremist content online.
- The gathering in Paris has been organized by France and New Zealand. Amazon, Facebook, Google, Microsoft and Twitter also signed on to the document, pledging to work more closely with one another and governments to make sure that their sites do not become conduits for terrorism.

### Highlights of Declaration

- The initiative outlines collective, voluntary commitments from governments and online service providers intended to address the issue of terrorist and violent extremist content online and to prevent the abuse of the internet.
- All action on this issue must be consistent with the principles of a free, open and secure internet, without compromising human rights and fundamental freedoms, including freedom of expression.
- It also recognizes the internet's ability to act as a force for good, including by promoting innovation, economic development and fostering inclusive societies.

### Industry Standards

- It encourages media outlets to apply ethical standards when depicting terrorist events online. Avoid amplifying terrorist and violent extremist content, with responsible coverage of terrorism and violent extremism.
  - It was also decided to implement immediate and effective measures to mitigate the specific risk that terrorist and violent extremist content disseminate through live-streaming, including identification of content for real-time review.

**USA's stand:** Free-speech concerns prevented US from formally signing onto the largest campaign to date targeting extremism online.





# Science and Technology

## Highlights

- ISRO's Seven Mega Missions
- Chandrayaan-2
- RISAT-2B Satellite
- Marsquake
- Apache Helicopters
- Launch of fourth Scorpene class submarine VELA
- Cyber Exercise on Scenario Building & Response
- MANAV: Human Atlas Initiative
- Cheap Diagnostic Test for Haemophilia A
- New standards for Kilogram, Kelvin, Ampere and Mole
- Scientists create speech from brain signals
- Clean Meat
- Climate-Resistant Chickpea Varieties

## ISRO's Seven Mega Missions

ISRO has planned seven mega missions, including Chandrayaan-2, to be conducted over a period of 10 years.

### Key Points

- Of the 7 mega missions, three missions are — **Chandrayaan-2, XPoSat and Aditya-L1.**
- The four other undefined missions, which are in the planning stage, are **Mangalyaan-2, Venus mission, Lunar Polar Exploration** and **Exoworlds.**
- Xposat will be launched to study cosmic radiation in 2020, Aditya-L1 to the Sun in 2021, Mars Orbiter Mission-2 in 2022, Venus Mission in 2023, Lunar Polar Exploration or Chandrayaan-3 in 2024 and Exoworlds, an exploration outside the solar system in 2028.
- Xposat will be a five-year mission, carrying a polarimeter instrument made by Raman Research Institute to measure cosmic radiation. The spacecraft will be placed in a circular 500-700 km orbit.
- Aditya-L1 will play a key role in understanding and predicting climate change on Earth. The payloads will study the **solar corona.** Corona has an influence on the upper atmosphere and that impacts climate change on earth.
  - Aditya-L1 will be placed in a '**libration orbit**', which is about 1.5 million km from Earth. It is about 1% of the distance between the Sun and the Earth, where the **gravity of the two celestial objects equalises.** Placing it in such an orbit **allows the spacecraft to circle along with the earth, thereby constantly facing the Sun.**

- The mission to Venus will focus on studying the surface and its sub-surface, atmospheric chemistry and the interactions with solar radiation.

## Chandrayaan-2

- Chandrayaan-2 is a **fully-indigenous mission** that comprises **three modules** — an Orbiter, a Lander named '**Vikram**', and a Rover named '**Pragyan**' — will be launched on board a **GSLV-Mk III rocket.**
- It weighs around 3,290 kg and would orbit around the moon and carry out remote sensing of the moon.
- It will carry a total 14 payloads. The orbiter, lander and rover will have eight, four and two payloads respectively.
- The payloads will collect scientific information on lunar topography, mineralogy, elemental abundance, lunar exosphere and signatures of hydroxyl and water-ice.
- ISRO has chosen a landing area at the unexplored lunar south pole, making it to be **first agency** to touch down at the south pole if it succeeds in its first landing attempt.

### GSLV-Mk III

- It is a **three-stage (Solid-Liquid-Cryogenic)** heavy lift launch vehicle developed by ISRO.
- The vehicle has two solid strap-ons, a core liquid booster and a cryogenic upper stage.
- It is designed to carry 4 ton class of satellites into Geosynchronous Transfer Orbit (GTO) or about 10 tons class of satellites to Low Earth Orbit (LEO), which is about twice the capability of GSLV Mk II.

## RISAT-2B Satellite

The Indian Space Research Organisation (ISRO) has successfully **launched a microwave earth observation satellite, Radar Imaging Satellite-2B (RISAT-2B)** through **Polar Satellite Launch Vehicle C-46 (PSLV-C46)**, which would enhance the country's surveillance capabilities.

### Background

- The Indian Air Force (IAF) had sent Mirage 2000 fighter jets to strike a terror camp in Balakot, deep inside Pakistan territory, on the morning of 26th February, 2019. Some experts have speculated that **heavy cloud cover at that time could have blinded Indian satellites, resulting in no images or videos of the operation**. The country has high-resolution optical imaging (CartoSAT satellites), but they get blinded by dense cloud cover.
  - **When it is cloudy or dark, 'regular' remote-sensing or optical imaging satellites** – which work like a light-dependent camera – **cannot perceive hidden or surreptitious objects** on the ground. Satellites that are equipped with an active sensor, the **synthetic aperture radar (SAR)**, can sense or 'observe' Earth in a special way from space, day and night, rain or cloud.
- Two previous radar-enabled satellites launched by India into space were **RISAT-1** and **RISAT-2**, the latter being an acquisition from Israel.
  - These satellites helped security and intelligence agencies to plan surgical strike in 2016 on terror launchpads in Pakistan-Occupied Kashmir and the Balakot aerial strike in February this year.
  - The first satellite in the RISAT series – **RISAT-2** – was **launched in 2009**. The 300 kg satellite used an **X-band synthetic aperture radar sensor made by Israel Aerospace Industries**.
  - **RISAT-1**, an indigenously developed radar imaging satellite, was **launched in 2012**. The launch of RISAT-1 was postponed to prioritize the launch of RISAT-2 after the 2008 Mumbai terror attack.

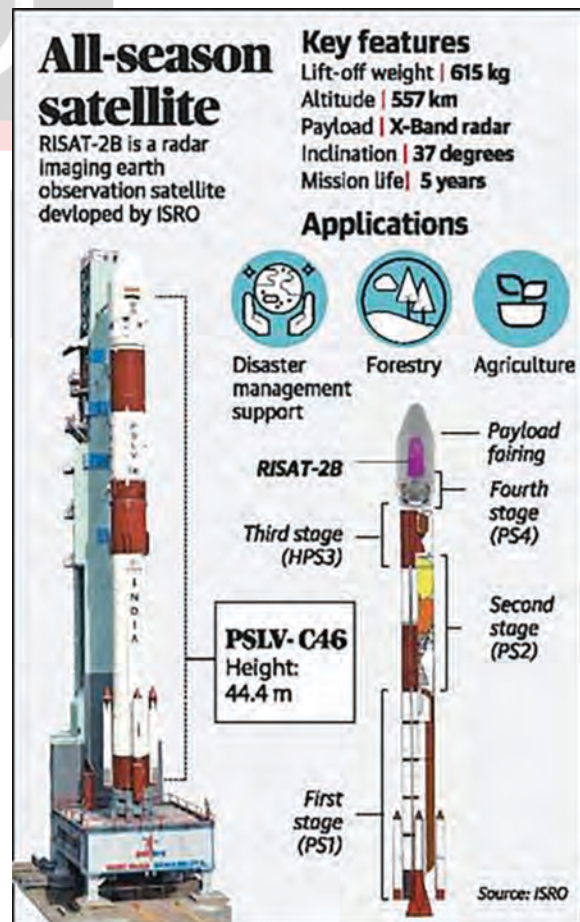
### Cartosat-2 Series Satellite

- Cartosat-2 Series Satellite is the primary satellite carried by **PSLV-C40**. This remote sensing satellite is similar in configuration to earlier satellites in the series and is intended to augment data services to the users.

- The imagery sent by satellite will be useful for cartographic applications, urban and rural applications, coastal land use and regulation, utility management like road network monitoring, water distribution, creation of land use maps, change detection to bring out geographical and manmade features and various other **Land Information System (LIS)** as well as **Geographical Information System (GIS)** applications.

### About RISAT-2B

- It is built to work for at least **five years** and would **replace the RISAT-2** that has been in use for monitoring activities in camps in Pakistan and thwarting infiltration bids by terrorists from across the border.
- This is the **third Indian RISAT in ten years** and has been **placed at a low earth 557-kilometre orbit**.
- RISAT-2B's **X-band synthetic aperture radar can give details such as size of objects on Earth, structures, movement and change**.
  - The information will complement data from the normal optical remote sensing satellites.



- The data from this satellite are **vital for the Armed Forces as well as agriculture forecasters and disaster relief agencies.**
- The new satellite will enhance India's all-weather (space-based) capabilities in agriculture, forestry and disaster management.

## Marsquake

NASA's robotic **Mars InSight lander** has recorded a likely 'marsquake' for the first time ever which is termed as **Martian Sol 128 event.**

### Key Points

- The faint seismic signal was detected by the lander's **Seismic Experiment for Interior Structure (SEIS) instrument.**
- In contrast to the Earth which is constantly quivering with seismic noise, the Martian surface is extremely quiet.
- This seismic study on the martian surface, helps in knowing the deep interiors of the red planet.
- Before this, three other seismic signals detected but these signals were smaller than the Sol 128 event and more ambiguous in origin.

### Note:

Mars and the Moon do not have tectonic plates, but they still experience quakes — in their cases, caused by a continual process of cooling and contraction that creates stress.

### InSight Mission

- InSight (Interior Exploration using Seismic Investigations, Geodesy and Heat Transport) is a Mars lander designed to give the Mars its first thorough check up since it formed 4.5 billion years ago.
- It is the first outer space robotic explorer to study in-depth the "inner space" of Mars.
- It also measures tectonic activity and meteorite impacts on Mars.
- This mission is part of **NASA's Discovery Program** for highly focused science missions that ask critical questions in solar system science.

### NASA's Discovery Program

- It is a series of cost effective, highly focused scientific space missions that are exploring the Solar System.

- It is launched in 1992 as a complement to NASA's larger flagship planetary science explorations.
- Its aims to achieve outstanding results by launching smaller missions using fewer resources and shorter development times.

## Apache Helicopters

Recently, first **AH-64E (I) - Apache Guardian helicopter** was formally handed over to the Indian Air Force. Earlier, IAF received the first batch of four **CH-47F (I) Chinook helicopters.**

### Key Points

- IAF had signed a contract with the US Government and M/s Boeing Ltd in Sep 2015 for 22 Apache and 15 Chinook helicopters.
- The helicopter has the capability to carry out precision attacks at standoff ranges and operate in hostile airspace with threats from ground.
- The ability of these helicopters, to transmit and receive the battlefield picture, to and from the weapon systems through data networking makes it a lethal acquisition.
- The addition of Apache and Chinook helicopter is a significant step towards modernization of Indian Air Force's helicopter fleet.

## Launch of fourth Scorpene class submarine VELA

Recently, a scorpene-class submarine **Vela**, the fourth of six underwater warships was launched.

### Key Points

- It was built by **Mazagon Dock Shipbuilders Limited (MDL)** under contract for construction and transfer of technology for six Scorpene-class submarines with French collaborator Ms Naval Group (formerly DCNS).
- Before Vela, MDL launched **Kalvari, Khanderi, Karanj** submarines and the fifth scorpene-class submarine will be launched soon.
- The scorpene class of submarines can undertake multifarious tasks typically undertaken by any modern submarine which include anti-surface as well as anti-submarine warfare.

**Mazagon Dock Shipbuilders Limited (MDL)**

- Mazagon Dock Shipbuilders Limited, Mumbai, is one of the leading shipbuilding yards in India.
- The shipyard got nationalized in 1960 and is now a Public Sector Undertaking of Government of India.
- Since then it grew rapidly to become the premier war-shipbuilding yard in India, producing warships for the Navy and offshore structures for the Bombay High.

## Cyber Exercise on Scenario Building & Response

Directorate of Indian Defence University organised a two day Cyber Exercise on Scenario Building & Response in New Delhi.

- The Exercise is represented by Services, NSCS, NTRO, CERT-in, DRDO, NIC, CSRC, Academia and Industry.
- The scope of the exercise encompasses
  - The threat landscape and its impact
  - Incident reporting & response framework
  - Procedures for information exchange, attribution, evidence gathering and malicious service takedown
  - Enhancement of capabilities required to protect information, and information systems,
  - Enhance cyber awareness, readiness and coordination
  - Integrated international responses & inter-governmental / inter-agency partnerships
- This exercise is planned to be conducted on an annual basis under the aegis of Indian Defence University, which will also involve Indian agencies and subsequently participation from agencies from Friendly Foreign Countries to jointly build the capability against cyber threats.

## MANAV: Human Atlas Initiative

Recently, the Department of Biotechnology (DBT) launched '**MANAV: Human Atlas Initiative**', a project for **mapping every tissue of the human body** to help understand better the roles of tissues and cells linked to various diseases.

**Key Points**

- The programme will seek to provide:
  - Better biological insights through physiological and molecular mapping,
  - Develop disease models through predictive computing
  - Allow for a holistic analysis and finally drug discovery.
- The aim of the project is to understand and capture human physiology in two stages — normal stage and disease stage.
- The collated data can be useful for future researchers and clinicians and drug developers, who finally handle human bodies in disease conditions.
- Such a database will come in handy in tracing causes of a disease, understanding specific pathways and ultimately decoding how the body's disease stage is linked to tissues and cells.

## Cheap Diagnostic Test for Haemophilia A

- The Indian Council of Medical Research (ICMR)'s National Institute of Immunohaematology, Mumbai, has developed a cost-effective Point-of-Care (POC) rapid diagnostic test for severe **Haemophilia A** and **Von Willebrand Disease (VWD)** disease.
- This is the first POC test for specific diagnosis of any common bleeding disorder.
- Working cost of these kits is less than ₹50 in comparison to existing conventional test for the diseases that costs around ₹4,000 to ₹10,000.

**Haemophilia A**

- Hemophilia A (also called factor VIII (FVIII) deficiency or classic hemophilia), is a **genetic disorder** caused by missing or defective factor VIII, a clotting protein.
- Although it is passed down from parents to children, about 1/3 of cases are caused by a spontaneous mutation, a change in a gene.
- The gene for hemophilia is carried on the X chromosome. Hemophilia is inherited in an X-linked recessive manner.
- Females inherit two X chromosomes, one from their mother and one from their father (XX). Males inherit an X chromosome from their mother and a Y chromosome from their father (XY).



- That means if a son inherits an X chromosome carrying hemophilia from his mother, he will have hemophilia. It also means that fathers cannot pass hemophilia on to their sons.
- But because daughters have two X chromosomes, even if they inherit the hemophilia gene from their mother, most likely they will inherit a healthy X chromosome from their father and not have hemophilia.
- A daughter who inherits an X chromosome that contains the gene for hemophilia is called a carrier. She can pass the gene on to her children. Hemophilia can occur in daughters, but is rare.
- **Symptoms:** People with hemophilia A often, bleed longer than other people. Bleeds can occur internally, into joints and muscles, or externally, from minor cuts, dental procedures or trauma.

### **Von Willebrand disease (VWD)**

- VWD is a **genetic disorder** caused by missing or defective von Willebrand factor (VWF), a clotting protein.
- VWF binds factor VIII, a key clotting protein, and platelets in blood vessel walls, which help form a platelet plug during the clotting process.
- The condition is named after Finnish physician Erik von Willebrand, who first described it in the 1920s.
- It is carried on chromosome 12 and occurs equally in men and women.
- **Symptoms:** People with VWD experience frequent nosebleeds, easy bruising and excessive bleeding during and after invasive procedures, such as tooth extractions and surgery. Women often experience heavy menstrual bleeding, and hemorrhaging after childbirth.

## **New standards for Kilogram, Kelvin, Ampere and Mole**

In India, schools, colleges and technical institutes have been advised to incorporate the change in the definition of 'Kilogram', 'Kelvin', 'Ampere' and 'Mole' from their syllabi. With this, kilogram joined other standard units of measure such as the second, metre, ampere, Kelvin, mole and candela that would no longer be defined by physical objects.

### **Background**

- In 1791, one kg was defined as the mass of one litre of distilled water at its melting point.
- But in 1799, the kilogram was represented by a solid cylinder of platinum.
- It was superseded in 1889 by a standard kilogram, also a solid cylinder of height equal to its diameter, made of the same platinum-iridium alloy as the bar, known as **Le Grand K**, or **International Prototype Kilogram (IPK)**.
- The IPK was the last physical artifact used to define any of the fundamental units.
- The standard kilogram was kept at the **International Bureau of Weights and Measures (BIPM)** laboratory at Sèvres, France.
- In India, National Physical laboratory (NPL) maintains the National Prototype Kilogram (NPK-57), which is calibrated with IPK.
- However, it was discovered that the prototype kept at Sèvres was 50 micrograms lighter than other copies of the standard kilogram.
- To avoid the problem of having the kilogram defined by an object with a changing mass, the General Conference on Weights and Measures (CGPM) agreed in 2011 to a proposal to begin to **redefine the kilogram not by a physical artifact but by a fundamental physical constant**.
- In November 2018, following a vote at BIPM, representatives of 60 countries agreed that the kilogram along with other three fundamental units--ampere (current), Kelvin (temperature) and the mole (amount of substance) should be defined in terms of Planck's constant.

#### **NOTE:**

While four of the fundamental units (Kilogram, Ampere, Kelvin and Mole) are redefined, the other three (Metre, Second and Candela) are already based on unchanging properties of nature.

### **New Definitions of Kilogram, Ampere, Kelvin and Mole**

- Using a machine called a **Kibble balance**, in which the weight of a test mass is offset by an electromagnetic force, the value of the **Planck constant** was fixed, the kilogram was redefined.

- The ampere is defined with respect to the electric charge carried by a single proton which is given as  $1.602,176,634 \times 10^{-19}$  when expressed in coulombs.
- The kelvin is defined by taking the fixed numerical value of the Boltzmann constant to be  $1.380,649 \times 10^{-23}$  when expressed in the unit J K<sup>-1</sup>.
- The mole is defined as the amount of substance with exactly  $6.02,214,076 \times 10^{23}$  elementary entities. This number is the fixed numerical value of the Avogadro constant, when expressed in the unit mol<sup>-1</sup>.
- The new SI is being implemented worldwide from **20<sup>th</sup> May 2019 i.e. the World Metrology Day**.
- The new definitions fit with the modern definitions for the units of time (second) and distance (metre).
  - The second is defined as the time it takes for a certain amount of energy to be released as radiation from atoms of Caesium-133.
  - A metre is the distance travelled by light in vacuum in  $1/299,792,458$  of a second.

THE SEVEN FUNDAMENTAL UNITS		
UNIT	QUANTITY	HOW IT IS/WILL BE DEFINED
Meter*	Distance	Based on speed of light
Kilogram**	Mass	To be based on Planck constant
Second*	Time	Based on radiation of caesium-133 atom
Ampere**	Current	To be based on an electron's charge
Kelvin**	Temperature	To be based on Boltzmann constant
Mole**	Amount of substance	To be based on Avogadro constant
Candela*	Luminous intensity	From efficacy of light of specific frequency

\* Current definition stands \*\* Being redefined

### **Metre Convention and International Bureau of Weights and Measures (BIPM)**

- The **Metre Convention** is the treaty that created the **International Bureau of Weights and Measures (BIPM)**, an intergovernmental organization under the authority of the **General Conference on Weights and Measures (CGPM)** and the supervision of the **International Committee for Weights and Measures (CIPM)**.
- The Convention was signed in Paris on 20 May 1875 by representatives of seventeen nations. The **World Metrology Day (WMD)** is celebrated annually on this very day. The Metre Convention established a permanent organizational structure for member governments to act in common accord on all matters relating to units of measurement.
- In 1889 the 1st CGPM sanctioned the international prototypes for the metre and the kilogram. Together with the astronomical second as the unit of time, these

units constituted a three-dimensional mechanical unit system similar to the CGS system (centimetre–Gram–Second system).

- Following an international inquiry by the BIPM, which began in 1948, the 10<sup>th</sup> CGPM in 1954, approved the introduction of the ampere, the Kelvin and the candela as base units, respectively, for electric current, thermodynamic temperature and luminous intensity.
- The name International System of Units, with the abbreviation SI, was given to the system by the 11th CGPM in 1960.
- At the 14th CGPM in 1971, after lengthy discussions between physicists and chemists, the current version of the SI was completed by adding the mole as the base unit for amount of substance, bringing the total number of base units to seven.
- India became a **signatory** to the General Conference on Weights and Measures (CGPM) in 1957.
- As of 7 August 2018, there are 60 Member States of BIPM including India.

### **Kibble Balance**

- It is named after its inventor, Bryan Kibble at the U.K.'s National Physical Laboratory (NPL), who conceptualized it in 1975.
- Kibble balance is an exquisitely accurate weighing machine wherein the weight of a test mass is exactly offset by a force produced when an electrical current is run through a coil of wire immersed in a surrounding magnetic field.
- The instrument was originally called a "watt" balance because it makes measurements of both current and voltage in the coil, the product of which is expressed in watts, the **SI unit of power**. That product equals the mechanical power of the test mass in motion.

### **Planck's Constant**

- Planck's constant (h) is a fundamental physical constant characteristic of the mathematical formulations of quantum mechanics, which describes the behaviour of particles and waves on the atomic scale, including the particle aspect of light.
- The German physicist Max Planck introduced the constant in 1900 in his accurate formulation of the distribution of the radiation emitted by a blackbody, or perfect absorber of radiant energy.
- The value of Planck's constant is  $6.62607015 \times 10^{-34}$  J·s.

## Scientists Create Speech from Brain Signals

Scientists have developed a **Virtual Prosthetic Voice**, a system that decodes the brain's vocal intentions and translates them into mostly understandable speech, with no need to move a muscle, even those in the mouth.

- The study was supported by the **US National Institutes of Health's (NIH) "Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative"**.
- The researchers took a two-step approach:
  - First, by recording signals from patients' brains while they were asked to speak or mime sentences, they built maps of how the brain directs the vocal tract, including the lips, tongue, jaw, and vocal cords, to make different sounds.
  - Second, the researchers applied those maps to a computer program that produces synthetic speech.
- The scientists demonstrated a proof of principle for virtual prosthetic voice. The system was tested on people who speak normally; it has not been tested in people whose neurological conditions or injuries, like common strokes, could make the decoding difficult or impossible.
- More clinical trials are needed to further test the system and the biggest clinical challenge may be finding suitable patients.

### Note:

- Earlier, researchers had developed other virtual speech aids. These systems work by decoding the brain signals responsible for recognizing letters and words, the verbal representations of speech.
- But those approaches lack the speed and fluidity of natural speaking (about eight words a minute).
- However, the new system approximates a speaker's natural cadence and generates about 150 words a minute, the pace of natural speech.

### BRAIN initiative

- The NIH's Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative is aimed at revolutionizing the understanding of the human brain.
- It is managed by 10 institutes and include participants from the public and private sectors both.

- The **National Institutes of Health (NIH)**, a part of the U.S. Department of Health and Human Services, is the US's medical research agency.

## Clean Meat

Scientists at the **Centre for Cellular and Molecular Biology (CCMB)** would conduct the country's first project to research on **cell-based meat**, also called **clean meat**.

### Key Points

- The **National Research Centre on Meat** would partner with the CCMB in the pioneering work to develop **cultured meat**, which is said to be equivalent to conventional animal meat in terms of taste and feel, with the only difference being in the method of production.
- Clean meat would be **produced through cellular agriculture with cells sourced from animals** and cultivated into meat.
- The Atal Incubation Centre (AIC) of the CCMB has been partnering with the Humane Society International (HSI) to develop and promote the clean meat sector.
- The AIC and HSI have also announced the **launch of 'Centre for Predictive Human Model System' (CPHMS)**, which would be dedicated for promoting the **new approach of scientific research using non-animal models**.
  - The facility would propagate non-animal methodologies in life sciences research in India as it has been happening in the West.
  - It would be involved in developing a scientific and policy framework on the advanced non-animal science.
  - Though animal testing for research has been in practice for decades, science has progressed in using computational and in-vitro models, which are resource-friendly and come at a lower cost, besides being accurate at predicting human outcomes.

## Climate-Resistant Chickpea Varieties

An international team led by the **International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** has discovered important genes for **heat and drought tolerance in chickpea**.

**Key Points**

- The study has identified **four important genes for heat tolerance** and **three important genes for drought tolerance**.
- The study was based on **complete genome sequencing of 429 chickpea lines from 45 countries**.
- By using such genomics-assisted breeding approach, the **time taken to produce a new heat- and drought-tolerant chickpea variety** can be **halved from about eight to four years**.
- The study has found that chickpea **originated in the Mediterranean/south-west Asia** and migrated to South Asia.
- The study provides insights into **chickpeas genetic diversity, domestication too**.

**Advantages**

- World is already witnessing an increase in **temperature because of climate change**. So a new variety with heat and drought tolerance will be **highly useful to Indian farmers**.

- When heat-tolerant chickpeas are developed in the future, farmers in India may have a an opportunity to go for **second round of cropping**.
  - Though the yield will be less for the second crop, **farmers will still stand to gain**.

**Chickpea**

- Chickpea grain is an excellent source of high-quality protein, with a wide range of essential amino acids, but **low in fat**. **The crop also fixes relatively large amounts of atmospheric nitrogen**.
- More than 90% of chickpea cultivation area is in South Asia, including India. India is by far the **world's largest producer** but is also the **largest importer**.
- Chickpeas are susceptible to several major diseases and insect pests and yields can fall precipitously if the crop is exposed to extreme temperatures or drought.
  - Globally, more than 70% yield is lost due to drought and increasing temperatures.

drishti



# Environment and Ecology

## Highlights

- India to Co-chair Consultative Group of GFDRR
- BRS Convention Meet
- Cyclone Fani: An Unusual Storm
- Million Species at Risk of Extinction: UN Report
- Sand Mining Report of UNEP
- EL Nino Modiki to Intensify Heat Waves in India
- Status of Conservation of Tigers
- Global Forest Watch
- ICRISAT Meet to Tackle Fall Armyworm
- New Pit Viper found in Arunachal Pradesh
- Tree Ambulance and Tree Spade Initiatives

## India to Co-chair Consultative Group of GFDRR

Recently, India is unanimously chosen as co-chair of the **Consultative Group (CG)** of **Global Facility for Disaster Reduction and Recovery (GFDRR)** for the fiscal year 2020.

- This is the **first time** that India has been provided with the opportunity of co-chairing the CG meeting of GFDRR.
- The opportunity will give India a chance to work with the member countries and organizations of GFDRR with a focused contribution towards advancing the disaster risk reduction agenda during the course of the year.
- India's objective is to pursue a focused agenda and develop synergies with ongoing work streams of GFDRR. **Disaster Resilient Infrastructure (DRI)** will be a central theme of engagement with the GFDRR partners and stakeholders.
- **India became a member of CG of GFDRR in 2015.** India's candidature was backed by its consistent progress in **Disaster Risk Reduction (DRR)** in the country and its initiative to form a coalition on disaster resilient infrastructure.
- The **Consultative Group (CG)** is GFDRR's **primary decision-making and advisory body.**
  - **Consisting of Members and Observers,** the CG sets GFDRR's long-term strategic objectives and oversees expected results.
- The **CG has a Chair, who is a representative of the World Bank Group,** and a **Co-chair, who is a Member of the CG.**

## Global Facility for Disaster Reduction and Recovery (GFDRR)

- GFDRR is a global partnership that **helps developing countries better understand and reduce their vulnerability to natural hazards and climate change.**
- It is a **grant-funding mechanism, managed by the World Bank,** which supports disaster risk management projects worldwide.
- GFDRR was established in 2006 as a global partnership of the **World Bank, UN agencies and bilateral donors.**
- Its missions are:
  - to mainstream disaster reduction and climate change adaptation (CCA) in country development strategies, and
  - to foster and strengthen global and regional cooperation among various stakeholders under the International Strategy for Disaster Reduction (ISDR) system.
- GFDRR **contributes to the implementation of the Sendai Framework for Disaster Risk Reduction** by helping countries to integrate disaster risk management, climate change adaptation into development strategies and investment programs and recovery from disasters quickly and effectively.

### Sendai Framework for Disaster Risk Reduction (SFDRR) 2015-2030

- The Sendai Framework was adopted by the UN Member States in 2015 at the Third UN World Conference on Disaster Risk Reduction in Sendai City, Miyagi Prefecture, Japan.

Note:

- It is a 15-year; **voluntary, non-binding agreement** which recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.
- The Sendai Framework is the **successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters**.
- The SFDRR 2015-2030 **outlines seven global targets and four priorities for action** to prevent new and reduce existing disaster risks.
- **The Seven Global Targets are:**
  - Substantially **reduce global disaster mortality by 2030**, aiming to lower average per 100,000 global mortality rate in the decade 2020-2030 compared to the period 2005-2015.
  - Substantially **reduce the number of affected people globally by 2030**, aiming to lower the average global figure per 100,000 in the decade 2020 -2030 compared to the period 2005-2015.
  - **Reduce direct disaster economic loss** in relation to the global Gross Domestic Product (GDP) by 2030.
  - Substantially **reduce disaster damage to critical infrastructure and disruption of basic services**, among them health and educational facilities, including **through developing their resilience by 2030**.
  - Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.
  - Substantially **enhance international cooperation to developing countries** through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030.
  - Substantially **increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments** to the people by 2030.
- **The priorities for action are:**
  - **Understanding disaster risk;**
  - **Strengthening disaster risk governance** to manage disaster risk;

- **Investing in disaster reduction for resilience** and;
- **Enhancing disaster preparedness for effective response**, and to **"Build Back Better"** in recovery, rehabilitation and reconstruction.
- It **aims to achieve a substantial reduction of disaster risk and losses in lives**, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries over the next 15 years.

## BRS Convention Meet

The Conference of Parties (COP) meetings of **Basel, Rotterdam and Stockholm conventions** were held in **Geneva**. The theme of the meetings this year was **"Clean Planet, Healthy People: Sound Management of Chemicals and Waste"**.

### Key Points

- At the triple COP meetings, two issues were decided i.e., **technical guidelines on e-waste** and **inclusion of plastic waste in the Prior Informed Consent (PIC) procedure**.
- The draft technical guidelines stipulated the conditions when used electrical and **electronic equipment destined for direct reuse, repair, refurbishment or failure analysis should be considered as non-waste**.
- **India had major reservations regarding these provisions** as in the name of re-use, repair, refurbishment and failure analysis there was a **possibility of dumping from the developed world to the developing countries** including India. A modified decision was adopted in which all the concerns raised by India were incorporated.
- Another major achievement was the decision to amend the Basel convention to include unsorted, mixed and contaminated plastic waste under PIC procedure and improve the regulation of its transboundary movement.

### Basel, Rotterdam and Stockholm Conventions

- **The Basel Convention:** Came into force in 1992, it intends to **reduce transboundary movements of hazardous waste** from developed to less developed countries (LDCs), and ensure their safe disposal as closely as possible to the source of generation.

- **Rotterdam Convention:** It was adopted in September 1998 by a **Conference of Plenipotentiaries in Rotterdam, Netherlands** and entered into force in February 2004.
  - It covers **pesticides and industrial chemicals** that have been banned or severely restricted for health or environmental reasons by Parties and which have been notified by Parties for inclusion in the **Prior Informed Consent (PIC)** procedure. The Convention creates **legally binding obligations** for the implementation of the Prior Informed Consent (PIC) procedure.
- **The Stockholm Convention:** It is a global treaty to protect human health and the environment from **persistent organic pollutants (POPs)**.
  - POPs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife.
- **The objectives of the Stockholm Convention are:**
  - Support the transition to safer alternatives
  - Target additional POPs for action
  - Cleanup old stockpiles and equipment containing POPs
  - Work together for a POPs-free future
- The **Global Environmental Facility (GEF)** is the designated interim financial mechanism for the Stockholm Convention.

## Cyclone Fani

Cyclone Fani, is the first severe cyclonic storm to have formed in April in India's oceanic neighbourhood since 1976, according to the records of the Indian Meteorological Department (IMD).

- It was a consequence of global warming and formed due to the warming of the Bay of Bengal basin.

### Key Points

- It is categorized as an **extremely severe cyclone (ESC)**.
- The name of the cyclone fani (pronounced as Foni) was suggested by Bangladesh. It means '**snake**' or '**hood of snake**'.
- Data from the India Meteorological Department (IMD) show that the last time an extremely severe cyclone hit India in May was in 2004.

### Note:

- The cyclones are classified as **severe (MSW of 48-63 knots)**, **very severe (MSW of 64-89 knots)**, **extremely severe (MSW of 90-119 knots)** and **super cyclonic storm (MSW of 120 knots or more)**.
- One knot is equal to 1.8 kmph.

### What makes Cyclone Fani special?

- **Timing and strength** are two factors that make Cyclone Fani, different from most other tropical cyclones at this time of the year.
- It is the second severe cyclone that formed in April and made landfall in India in the last 128 years.
- It was the longest-lived cyclone in the Bay of Bengal ever observed. The elongated time period of the storm went on for 11 days in the sea and land put together.
- Before Fani hit the Odisha coast, Chilika lake had only two active mouths - the point where it meets the sea. But, now four new mouths have opened due to wave energy with high tidal prism.
  - With the opening of new mouths, a lot of sea water is entering Chilika Lake and, thereby increasing salinity of Chilika lagoon.

### Preparedness

- The IMD tracked the storm and **issued numerous yellow warnings** for much of the south-eastern portion of India when the cyclone started to intensify.
- Doppler radars at Paradip and Gopalpur ports helped in tracking the cyclone accurately.
- '**Early Warning Dissemination System (EWDS) project**' which was commissioned in 2018, addresses the existing gap in disseminating disaster warning up to the community level.
- Odisha **evacuated over 1.2 million residents from vulnerable coastal areas** and moved them to higher ground and into cyclone shelters built a few miles inland.
- Teams of National Disaster Response Force (NDRF), Odisha Disaster Rapid Action Force (ODRAF) along with State fire service personnel have been deployed. Defence forces were on high alert to meet any eventuality.
- On account of this, the number of casualties contained to minimal. However, there was extensive damage to the infrastructure especially, power and telecommunications.



### Way Forward

- Cyclone Fani has left behind a trail of devastation and acute suffering in Odisha. The challenge now is to restore the livelihood of people.
- Administrations are on full throttle in repair and relief measures. However, repairs and rehabilitation work needs to be done quickly owing to the upcoming monsoon season.

#### Early Warning Dissemination System (EWDS)

- It aims at establishing a **fool-proof communication system** to disseminate disaster warning up to the community level.
- It is a first of its kind automatic public address system in the country, implemented under national Cyclone Risk Mitigation project with the help of World Bank.

## Million Species at Risk of Extinction: UN Report

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has released the **UN report on species extinction**.

### Key Points

- It is estimated that **up to 1 million of the estimated 8 million plant and animal species on Earth are at risk of extinction** within decades.
- **Decline of native species** in most major land-based habitats by at least 20%, mostly since 1900.
- Up to \$577 billion in annual global crops are at risk from **pollinator loss**. Insect pollinators are unfortunately an excellent example of the problems caused by human activities. "There's a newly coined phrase for insect declines — the '**windshield effect**'.
- 75% of the land environment and 66% of the marine environment impacted due to anthropogenic activities.

- **Ocean ecosystems are degrading** as temperatures rise towards 2 degrees Celsius above preindustrial levels. **Loss of coral reefs** to warming and acidifying oceans could cause a collapse in commercial and indigenous fisheries.

**Note:** The windshield phenomenon is a term given to the anecdotal observation that people tend to find fewer insects smashed on the windscreens of their cars now compared to a decade or several decades ago. This effect has been ascribed to major global declines in insect abundance.

- **Increased risk of floods and hurricanes** because of the loss of coastal habitats and protection.
- Human's **use of land and sea resources, climate change, pollution** and **invasive species** are the key global threats.
- Plastic pollution has increased tenfold since 1980. 300-400 million tons of heavy metals, solvents, toxic sludge and other industrial waste are dumped into the world's water systems.
- The assessment is an accurate and comprehensive review of the damage people are inflicting on the planet. It warns that **nature is declining at "unprecedented" rates** and that the changes will put people at risk.
- It emphasized that **business and financial concerns are also threatened**. We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide.

Global Assessment Report, compiled by a UN Agency says that the world's life support system are in trouble. Key findings of the reports:			
QUESTION OF SURVIVAL	Extinction	Consumption	Pollution
	<p><b>1 million</b> species face the risk of extinction- many within decades</p> <p><b>5,00,000</b> plants and animals currently have insufficient habitat for long term survival.</p> <p><b>40%</b> of amphibian species are threatened with extinction, along with 33% of reef-forming corals and 33% of marine mammals</p> <p>● Loss of pollinators caused by intensive farming is putting billions worth of annual crop output at risk</p>	<p><b>1/3rd</b> of all land is used to make food</p> <p>● Food cultivation uses 75% of all fresh water on Earth</p> <p><b>25%</b> of man-made emissions come from agriculture, the vast majority of them from meat production</p> <p><b>50%</b> of all new agricultural land is taken from forests</p> <p><b>93%</b> of marine fish stocks are either over fished or fished to the limit of sustainability</p> <p>One third of all fishing is said to be illegal or unreported</p>	<p><b>Pollution</b></p> <p>● Humans dump up to 400 million tonnes of heavy metals, toxic sludge and other waste into oceans and rivers each year</p> <p><b>75%</b> of land, 40% of oceans and 50% rivers "manifest severe impacts of degradation" from human activity</p> <p>● Plastic production has increased 10-fold since 1990</p> <p>● Pollution from fertilizers has led to the formation of 400 low-oxygen "dead zones" in coastal waters, covering more than 2,45,000 sq. km</p>
Climate			
<p><b>5%</b> of Earth's species are at the risk of extinction if the temperature rises just 2° Celsius - still within the targets of the Paris climate deal</p> <p>● Business as usual is predicted to warm Earth upto 4.3° Celsius by 2100. Were that to happen, one-sixth of all species could be wiped out</p> <p>● Many of the policies that scientists hope could limit temperature rise to 1.5° would also deliver the greatest chance of preserving the most biodiversity possible</p>			

Note:



## Conclusion

- Biodiversity and nature's contributions to people are our common heritage and humanity's most important life-supporting 'safety net.' But **our safety net is stretched almost to breaking point.**
- Profound economic and social changes would be needed to curb greenhouse gases quickly enough to avert the most devastating consequences of a warming world.

### Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

- The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is an independent intergovernmental body, established in 2012.
- The objective of IPBES is to Strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development.
- **Headquarters:** Bonn, Germany.

## Sand Mining Report of UNEP

The **United Nations Environment Programme (UNEP)** released a report, "Sand and Sustainability: Finding new solutions for environmental governance of global sand resources".

### Key Points

- **India and China topped the list of countries** where illegal sand mining has become a major environmental problem.
- **Unsustainable sand mining was mainly being fed by the growth of construction work** in China, followed by India.
- The report, however, also highlighted how **India and China are taking steps to check illegal sand mining.** India is implementing the Sustainable Sand Mining Management Guidelines, 2016 to curb illegal sand mining.
- Sand and gravel, the report says, are the second largest natural resources extracted and traded by volume after water, but among the least regulated.
- The scale of the challenge inherent in **sand and gravel extraction makes it one of the major sustainability challenges** of the 21<sup>st</sup> century.

- The extraction of sand from the seabed has **led to pollution, flooding, lowering of water aquifers, beach erosion and more frequent droughts.**

### Recommendations

- The report suggests **better spatial planning and reducing unnecessary construction** thereby making more efficient use of aggregates, **investing in infrastructure maintenance and retrofitting** rather than the demolish and rebuild cycle, **embracing alternative design and construction methods**, even **avoiding the use of cement and concrete where possible and using green infrastructure.**
  - Among the studies on **recycled and alternative substitute materials**, the report points to, are several from India, including **oil palm shell, waste foundry sand, crushed tiles, granite powder, mine waste, bottom ash, and discarded rubber.**
  - **It also cites the use in India of non-toxic municipal waste in road-building.**
- It is critical to **raise awareness** that what is seen as cheap and freely available is, in fact, a limited resource. With awareness, the **other key issue is governance.**
- At the policy level the way forward, the report suggests, **to strengthen standards and best practices to curb irresponsible extraction; invest in sand production and consumption measurement, monitoring and planning; and establish dialogue based on transparency and accountability.**
- **The report calls for large-scale multipronged actions from global to local levels**, involving public, private and civil society organisations. This will mean building consensus, defining what success would look like, and reconciling policies and standards with sand availability, development imperatives and standards and enforcement realities.

### Sustainable Sand Mining Management Guidelines, 2016

- The Guidelines address illegal sand mining at the district level.
- In order to mine an area, **District Survey Report has to be prepared for each district**, taking the river in that district as one ecological system.
  - The report should be prepared with the use of ISRO, remote sensing data and ground truthing.

- For sustainable mining, it provides for mining out material only that much which is deposited annually.
- The **District-level Environment Impact Assessment Authority (DEIAA) headed by District Collector needs to be involved in the process** and she will be **assisted by the District Level Expert Appraisal Committee (DEAC)** headed by Executive Engineer (Irrigation Department).

## EL Nino Modiki to Intensify Heat Waves in India

According to a study by the **Indian Institute of Tropical Meteorology (IITM)**, the frequency, duration and intensity of heat waves in India may begin to rise from 2020.

### Key Points

- “**El Nino Modoki**”, a weather system different from El Nino, could be responsible for the increase in heat waves in India. Depletion of soil moisture and transfer of heat from the earth to the atmosphere would also trigger them.
- These events are likely to happen between 2020 and 2064, affecting parts of southern India and coastal regions.
- The study suggested an increase of 1.5-2.5 heat-wave events, with an increase of 12-18 days on an average between 2020 and 2064.

### Note:

During an El Nino phase, the eastern Pacific Ocean is warmer than the central and western Pacific Ocean. In an El Nino Modoki event, the central part of the Pacific ocean warms more with cooling in the eastern and western parts.

## Status of Conservation of Tigers

According to data released by the **National Tiger Conservation Authority (NTCA)**, poaching and electrocution were behind tiger deaths reported in the country.

### Key Highlights

- Around 40% of India's estimated 2,226 tigers (2014 census) lives outside the core areas of tiger habitats.

These tigers are vulnerable to poaching and come into conflict with humans.

- The data shows a rise in tiger vulnerability with higher number of deaths reported in 2016 in comparison with previous years.
- According to the data, Madhya Pradesh (148) witnessed the highest number of deaths followed by Maharashtra (107), Karnataka (100) and Uttarakhand (82).
- Poaching cases for illegal wildlife trade is, however, less but death from electrocution (mostly through fences) has been a major concern from 2016 onwards.
- While 295 tigers died natural deaths (45% of the total), 36 were killed in road or rail accidents.
- Conflict outside sanctuaries, national parks and bio-reserves in several places is likely to increase further in the coming years.

### Tiger Census in India

- Every 4 years the National Tiger Conservation Authority (NTCA) conducts a tiger census across India.
- The first was conducted in 2006, followed by 2010 and in 2014.
- The Census (2014) had reported 2,226 tigers in the country, up from 1,706 in 2010.
- The fourth tiger census (All India Tiger Estimation 2018-19) estimated to be released in May 2019.
- This 2018 tiger census uses more technology including a mobile app named “**MSTripes**” for the very first time to store information of the counting.
- For the very first time, three neighbouring countries **Bhutan, Nepal and Bangladesh** are helping in **counting the number of tigers all across India**, especially in the region with mutual borders.
- Another **primary focus of the tiger census 2018 is to cover the northeast India that was not included in the previous census.**

### Note:

**M-STripes (Monitoring System for Tigers - Intensive Protection and Ecological Status)** is an app based monitoring system, launched across Indian tiger reserves by the NTCA in 2010. The system would enable field managers to assist intensity and spatial coverage of patrols in a geographic information system (GIS) domain.

**National Tiger Conservation Authority (NTCA)**

- The **National Tiger Conservation Authority (NTCA)** is a **statutory body**, with an overarching supervisory/coordination role, performing functions as provided in the **Wildlife (Protection) Act, 1972**.
- The NTCA was established in 2005, following the recommendations of the Tiger Task Force. It was given statutory status by 2006 amendment of Wildlife (Protection) Act, 1972.
- It is the implementing body of 'Project Tiger'.

**Project Tiger**

- **Project Tiger was launched in 1973** with 9 tiger reserves for conserving our national animal, the tiger. Currently, the **Project Tiger coverage has increased to 50**, spread out in 18 tiger range states.
- The tiger reserves are constituted on a **core/buffer strategy**. The **core areas have the legal status of a national park or a sanctuary, whereas the buffer or peripheral areas are a mix of forest and non-forest land**, managed as a multiple use area.
- It is an ongoing **Centrally Sponsored Scheme of the Ministry of Environment, Forests and Climate Change providing central assistance to the tiger States** for tiger conservation in designated tiger reserves.

**Global Forest Watch**

Recently the **World Resource Institute (WRI)** has released the **Global Forest Watch (GFW)**. GFW is an open source web application to monitor global forests in near real time.

**Key Points**

- The Global Forest Watch uses a dataset collated by the University of Maryland, Google, US Geological Survey and NASA's satellite images, to map tree cover (at 30-metre resolution) globally for the years 2000 and 2010.
- India has lost over 1.6 million hectares of tree cover between 2001 and 2018, about four times the geographical area of Goa.
- In India, five north-eastern states — Nagaland, Tripura, Meghalaya, Mizoram and Manipur — were responsible for over 50% of all tree cover loss in the same period.

- The main reason for the loss of tree cover in the north-eastern states is the diversion of forest land and climate change.
- The loss of tree cover contributed to 172 MT of carbon emissions in India during this period.
- The analysis reveals the total tree cover which used to be 12% of the country's geographical area in 2000 reduced to 8.9% in 2010.
- The data used by Global Forest Watch for this analysis is very coarse for India as it doesn't cover open forest and scrub forest which is a big composition of forests in India.
- The study found much of the loss occurred in primary rainforest — mature trees that absorb more carbon and are harder to replace.
- The study highlighted **new deforestation hotspots, particularly in Africa**, where illegal mining, small-scale forest clearing and the expansion of cocoa farms led to an increase in tree loss in countries such as Ghana and the Ivory Coast.

**World Resources Institute**

- WRI is a global research organization that spans more than 50 countries and focuses on six critical issues at the intersection of environment and development: **climate, energy, food, forests, water & cities and transport**.
- It was established in 1982. Headquartered in Washington, US.

**ICRISAT Meet to Tackle Fall Armyworm**

Eight nations have come together at **ICRISAT (International Crops Research Institute for Semi-Arid Tropics)** to understand the challenges and find solutions to tackle the rapidly growing problem of **Fall Armyworm (FAW)**.

- Representatives from **Bangladesh, Myanmar, Sri Lanka, India and some other South and South-East Asian countries** attended a regional workshop on 'Fall Armyworm management in Asia'.
- The U.S. is also working to address the FAW in several African countries. As the FAW has emerged in South and South-East Asia, collaboration is urgently required to manage its spread and minimise crop loss.

Note:

### Fall Armyworm

- FAW (scientifically known as **Spodoptera frugiperda**) is a lepidopteran pest that feeds in large numbers on the leaves and stems of more than 80 plant species, causing extensive damage to crops such as **maize, rice, sorghum** and **sugarcane**. It also attacks vegetable crops and cotton.
- First reported in **West Africa in 2016**, the FAW pest quickly assumed epidemic proportions and spread to over 44 African countries.
- In India, its infection was first reported in **Karnataka** and also parts of **Andhra Pradesh, Telangana, Tamil Nadu, Maharashtra** and **Gujarat**.
- Its female moth lays eggs and the caterpillars hatching from these eat parts of the host crop plants, before pupating and turning into new moths.
- The adult moth of the pest **migrates very fast** — almost 100 km every night and nearly 500 km before laying eggs. It can, therefore, invade new areas quickly. Also, each female moth is capable of laying 1,500 eggs on average.

#### Note:

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is an international organization that conducts agricultural research for rural development. Headquarters: Hyderabad.

### New Pit Viper found in Arunachal Pradesh

A new species of **reddish brown pit viper (snake)** has been found in forests of **Arunachal Pradesh's West Kameng district**.

### Key Points

- India had four brown pit vipers - **Malabar, Horseshoe, Hump-nosed** and **Himalayan** - before this discovery. Now India has five species of brown pit viper.
- It is a venomous snake with a unique heat-sensing system.
- It is named as **Arunachal pit viper (*Trimeresurus arunachalensis*)**.
- Comparative analyses of DNA sequences and examination of morphological features suggested that the snake belonged to a species not described before.
- The single known specimen of this species makes it currently the rarest pit viper in the world.

### Tree Ambulance and Tree Spade Initiatives

The Vice-President launched the “**Tree Ambulance**” and “**Tree Spade**” initiatives on the occasion of the **International Day of Biodiversity (IDB)**. The theme of the IDB celebration was “**Our Biodiversity, Our Food, Our Health**”.

- The ‘Tree Ambulance’ and ‘Tree Spade’ initiatives are campaigns to save trees. The initiative will help to provide first aid treatment to trees, aid tree plantation, assist the shifting of trees, carry out seed ball distribution, act as a seed bank and facilitate awareness drives in favour of tree conservation and afforestation.





# Art & Culture

## Highlights

- *Pattachitra Painting*
- *Kalamkari*
- *Voynich Manuscript*
- *Late Harappan Site at Sanauli*
- *Sri Vedanta Desikan*
- *Basvanna Jayanti*

## Pattachitra Painting

Cyclon Fani has damaged many pieces of **Pattachitra paintings**. Pattachitra style of painting is one of the oldest and most popular art forms of Odisha.

### Key Points

- The name Pattachitra has evolved from the Sanskrit words Patta, meaning canvas, and Chitra, meaning picture. Pattachitra is thus a painting done on canvas and is manifested by rich colourful application, creative motifs and designs, and portrayal of simple themes, mostly mythological in depiction.
- Some of the popular themes represented through this art form are **Thia Badhia** - depiction of the temple of Jagannath; **Krishna Lila** - enactment of Jagannath as Lord Krishna displaying his powers as a child; **Dasabatara Patti** - the ten incarnations of Lord Vishnu; **Panchamukhi** - depiction of Lord Ganesh as a five-headed deity.
- The Pattachitra, when painted on cloth, follows a traditional process of preparation of the canvas. First, the base is prepared by coating the cloth with the soft, white, stone powder of chalk and glue made from tamarind seeds.
- The artist **does not use a pencil or charcoal for the preliminary drawings**. It is a tradition to complete the borders of the painting first.
- The painter then starts making a rough sketch directly with the brush using light red and yellow. The main flat colours are applied next; the colours used are normally white, red, yellow, and black.
- When the painting is completed it is held over a charcoal fire and lacquer is applied to the surface. This makes the painting water resistant and durable, besides giving it a shining finish.



## Kalamkari

Kalamkari is a popular **hand-painted or block-printed** cotton textile art practised in **Andhra Pradesh**.

- Kalamkari represents a unique art of painting cotton fabrics with a kalam (pen) which is generally done using a sharp, pointed pierced bamboo which regulates the flow of colour on the fabric.
- The name Kalamkari originates from two Persian words, namely Qalam (pen) and Kari (craftsmanship).
- Kalamkari art is considered unique as it uses natural colours as a vibrant medium for portraying mythological characters from epics like Ramayana and Mahabharat.



Note:

- There are two identifiable styles of Kalamkari art – **Srikalahasti** style (Chittoor district) and **Machilipatnam** style (Krishna district).
  - In the Machilipatnam style of Kalamkari, motifs are essentially printed with hand-carved traditional blocks with intricate detailing painted by hands.
  - On the other hand, Srikalahasti style of painting draws inspiration from the Hindu mythology describing scenes from the epics and folklore.

## Voynich Manuscript

Gerard Cheshire, a researcher at the University of Bristol has recently deciphered a 600-year-old Voynich Manuscript.

### Key Points

- The researcher has claimed Voynich to be the only known example of proto-Roman language.
- The language used was widespread in the Mediterranean during the Medieval period, but it was seldom written in official or important documents because Latin was the language of royalty, church and government. As a result, proto-Roman was lost from the record.
- The Voynich Manuscript was dated to the 15<sup>th</sup> century (1404-38), was written on vellum (a type of parchment paper made from the skin of a lamb, goat, or calf) with text and illustrations.
- The manuscript was compiled by Dominican nuns as a source of reference for Maria of Castile, Queen of Aragon — an autonomous community in Spain.



## Late Harappan Site at Sanauli

The **Archaeological Survey of India's (ASI)** excavation of 4,000-year-old burial sites in Uttar Pradesh's Sanauli has **unearthed underground sacred chamber, decorated**

**legged coffins as well as rice and dal in pots** and animal bones buried with the bodies.

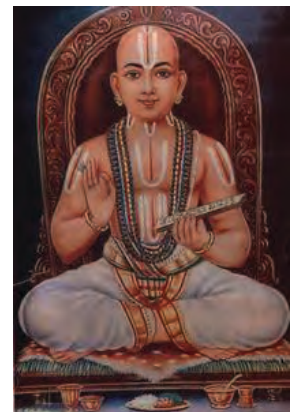
- The findings are important to understand the culture pattern of the **Upper Ganga-Yamuna Doab**.
- The discovery implies that it is different from the Harappan culture and is contemporary to the last phase of the **mature Harappan culture**.
- The excavations at Sanauli has brought to light the largest necropolis of the late Harappan period datable to the around the early part of the **second millennium BCE**.
- The discovery points towards the existence of a '**warrior class in the area around 2,000 BCE**' and this would challenge some of the basic premises of the Aryan invasion theory that claim that horses were brought in by the invading Aryan army around 1500 to 1000 BC.
- Chariots pulled by horses had given the **Aryans the edge over the Dravidians** and the power to conquer the North Indian plains by pushing them to the south of the peninsula.

## Sri Vedanta Desikan

Recently, the Vice President released a **postage stamp** to commemorate the **750<sup>th</sup> birth anniversary of Sri Vedanta Desikan**.

### Key Points

- Shri Vedanta Desikan was one of the most prominent preceptors in the **Sri Vaishnava tradition** and one of the most effulgent luminaries of South India.
- He followed the philosophy of Ramanuja's Vishishtadvaita.
- He had authored brilliant poems, prose, drama, epics, commentaries, scientific texts and philosophical treatises in Sanskrit, Tamil, Prakrit and Manipravalam.
- His philosophy was based on inclusion, where anyone irrespective of caste and creed could join the Sri Vaishnava fold.
- He also expressed his genius in the field of arts and sciences through other works such as:



- **Aahaara Niyamam** detailed how different food items help in maintaining a healthy mind and a disease-free life.
- **Subhashita Neevi** contains a fund of moral and ethical advice which is relevant and practical.
- **Silpartha-Saram:** treatise on sculpture.
- **Bhugola-Nirnayam:** research text on geography.

#### Vishishtadvaita

- It is one of the main branches of Vedanta, which itself is one of the six classical schools of **Hindu philosophy**.
- It is a Sanskrit term that is commonly translated as “qualified non-dualism” or, more precisely, “non-dualism with differentiation.”
- **Ramanuja** is widely credited with spreading the philosophy of Vishishtadvaita. He believed that **knowledge (jnana)** and **devotion (bhakti)** were of equal importance. He also identified a personal God with the Absolute Reality, or Brahman, as mentioned in the **Upanishads** and the **Vedanta Sutras**.

### Basavanna Jayanti

The birth anniversary of Lord Basavanna was celebrated in Karnataka. Basavanna was a 12<sup>th</sup> century

philosopher, statesman and a Kannada poet in the Shiva-focused Bhakti movement (Lingayat). He is also considered to be a great social reformer who stood for the rights of the underprivileged classes and women.



- Basavanna **spread social awareness through his poetry**, popularly known as **Vachanaas**.
- He rejected gender and social discrimination, superstitions, and rituals and introduced Ishtalinga necklace, with an image of the Shiva Linga to every person.
- Basavanna **introduced the concept of Anubhava Mantapa** (hall of spiritual experience), where **men and women from all socio-economic backgrounds were allowed to discuss spiritual and mundane questions of life** without restraint.
- **Religious reforms:** He tried to change the **concept of Temple** which was the main centre of various types of harassment. Priests and rich people were exploiting the common folk in the name of God and temple.
- Basavanna was the first Kannadiga in whose honour a commemorative coin has been minted in recognition of his social reforms.

drishti

# Social Issues

## Highlights

- Gender Ladder to Socio-Economic Transformation
- Women in Business and Management
- Under-5 Mortality Rate in India: Disparity among States
- WHO: Only 10% Children Worldwide get Vaccinated in 2016

## Gender Ladder to Socio-Economic Transformation

For the past few decades and especially in the last few years, Indian women have taken a great stride in all fields of activity. Yet, a lot remains to be achieved. An unprecedented focus on women's employment in this year's general elections is what made the news.

### Trends in Workforce Participation

- Currently, the participation of women in the workforce in India is one of the lowest globally.
- The **female labour force participation rate (LFPR)** in India fell from 31.2% in 2011-2012 to 23.3% in 2017-2018.
  - This decline has been sharper in rural areas, where the female LFPR fell by more than 11 percentage points in 2017-2018.
  - This fall in workforce participation can be attributed to a complex set of factors including:
    - low social acceptability of women working outside the household;
    - lack of access to safe and secure workspaces;
    - widespread prevalence of poor and unequal wages;
    - a dearth of decent and suitable jobs;
- Most women in India are engaged in subsistence level work in agriculture in rural areas, and in low paying jobs such as domestic service and petty home based manufacturing in urban areas.

### Education and Work

- A recent study observed a strong **negative relationship** between a woman's education level and her participation in agricultural and non-agricultural wage work and in family farms.

- Essentially, women with moderately high levels of education do not want to do manual labour outside the household which would be perceived to be below their educational qualifications.
- The study also showed a preference among women for salaried jobs as their educational attainment increases; but such jobs remain extremely limited for women.

- It is estimated that among people (25 to 59 years) working as farmers, farm labourers and service workers, nearly a **third** are women, while the proportion of women among professionals, managers and clerical workers is only **about 15%** (NSSO, 2011-2012).

### Burden of Unpaid Work

- Surveys have found that women devote a substantial amount of their time to work which is not considered as work, but an extension of their duties, and is largely unpaid.
- This includes unpaid care work such as childcare, elderly care, and household chores such as collecting water.
- It also encompasses significant chunks of women's contribution to agriculture, animal husbandry, and non-timber forest produce on which most of the household production and consumption is based.
- The incidence and drudgery (*\*hard monotonous routine work*) of this unpaid labour is growing. Also, the burden of these activities falls disproportionately on women, especially in the absence of adequately available or accessible public services.

### Migrant Women Workers

Women have expressed the need for policies which ensure safe and dignified working and living conditions for migrant workers. For instance,

- In cities, governments must set up migration facilitation and crisis centres (temporary shelter facility, helpline, legal aid, and medical and counselling facilities).

Note:



- They must also allocate social housing spaces for women workers, which include rental housing and hostels.
- They must ensure spaces for women shopkeepers and hawkers in all markets and vending zones.
- On the question of work, women's demands include gender responsive public services such as free and accessible public toilets, household water connections, safe and secure public transport, and adequate lighting and CCTV cameras to prevent violence against women in public spaces and to increase their mobility.
- Furthermore, they want fair and decent living wages and appropriate social security including maternity benefit, sickness benefit, provident fund and pension.

### ***Women to be Recognized as Farmers***

- Women have strongly articulated the need to enumerate and remunerate the unpaid and underpaid work they undertake in sectors such as agriculture and fisheries.
- Their fundamental demand is that women must be **recognised as farmers** in accordance with the **National Policy for Farmers**; this should include cultivators, agricultural labourers, pastoralists, livestock rearers, forest workers, fish-workers, and salt pan workers.
- Thereafter, their equal rights and entitlements over land and access to inputs, credit, markets, and extension services must be ensured.

### ***Conclusion***

- Any government which is serious about ensuring women's economic empowerment and equal access to livelihoods must address the numerous challenges that exist along with highly gendered continuum of unpaid, underpaid and paid work.
  - A two-pronged approach must entail facilitating women's access to decent work by providing public services, eliminating discrimination in hiring, ensuring equal and decent wages, and improving women's security in public spaces.
  - Government's must also recognise, reduce, redistribute, and remunerate women's unpaid work. For this, the government must collect sex-disaggregated household level data with suitable parameters.
- Unless policymakers correctly assess and address the structural issues which keep women from entering

and staying in the workforce, promising more jobs — while a welcome step — is unlikely to lead to the socio-economic transformation India needs.

## **Women in Business and Management**

The **International Labour Organization (ILO)** recently released its second global report, titled **Women in Business and Management: The business case for change**. This report has shared the findings of enterprise survey on women in business and management and issues on gender diversity with the benefits and implications for enterprises

### ***Key Findings***

- The average **global labour force participation rate of women** in 2018 stood at **48.5%** while that of men was **75%**. This equates to a **26.5% gender gap** in labour force participation.
- Just for Asia and the Pacific, the average female labour force participation rate has declined from **52.9% in 1991 to 45.3 per cent in 2018**, dropping by 7.6 percentage points.
- If the global gender gap in labour market participation is closed by 25% by 2025, an additional \$5.3 trillion would be added to GDP globally.
- The enterprises with gender-inclusive cultures are over 60% more likely to have improved profits and productivity.
- **Gender stereotypes** are being challenged in many societies, with women and men taking on a more diverse range of jobs in all sectors and at all levels.
- **Occupational segregation** is broken down in few countries and it represents a departure from the traditional expectations of employers and society.
  - Women are increasingly employed in traditionally male-dominated areas, for example, airline pilots, engineers and information technology specialists.
  - More women are managers even though they tend to be concentrated in management support functions such as human resources and administration.
  - Women have moved into professional, managerial and entrepreneurial roles in significant numbers.
- **Women's talent and skills** are recognised and they are surpassing men in country after country in their

Note:

level of education as women's possesses some of the essential human centred skills such as relational skills, communication skills, empathy and emotional intelligence.

- **Undervaluing of women's work:** Numerous studies are contributing to a growing awareness that the undervaluing of women's work and skills leads to a loss of resources for the economy.
  - It is strongly reflecting the positive relationship between greater gender diversity and profit margins, as well as a wider range of business outcomes.
- **Gender balance** at all levels of an organization, especially at the top decision-making level, leads to improved business outcomes.
  - More women in the workplace can directly boost profitability, but increasing the representation of women can also contribute to the bottom line indirectly by enhancing the image and reputation of the enterprise.
  - It also boosts other aspects of business such as **employee loyalty and commitment**.
  - Women's increased labour force participation contributes to higher levels of GDP.

### Way Forward

- Many enterprises still need to recognize and seek out the benefits of a gender-balanced workforce at all levels, including decision-making and board membership.
- There is no **"one size fits all"**. Employer play a key role in guiding their member companies to the right tools and advocating the message that gender diversity is good for business development and sustainability.
- To a large extent, the gender pay gap is related to the segmentation of the labour market along gender lines and how women's and men's jobs are perceived and valued.
- **Reaping the gender diversity dividend:** There are many ways enterprises can begin to leverage the benefits of gender diversity.
  - Introducing a set of **strategic gender initiatives** and practices in an enterprise can go a long way in effecting positive change.
  - Reviewing procedures for **merit-based recruitment and promotion** and controlling for gender bias is one of the most effective ways of ensuring that

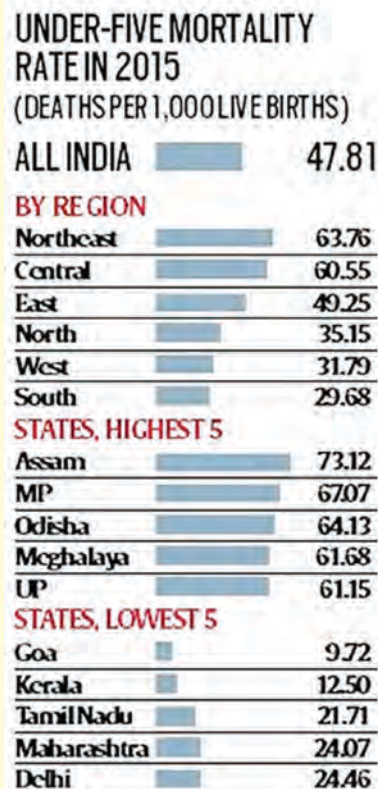
men and women are placed on an equal footing in their career paths.

- The goal of working towards a gender diverse and inclusive business needs to be a strategic one for the entire company and not limited to human resources management alone.

## Under-5 Mortality Rate in India: Disparity among States

Recent study has flagged the deaths among children under five in India, which was higher than in any other country in 2015.

- The **United Nations Millennium Development Goals (MDG)** set in 2000 was to reduce the under-five mortality rate in 2015 to **one-third** of the 1990 figure.
- The **Sustainable Development Goals (SDGs)** targets for child mortality aims to end, by 2030, preventable deaths of newborns and children under 5 years of age, with countries aiming to reduce neonatal mortality to at least as low as 12 deaths per 1,000 live births and under-5 mortality to at least as low as 25 deaths per 1,000 live births.



### Key Findings

- While India **reduced** annual mortality among children under five from 2.5 million in 2000 (90.5 per 1,000 live births) to 1.2 million in 2015 (**47.8** per 1,000), it is still the highest in the world.
- Among the states, the highest mortality rate is in Assam at 73.1 per 1,000, was more than seven times that in Goa's 9.7.
- Among the regions, the mortality rate ranged from a low of 29.7 per 1,000 (South) to 63.8 (Northeast).
- Although most under-five deaths were due to preterm complications, preventable infectious diseases featured prominently as causes of death in higher-mortality states.
- However, India can accelerate its reduction of under-five mortality rates by scaling up vaccine coverage and improving childbirth and neonatal care, especially in states where mortality rates remain high.

## WHO: Only 10% Children Worldwide get Vaccinated in 2016

According to the most recent WHO and UNICEF immunization estimates, 12.9 million infants worldwide nearly 1 in 10, did not receive any vaccinations in 2016.

Immunisation prevents illness, disability and death from vaccine-preventable diseases including cervical cancer, diphtheria, hepatitis B, measles, mumps, pertussis (whooping cough), pneumonia, polio, rotavirus diarrhoea, rubella and tetanus.

### Key Points

- These infants missed the first dose of diphtheria-tetanus-pertussis (DTP)-containing vaccine, putting them at serious risk of these potentially fatal diseases.
- Since 2010, the percentage of children who received their full course of routine immunizations has stalled at 86% (116.5 million infants), with no significant

changes in any countries or regions during the past year. This falls short of the global immunization coverage target of 90%.

- Most of the children that remain un-immunized are the same ones missed by health systems. In order to raise the bar on global immunization coverage, health services therefore, must reach the unreached.
- According to the new data, 130 of the 194 WHO Member States have achieved and sustained at least 90% coverage for DTP3 at the national level – one of the targets set out in the Global Vaccine Action Plan.
- However, an estimated 10 million additional infants need to be vaccinated in 64 countries, if all countries are to achieve at least 90% coverage.
- In 2016, eight countries had less than 50% coverage with DTP3 in 2016, including Central African Republic, Chad, Equatorial Guinea, Nigeria, Somalia, South Sudan, Syrian Arab Republic and Ukraine.
- 152 countries now use rubella vaccines and global coverage increased from 35% in 2010 to 47% in 2016.
- Global coverage of more recently-recommended vaccines are yet to reach 50%. These vaccines include vaccines against major killers of children such as rotavirus, a disease that causes severe childhood diarrhoea, and pneumonia.
- Over the years, the positive trend has been the increasing uptake of new and underused vaccines. In fact, according to WHO in 2017, the number of children immunised – 116.2 million – was the highest-ever reported.
- But despite gains, all of the targets for disease elimination — including measles, rubella, and maternal and neonatal tetanus — are behind schedule, and over the last two years, the world has seen multiple outbreaks of measles, diphtheria and various other vaccine-preventable diseases. Most of the children missing out are those living in the poorest, marginalised and conflict-affected communities.
- The report also highlights inequalities in childhood immunization coverage in low- and middle-income countries over the past 10 years.



# Security

## Highlights

- *Tri-service Command in the Domain of Special Operations, Cyberspace and Space*
- *Emergency Financial Power for Army*
- *Naval Commanders Conference*
- *IMDEX Asia Maritime Event and SIMBEX*
- *International Fleet Review 2019*

## Tri-service Command in the Domain of Special Operations, Cyberspace and Space

The three tri-service agencies to handle the critical domain of **special operations, cyberspace** and **space** are taking shape with the appointment of two-star officers to head them.

### Key Points

- Personnel will be drawn from the three services on fixed tenure.
- All three divisions will function under the **Integrated Defence Staff (IDS)**.
- While each division will draw personnel from all three services, **the Special Operations Division will be headed by the Army, the Defence Cyber Agency (DCA) by the Navy and the Defence Space Agency by the Air Force.**
  - Major General A.K. Dhingra will head the Special Operations Division likely to be headquartered at Agra
  - Rear Admiral Mohit Gupta will lead the DCA likely to be based in Delhi.
  - A two-star officer (Air Vice Marshal) will head the DSA to be located in Bengaluru.

### Special Operation Force

- It is named as **Armed Forces Special Operations Division (AFSOD)**.
- It will comprise Special Forces of the Army, Marine Commandos (MARCOS) of the Navy, and Garud commando force of the IAF.
- The idea is to eventually have all Special Forces of the three services under one command and control structure.

- This will ensure resource optimisation as well as streamlining operational planning for smooth execution of operations.

### Note:

- **Naresh Chandra Committee** on Defence Reforms in India (2012) pointed out on the hollowness of the national security decision making process and the urgent need for change this. Thus, the committee recommended setting up three commands — Special Operations, Cyber and Space — to deal with new challenges facing national security.
- The **Andaman and Nicobar Command** is the first and only Tri-service theatre command of the Indian Armed Forces, based at Port Blair in the Andaman and Nicobar Islands. It was created in 2001, on the recommendation of Kargil review committee, to safeguard India's strategic interests in Southeast Asia and the Strait of Malacca by increasing rapid deployment of military assets in the region.

## Emergency Financial Power for Army

The Army is in the process of procuring the equipment through a set of new financial powers for emergency procurements sanctioned by the Defence Ministry.

### Key Points

- Under emergency financial powers, armed forces have been given a free hand to procure equipment worth up to ₹300 crore on a priority basis.
- The two types of equipments to be procure by this route are:
  - Spike-LR Anti-Tank Missiles
  - Igla-S Very Short Range Air Defence Systems

Note:



**Spike-LR**

- It is an Anti-Tank Missiles developed by Israel.
- It is a portable anti-armor weapon system with a range of up to 4km, which can be operated in fire-and-forget mode and in the fire, observe and update mode using the fiber-optic data link.
- The systems are used by infantry soldiers, special rapid reaction forces, ground forces, and helicopter aircrew.
- The Spike system can work in non-line-of-sight (NLOS) mode allowing the gunner to operate from a covered position.

**Igla-S**

- It is a very short-range Air Defence System developed by Russia.
- Russian made Igla-S air defense systems with man-portable systems will be replacing its predecessor Igla-M which has been with India armed forces from the early '80s.
- Russian-made 9K338 Igla-S man-portable air-defense systems (MANPADS), also known as the SA-24 was recently replaced by the fourth generation 9K333 Verba man-portable infrared homing surface-to-air missile in Russia but India decided to go with an older system even when Russians were perfectly ok to supply India with the latest Verba system.

**Naval Commanders Conference**

The first edition of bi-annual Naval Commanders Conference 2019 was held from 23-25 April 2019.

**Key Points**

- The Defence Minister addressed Naval Commanders and complimented the Indian Navy for maintaining a high operational tempo and its ability to not only safeguard India's interest in the maritime domain but also coerce an adversary into submission as was evident during the recent standoff.
- The Minister reviewed the combat readiness, pace of modernisation and progress of various acquisition and infrastructure related cases.
- The numerous initiatives taken to achieve '**Digital Navy**' vision were discussed.
- 'Functional Reorganisation of Indian Navy towards improving Operational efficiency' and 'Optimal

Manning' formed the core of discussions towards finalising the long term road map of the Navy.

- In keeping with the Navy's ethos of harnessing niche technologies, concrete plans to incorporate '**Big Data Analytics**' and '**Artificial Intelligence**' for solutions in the domains of naval combat, convergence of networks/ information, logistics, administration and equipment health monitoring for sustained operation were also discussed.
- The Indian Navy's sustained prominence as the first responder for **Human Assistance and Disaster Relief (HADR)** and its role as the Net Security Provider in the IOR were reviewed by the Commanders.
- The Navy's partnering with many Friendly Foreign Countries for developing comprehensive Maritime Domain Awareness, undertaking concrete steps such as **10<sup>th</sup> Indian Ocean Naval Symposium (IONS) anniversary** celebrations at Kochi, concluding numerous defence cooperation agreements related to logistics, training and operations were also reviewed during the conference.
- The next edition of Naval Commanders' Conference is scheduled in Oct/ Nov later this year.

**Indian Ocean Naval Symposium (IONS)**

- The IONS a regional forum of Indian Ocean littoral states, represented by their Navy chiefs, was initiated and launched by India in 2008.
- The Indian Ocean Naval Symposium is a voluntary initiative that seeks to increase maritime cooperation among navies of the littoral states of the Indian Ocean Region by providing an open and inclusive forum for discussion of regionally relevant maritime issues.
- The IONS initiative endeavours to generate a flow of information among naval professionals so as to enable a common understanding of regional maritime issues and in turn facilitate generation of mutually-beneficial maritime security outcomes.
- 10<sup>th</sup> Anniversary of IONS was held in November 2018:
  - The theme for the seminar was 'IONS as a Catalyst for SAGAR'.
  - SAGAR stands for 'Security and Growth for All in the Region'.
  - It is in consonance with India's 'Act East' policy and the nation's diplomatic, economic and military outreach in the region.

## IMDEX Asia Maritime Event and SIMBEX

Recently, India participated in the three-day Asia-Pacific naval and maritime event, '**International Maritime Defence Exhibition Asia (IMDEX Asia-2019)**', held in Singapore commenced from 14<sup>th</sup> May.

### Key Points

- IMDEX Asia is Asia Pacific's one of the premier international maritime defence shows.
- Two warships of the Indian Navy--INS Kolkata and INS Shakti--are participating in a three-day **IMDEX Asia-2019 event**.
- INS Kolkata is an advanced stealth destroyer capable of engaging multiple threats from the air, sea and underwater and has been designed and built in India.
- INS Shakti is a fleet support ship to provide fuel, provisions and munitions to warships at sea.
- India's leading engineering and shipbuilding firms, including Larsen & Toubro and BrahMos, which makes the state-of-the-art air, sea and ground launch cruise missiles, are also participating.
- Following IMDEX, Indian Naval ships together with an Indian Navy surveillance aircraft P8I will participate in the **26<sup>th</sup> edition of Singapore India Maritime Bilateral Exercise (SIMBEX)** scheduled from May 16 to 22, 2019.
- SIMBEX is the longest uninterrupted naval exercise that India has with any other country.
- The 26<sup>th</sup> SIMBEX was held 6 months after the last edition that took place in the Andaman Sea and Bay of Bengal from November 11 to 21 2018.
- Earlier the Indian Army and the Singapore Army conducted their 12<sup>th</sup> edition of the annual exercise **Bold Kurukshetra**, in April 2019 at Babina in Uttar Pradesh.
- Likewise, Air Forces of both countries will exercise together later this year in India.
- India and Singapore share a strong and rapidly growing defence relation which is the key pillar of India Singapore strategic partnership based on deep mutual trust and goodwill and shared interest in rules

based order, maritime security and an open, inclusive and peaceful Indo-Pacific region.

- The defence relation between both countries include annual ministerial dialogue, Secretary level defence policy dialogue, Staff talks between the three wings of the armed forces, mutual logistics support, regular exercises and exchange of ship visits.

## International Fleet Review 2019

Indian Navy has participated in the **International Fleet Review (IFR) 2019** at **Qingdao, China** as part of the 70th Anniversary celebrations of PLA (Navy).

### Key Points

- IFR is a parade of naval ships, aircraft and submarines, and is organised by nations to promote goodwill, strengthen cooperation and showcase their organizational capabilities.
- IFR also serves as an ideal platform for the world's navies to showcase their prowess and indigenous ship design and ship building capabilities in a global/ international arena.
- The Indian Navy represented in the IFR 2019 by indigenously built stealth guided missile destroyer **INS Kolkata** and fleet support ship **INS Shakti**.
  - INS Kolkata is equipped with state-of-the-art weapons and sensors to address threats in all dimensions of naval warfare.
  - INS Shakti, a replenishment ship, is one of the largest tankers displacing over 27,000 tonnes and capable of carrying 15,000 tonnes of liquid cargo and over 500 tonnes of solid cargo including victuals and ammunition.
- **Pakistan's Navy is not participating in the event.** The reason could be inability of Pakistan to spare its warships for the event. Currently, there is a heavy deployment of the Indian navy in the Arabian Sea.
- IFR 2018 was held at **Jeju, South Korea**.
- The Indian Navy had last held an IFR in **February 2016**, in which 50 navies of different countries took part with nearly 100 warships.



# Ethics

## Highlights

- Ethics during Elections

### Ethics During Elections

With the election process for the 17<sup>th</sup> Lok Sabha is underway, the ethical aspect of political parties, leaders and the act of voting has again gained attention in the public discourse.

#### Conduct of Political Parties and Leaders

- **Politics is the art of organising society**, not the technique of power making and party organising. To realise the true essence of democracy, politics has to be anti-populist and anti-elitist. To go with the populist view often translates into mobocracy.
- The history of modern India shows that political parties have been subservient to the masses and the masses have followed party leaders without questioning. But some political figures like Gandhi ji had the **courage to turn against mobs**. His sharp reaction against the Chauri Chaura incident was an expression of his rejection of mobocracy.
- In matters of vital importance, **leaders must act contrary to the mass opinion** if it does not commend itself to their reason. Gandhiji considered contempt for civic virtue as a betrayal of the spirit of democracy. For him, democratic governance – unlike party politics, which always tends towards unexamined and obedient masses – was based on the maturity of citizens.
- During an electoral process in pursuance to gain attention of the masses political leaders often resort

to language and behaviour which is demeaning, derogatory and opposed to the spirit of a civilised society. It is akin to keeping values and virtues aside for the sake of political gains.

#### Conduct of Voters

- A puzzling and pervasive trait among humans is that we often judge others with a different yardstick than with which we judge ourselves. **Our self-perception is often at odds with others** i.e. we often think others are wrong and we are right in our beliefs and opinions. For example, during elections, the upper classes perceive that poorer citizens vote only to get benefits such as cash and consumer goods.
- Bad choices at the polls can result in unjust laws, needless wars, and calamitous economic policies. To vote is a **duty of voting for the best person**, namely, the best political representative who will govern well, and not to vote for money or as a vote bank. The cash for votes practice makes voting a transaction and defeats the ultimate purpose of elections which is to improve the well being of the society.
- The act of voting is inherent with an ethical duty, not just a constitutional one. It is the duty of having to act not for individual benefit, such as money or ideology, but for the benefit of the larger society. It is a recognition that a democratic action like voting is primarily for the good of **something larger than one's self interests**.



# Miscellaneous

## Highlights

- Project 'SPARROW-CBIC'
- Ex-servicemen Status for Nursing Service
- Ujala Clinics (Adolescent Friendly Health Clinics)
- Mission Delhi
- West Nile Fever in Kerala
- Measles Surge in Kerala

## Project 'SPARROW-CBIC'

Project 'SPARROW-CBIC' for online writing of Annual Performance Appraisal Report (APAR) in Smart Performance Appraisal Report Recording Online Window (SPARROW) for Group 'B' and 'C' Officers of the Central Board of Indirect Taxes & Customs (CBIC) has been implemented.

### Key Points

- Online writing of APARs in SPARROW for IRS (C&CE) Officers has already been implemented from 2016-17.
- As part of better HR management, online writing of APARs in SPARROW has now been launched for over 46,000 Group B & C officers of CBIC, working in its various formations all across the country.
- The **Directorate General of Human Resource Management (DGHRM)**, the HR arm of CBIC is the implementing Agency of this ambitious project.
- It is being implemented in over 400 formations of CBIC across the country.
- It is a project for online writing of Annual Performance Appraisal Report (APAR) for officers of CBIC.
- It is one of its kind in terms of scale of employees covered as far as Central Government Departments are concerned.
- It brings a complete change in APAR management of Officers/Staff of CBIC, which would, in turn, lead to better HR Management.
- The Project is an important milestone in the journey towards digitisation and paperless working.

## Ex-servicemen Status for Nursing Service

The Defence Ministry and the Army have agreed in principle to grant ex-servicemen status to the Military Nursing Service (MNS) cadre.

### Key Points

- Apart from getting ex-servicemen status, MNS cadre can also use star plates on cars for brigadiers and above.
- In all, the MNS had 28 demands of which these two are the major ones.

### Background

- Some MNS had approached the Armed Forces Tribunal which supported their demand after which the Defence Ministry challenged it in the Supreme Court in 2010.
- Recently, the Supreme Court had asked the Ministry and the Army to submit their reply.
- Ahead of the change in stance of the Ministry, a meeting was convened in March this year with the Department of Personnel and Training (DoPT) "for technical changes to the definition of ex-servicemen" to which the DoPT agreed in principle.
- It is to be noted that MNS enjoys commissioned status and is already entitled to the Ex-servicemen Contributory Health Scheme (ECHS) and Canteen Stores Department (CSD) facilities.

## Ujala Clinics (Adolescent Friendly Health Clinics)

The Rajasthan government has decided to revamp the **Ujala Clinics** (Adolescent Friendly Health Clinics),

Note:



a part of **Rashtriya Kishor Swasthya Karyakram**, in its districts.

### Key Points

- Under this, Rajasthan government will appoint “**peer educators**” and “**shadow educators**” for counselling of youngsters and ensure better coordination with other medical and health schemes.
- The shadow educators would provide supplementary support to the ongoing counselling services.
- The Ujala clinics played an important role in connecting adolescents with the initiatives for promoting mental health, reproductive health and de-addiction.

### Rashtriya Kishor Swasthya Karyakram (National Adolescent Health Programme)

- In order to ensure holistic development of adolescent population, the Ministry of Health and Family Welfare (MoH&FW) launched Rashtriya Kishor Swasthya Karyakram (RKSK) in 2014.
- The RKSK programme **defines an adolescent as a person within 10-19 years of age**, in urban and rural areas, includes both girls and boys, married and unmarried, poor and affluent, whether they are in school or out of school.
- To guide the implementation of this programme, MoH&FW in collaboration with United Nations Population Fund (UNFPA) has developed a **National Adolescent Health Strategy**.
- The **six thematic areas** of RKSK as well as that of the strategy are nutrition, sexual reproductive health, substance misuse, non-communicable diseases, mental health, injuries and violence.
- The program envisages a **paradigm shift from the clinic-based services to the promotion and prevention and reaching adolescents in their own environment**, such as in schools, families and communities.
- The key drivers of the program are community based interventions like, outreach by counsellors, facility based counselling, social and behavior change communication and strengthening of Adolescent Friendly Health Clinics (AFHC) across levels of care.

### Mission Delhi

- The **Indian Council of Medical Research (ICMR)** has recently launched **Mission DELHI (Delhi Emergency Life Heart-Attack Initiative)** project.

- In the pilot phase, it will cater only to people living in a three-kilometer radius of the All India Institute of Medical Sciences (AIIMS).
- The project aims to reduce the mortality from a serious type of heart attack called **ST-Elevation Myocardial Infarction (STEMI)**, wherein one of the heart's major arteries, supplying oxygen-rich blood to the heart muscle, gets completely blocked.
- It aims to reduce the time it takes for people with a **serious heart attack to receive clot-busting medicine**.
- The Indian Council of Medical Research (ICMR) based in New Delhi is the apex body in India for the formulation, coordination and promotion of biomedical research. It is one of the oldest medical research bodies in the world.

### West Nile Fever in Kerala

- Recently, cases of infection due to West Nile Virus have been reported in Malappuram and Kozhikode districts of Kerala. These cases left the State Health Department with the **twin problems of underreporting and identification of the source of West Nile Fever in the region**.
- The presence of the West Nile virus was identified from the mosquito samples collected from these areas and serum samples of the close contacts of the infected persons by a team from the National Centre for Disease Control.
- There could have been more unreported cases of the disease as 80% of the infected people do not show any symptoms, according to the World Health Organization (WHO).

### West Nile Virus

- Commonly found in Africa, Europe, the Middle East, North America and West Asia, the West Nile Virus (WNV) causes viral infection which is typically spread by **Culex mosquitoes** and can cause neurological disease as well as death.
- WNV is a member of the **flavivirus genus** and belongs to the Japanese encephalitis antigenic complex of the family **Flaviviridae**.
- **Outbreaks:**
  - It was first identified in a woman in the West Nile district of Uganda in 1937, and then was identified in birds in the Nile delta region in 1953.

- Human infections attributable to WNV have been reported in many countries in the World for over 50 years.
- The largest outbreaks occurred in Greece, Israel, Romania, Russia and USA. Outbreak sites are on major birds migratory routes.
- **Transmission:**
  - Virus can be injected into humans and animals and can also be **transmitted through contact with other infected animals, their blood or tissues.**
  - Rare cases of infection have occurred through organ transplant, blood transfusion and breastfeeding.
  - Till date **no human to human transmission is reported.**
- **Symptoms:**
  - According to the WHO, its symptoms either remain asymptomatic or cause severe west Nile fever disease in 80% of infected people.
  - 20% of people who develop symptoms report fever headache, nausea occasionally with a skin rash and swollen lymph gland.

## Measles Surge in Kerala

The state of Kerala has been witnessing the serious surge in the incidence of Measles since January 2019. This is in conformity with current global resurgence in measles.

### Key Points

- Kerala reports around 600+ cases of measles every year. This year, as many cases have been reported in the first four months itself.
- Historically, measles has been a childhood disease. **The epidemiological shift to older population presents new public health challenges** because of the increased severity of the disease, especially in vulnerable populations like pregnant women and

**immunocompromised patients** (HIV, organ transplant recipients on immunosuppressants, cancer patients), who cannot be vaccinated with the live attenuated measles vaccine.

- When universal routine immunization in childhood improves and the virus is still in circulation, the disease will naturally move to the older age group who may be unimmunized or whose vaccine-derived immunity has begun to wane.
- The first vaccination age for measles has been fixed at nine months because till then, the maternal antibodies transferred in utero are supposed to afford protection to the child.
- As a part of the national measles elimination strategy, **a mandatory second dose at 15-18 months was introduced in 2010**, so that there is better immune protection.
- It is fairly certain that those currently in the 18-40 years age group have not had the protection of the second dose and may be one reason for the increase in cases in this age group.
- However, some cases of death of infants younger than nine months due to measles, are also reported as young mothers may not have sufficient antibody protection.
- The changing epidemiology of measles has not just brought forth the several unknowns but also raised important questions on **whether adult immunization should be a policy on vaccine potency, the adequacy of vaccine immune response and consideration of third dose of MMR (mumps-measles-rubella).**

In April 2019, the **World Health Organization (WHO)** has released **new measles surveillance data for 2019.**

- **Measles cases rose 300% worldwide** through the first three months of 2019 compared to the same period in 2018.
- WHO has found that the current outbreak is mostly among children in **both developing as well as developed countries.**



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Summary

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Summary





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# Current Affairs (CONSOLIDATION)

**JUNE 2019**

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# Polity and Governance

## Highlights

- New Cabinet Committees
- Violation of Antitrust Law
- Schemes to Control FMD and Brucellosis
- Reduced Groundwater Contamination Under SBM: UNICEF
- Tamil Nadu Health System Reform Program
- Three-Language Formula
- Swachh Survekshan 2020
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- Smart Policing Survey
- Rashtriya Gokul Mission
- First Resilient Kerala Program

## New Cabinet Committees

Recently, the Union government has reconstituted six Cabinet Committees, along with two new ones — one on **Investment**, the other on **Employment and Skill Development**.

- The list of cabinet committees has been given below:
  - **Appointments Committee** of the Cabinet.
  - Cabinet Committee on **Accommodation**.
  - Cabinet Committee on **Economic Affairs**.
  - Cabinet Committee on **Parliamentary Affairs**.
  - Cabinet Committee on **Political Affairs**.
  - Cabinet Committee on **Security**.
  - Cabinet Committee on **Investment and Growth (new)**.
  - Cabinet Committee on **Employment & Skill Development (new)**.

### Cabinet Committees

- The Cabinet Committees are **extra-constitutional** in emergence. However, the **Rules of Business** provide for their establishment.
- There are two types of Cabinet Committees — **Standing and Ad-hoc**. Standing cabinet committees are **permanent** whereas ad-hoc cabinet committees are **temporary** and deal with special issues.

- The membership varies from **three to eight**. Usually, only Cabinet Ministers are the members of these committees. But, sometimes non-cabinet ministers may also be a member or may be special invitees to the committee.
- The **Prime Minister constitutes Standing Committees of the Cabinet and sets out the specific functions assigned to them**. He can add or reduce the number of committees.
- The executive in India works under the **Government of India (Transaction of Business) Rules, 1961**.

**Note:** All committees except Cabinet Committee on Accommodation and Cabinet Committee on Parliamentary Affairs are **headed by Prime Minister**.

## Violation of Antitrust Law

**Google and Amazon** are under scrutiny for their influence on **consumer privacy, labour conditions, public discourse and violation of antitrust law**.

- U.S. government's antitrust enforcement agencies, the **Federal Trade Commission** and the **Department of Justice** are carrying out Antitrust Investigations against Amazon and Google respectively.
- In 2018, the **Competition Commission of India (CCI)** has also imposed ₹136 crore fine on Google for unfair business practices and for infringing antitrust conduct in India.

Note:

### Issues with Google and Amazon

- **Amazon:** Amazon's Prime program amounts to **predatory pricing scheme** designed to choke out competitors.
  - Amazon's Marketplace platform, where third-party sellers can list products, is accused of **one-sided contracts, disputes over advertising policies, and a ruthless competitive environment**.
  - Amazon's continued growth also threatens to give it **monopsony power** (a market situation in which there is only one buyer) over other industries like shipping.
  - Some consumer groups and vendors have complained that **Amazon edges out new competition**, particularly as the company enters into new business lines like groceries and fashion.
- **Google:** It is accused of abusing its **dominance of the online search market** by showing its biases towards certain ads and searches.
  - In 2017, European regulators also slapped a \$1.7 billion penalty on Google for barring websites from selling ads from rivals alongside some Google-served ads near search results.

### Antitrust Laws

- Antitrust laws, also referred to as **competition laws**, aim to protect trade and commerce from **unfair restraints, monopolies and price fixing**.
  - These ensure fair competition in an open-market economy.
- **The Competition Act, 2002** is India's antitrust law. It replaced the **Monopolistic and Restrictive Trade Practices Act of 1969**.

#### The Competition Act, 2002

- The Act prohibits:
  - Anti-competitive agreements
  - Abuse of dominant position by enterprises
  - Regulates combinations (Mergers and Acquisition), which cause or likely to cause an appreciable adverse effect on competition within India

#### Competition Commission of India

- The Competition Commission of India was established in 2003 under the Competition Act, 2002.

- It is the duty of the Commission to eliminate practices having adverse effect on competition, promote and sustain competition, protect the interests of consumers and ensure freedom of trade in the markets of India.
- The Commission also gives opinion on competition issues on a reference received from a statutory authority established under any law and to undertake competition advocacy, create public awareness and impart training on competition issues.

## Schemes to Control FMD and Brucellosis

The Cabinet has announced a special scheme for control of **Foot and Mouth Disease (FMD)** and **Brucellosis**.

- The entire cost of the scheme is to be borne out by the **Central Government**.
- The scheme includes **vaccination coverage** to bovines, sheep, goats, and pigs.
- **Brucellosis control programme** shall extend to cover **100% vaccination** coverage of 3.6 crore female calves.
- **Economic Impact of FMD and Brucellosis:** According to the Indian Council of Agriculture Research (ICAR), **direct loss** due to milk and meat could amount to ₹20,000 crore per annum due to FMD and indirect losses may result in reduced work capacity, abortions, subsequent infertility and sterility of the livestock.

### Foot and Mouth Disease

- **Foot and mouth disease (FMD)** is a highly **contagious viral disease of livestock** that has a significant **socio-economic impact**.
- The disease affects **cattle, swine, sheep, goats and other cloven-hoofed ruminants** and in rare cases, **humans** are also susceptible.
- FMD can spread when infected animals bring the virus into **physical contact** with susceptible animals.

### Brucellosis

- Brucellosis is an **uncontrolled serious public health problem** in many developing countries including India, where it is very common but often neglected.
- Brucellosis is a **bacterial disease** caused by various brucella species, which mainly infect cattle, swine, goats, sheep and dogs.

Note:

- **Humans** generally acquire the disease through **direct contact** with **infected animals**, by **eating or drinking contaminated** animal products, by inhaling airborne agents or by ingesting **unpasteurized milk** or **cheese** from infected goats or sheep.
- **Person to person transmission is rare.**
- The disease causes flu-like symptoms, including fever, weakness, malaise and weight loss.

#### India's Livestock Sector

- India's livestock sector is one of the largest in the world.
- Livestock contributed to **4% of the GDP and 26%** of the agricultural GDP during 2010-11.
- India **ranks first** among the world's milk-producing Nations.
- It is the **largest contributor** to the **National GDP** among agricultural commodities.

#### Government Initiatives

- **FMD Control Programme (FMDCP)**, was initiated in the 10<sup>th</sup> plan period and was extended to 11<sup>th</sup> and 12<sup>th</sup> plan period.
- The Ministry of Agriculture, Department of Animal and Husbandry had initiated '**FMD Mukh Bharat**' under **Rashtriya Krishi Vikas Yojana (RKVY)** during 2016-17, a programme to cover all the states which were not covered under the six monthly vaccination scheme.

#### Indian Council of Agriculture Research (ICAR)

- ICAR is an autonomous organisation under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare.
- It was **established on 16 July 1929** as a registered society under the Societies Registration Act, 1860.
- The Council is the apex body for coordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country and includes a network of 101 institutes and 71 agricultural universities, considered as one of the largest national agricultural systems in the world.

## Reduced Groundwater Contamination Under SBM: UNICEF

United Nations Children's Fund (UNICEF), in a report, revealed that groundwater is **11.25 times** less likely to be contaminated in Open Defecation Free (ODF) villages than non-ODF village.

- Under the "Environmental impact of the **Swachh Bharat Mission (Grameen)** on Water, Soil, and Food" by UNICEF, groundwater samples were collected and studied from ODF and non-ODF villages of Odisha, Bihar and West Bengal.

#### Key Findings

- Soil contamination was found to be 1.13 times more likely in non-ODF villages as compared to ODF villages.
- Non ODF villages are 1.48 times more likely to have their food contaminated.
- Non ODF villages are 2.68 times more likely to have household drinking water contaminated compared to ODF villages.
- Study indicated that these substantial reductions can be attributed to the
  - Improvement in sanitation and hygiene practices.
  - Regular monitoring
  - Behaviour change messaging

#### United Nations Children's Fund (UNICEF)

- **The UNICEF**, originally known as the United Nations International Children's Emergency Fund, **was created by the United Nations General Assembly in 1946**, to provide emergency food and healthcare to children and mothers in countries that had been devastated by World War II.
- In **1950**, UNICEF's **mandate was extended** to address the long-term **needs of children and women in developing countries** everywhere.
- It consists of **36-member executive board**, which establishes policies, approves programs and oversees administrative and financial plans. The members are government representatives who are elected by the **United Nations Economic and Social Council (ECOSOC)**, usually for three-year terms.
- UNICEF relies on **contributions** from governments and private donors.

Note:



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## Tamil Nadu Health System Reform Program

The **Central Government, Tamil Nadu state government and the World Bank** have signed a \$287 million loan agreement for the “**Tamil Nadu Health System Reform Program**”.

- The Tamil Nadu Health System Reform Program will support the state government:
  - To achieve **national accreditation** for primary, secondary, and tertiary-level health facilities in the public sector. Strengthen physicians, nurses and paramedics through continuous medical education.
  - To strengthen the **feedback loop between citizens** and the state by making quality and other data accessible to the public.
  - To improve the **quality of healthcare**, reduce the burden of Non-Communicable Diseases (NCDs), and fill equity gaps in reproductive and child health services.
  - To promote **population-based screening**, treatment and follow-up for NCDs, and improve monitoring and evaluation.
  - To strengthen the **lab services** and health provider capacity to address mental health.
  - To tackle road injuries, the programme will improve in-hospital care, **strengthen protocols, strengthen the 24x7 trauma care services** and establish a trauma registry.

### NITI Aayog Health Index

- Tamil Nadu **ranks third** among all Indian states in the NITI Aayog Health Index.
- The state's maternal mortality rate has declined from 90 deaths per 100,000 live births in 2005 to 62 deaths in 2015-16.
  - Infant mortality has declined from 30 deaths per 1000 live births to 20 in the same period.

## Three-Language Formula

The draft National Education Policy, 2019, prepared by a committee headed by scientist **Dr. Kasturirangan** has recommended the three-language formula at the primary level.

### Three-Language Formula

- **First language:** It will be the mother tongue or regional language.
- **Second language:** In Hindi speaking states, it will be other modern Indian languages or English. In non-Hindi speaking states, it will be Hindi or English.
- **Third Language:** In Hindi speaking states, it will be English or a modern Indian language. In the non-Hindi speaking states, it will be English or a modern Indian language.

### Need for Three-Language Formula

- The committee's report observes that learning languages is an important part of a child's cognitive development.
- The primary aim is to promote multilingualism and national harmony.

### Issue in Implementation

- The states like Tamil Nadu, Puducherry and Tripura were not ready to teach Hindi and Hindi-speaking states did not include any south Indian language in their school curriculum.
- State governments often do not have adequate resources to implement the three – language formula.
  - The inadequacy of resources is one of the most important aspects of the challenge.

### Constitutional Provisions

- **Article 29** of the Constitution of India protects the interests of minorities. The Article states that any section of the citizens who have a “distinct language, script or culture of its own shall have the right to conserve the same”.
- **Article 343** is about the official language of the Union of India. According to this Article, it is to be Hindi in Devnagri script, and numerals should follow the international form of Indian numerals.
- **Article 346** is about the official language for communication between the states and between a state and the Union.
- **Article 347** gives the President the power to recognise a language as an official language of a given state.
- **Article 350A** provides for the facilities for instruction in mother-tongue at the primary stage.
- **Article 350B** provides for the establishment of a Special Officer for linguistic minorities.

Note:

- **Article 351** gives power to the union government to issue a directive for the development of the Hindi language.
- **Eighth Schedule** of the Constitution of India contains a list of 22 languages recognised as schedule languages.

## Swachh Survekshan 2020

The Ministry of Housing & Urban Affairs has launched the **Swachh Survekshan 2020 (SS 2020) league**, a quarterly cleanliness assessment of cities and towns in India.

- **SS 2020** league will be integrated with **Swachh Survekshan 2020**, the 5th edition of the annual cleanliness survey of urban India to be conducted from January – February 2020 by the **Ministry of Housing & Urban Affairs** under the aegis of **Swachh Bharat Mission- Urban (SBM-U)**.
- Parameters pertaining to **wastewater treatment & reuse** and **fecal sludge management** have been given special focus.

### SS 2020: Quarterly Evaluation Mechanism

- There will be a **weightage of 2000 marks for each quarters** to be evaluated on the basis of two parameters:
- **Ranks** will be assigned in **two categories**, namely:
  - Cities with a population of **one lakh and above**
  - Cities with a population of less than **one lakh**
- The performance of cities in SS League 2020 will be crucial to their ranking in Swachh Survekshan 2020 as the **25% weightage of the quarterly assessments** will be included in the annual survey in January 2020.

### Need for a Quarterly Evaluation Mechanism

- **Annual survekshan survey** conducted once in a year, fails to **sustain the behavioural change**, as cities clean themselves up just before a survey and **slips down** after that.
- **Continuous monitoring element**, that involves monitoring of cleanliness drives throughout the year was missing in the Annual survekshan surveys.

## First National Party from North-East

The **National People's Party (NPP)** has been recognised as the **eighth national party** by the Election

Commission of India, making it the **first regional party from the north-east** to be accorded the status.

- The National People's Party (NPP) was **formed in 2013** by the current Meghalaya Chief Minister Conrad K Sangma's father and former Lok Sabha Speaker, late Purno Agitok Sangma.

Sl. No.	Name of the Party (Abbreviation)	Symbol Reserved
1.	Bahujan Samaj Party (BSP)	Elephant (In all States/ U.T.s except in Assam)
2.	Bharatiya Janata Party (BJP)	Lotus
3.	Communist Party of India (CPI)	Ears of Corn and Sickle
4.	Communist Party of India (Marxist) (CPM)	Hammer, Sickle and Star
5.	Indian National Congress (INC)	Hand
6.	Nationalist Congress Party (NCP)	Clock
7.	All India Trinamool Congress (AITC)	Flowers and Grass
8.	National People's Party (NPP)	Book

### Conditions for Recognition as a National Party

- A party is recognised as a national party if any of the following conditions is fulfilled:
  - If it secures 6% of valid votes polled in any four or more states at a general election to the Lok Sabha or to the legislative assembly; and, in addition, it wins four seats in the Lok Sabha from any state or states; or
  - If it wins 2% of seats in the Lok Sabha at a general election; and these candidates are elected from three states; or
  - If it is recognised as a state party in four states.

### Conditions for Recognition as a State Party

- A party is recognised as a state party in a state if any of the following conditions is fulfilled:
  - If it secures 6% of the valid votes polled in the state at a general election to the legislative assembly of the state concerned; and, in addition, it wins 2 seats in the assembly of the state concerned; or

Note:



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- If it secures 6% of the valid votes polled in the state at a general election to the Lok Sabha from the state concerned; and, in addition, it wins 1 seat in the Lok Sabha from the state concerned; or
- If it wins 3% of seats in the legislative assembly at a general election to the legislative assembly of the state concerned or 3 seats in the assembly, whichever is more; or
- If it wins 1 seat in the Lok Sabha for every 25 seats or any fraction thereof allotted to the state at a general election to the Lok Sabha from the state concerned; or
- If it secures 8% of the total valid votes polled in the state at a general election to the Lok Sabha from the state or to the legislative assembly of the state. This condition was added in 2011.

## World Food Safety Day

The **first-ever World Food Safety Day** was celebrated on **June 7**.

- It was adopted by the **United Nations General Assembly in December 2018** in collaboration with the Food and Agriculture Organization.
- The **theme** for 2019 was **'Food safety, everyone's business'**.
- It aims to create awareness about the importance of maintaining safe food standards and also reducing the burden of deaths due to foodborne diseases.
- The United Nations has designated **two of its agencies** — the **Food and Agriculture Organization (FAO)** and the **World Health Organization (WHO)** — to lead efforts in promoting food safety around the world.

### Government Initiatives

- **FSSAI** has developed the **first State Food Safety Index (SFSI)** to measure the performance of States on **five parameters** of food safety, which include:
  - **Human Resources and Institutional Arrangements**
  - **Compliance**
  - **Food Testing- Infrastructure and Surveillance**
  - **Training and Capacity Building**
  - **Consumer Empowerment**
- A new-age hand-held battery operated device called **'Raman 1.0'** to perform rapid detection (in less than 1 minute) of economically driven adulteration in edible oils, fats and ghee.

- An innovative solution to take food safety to schools called the **'Food Safety Magic Box' (by FSSAI)**. This do-it-yourself food testing kit comprises a manual and equipment to check for food adulterants, which school-children can use in their classroom laboratories.
- FSSAI has instituted the **'Eat Right Awards'** to recognize the contribution of food companies and individuals to empower citizens to choose safe and healthy food options, which would help improve their health and well-being.

### Food and Agriculture Organization

- Created in 1945, FAO is a **specialized agency** of the United Nations that leads international efforts to defeat hunger.
- FAO is also a source of knowledge and information, and helps developing countries in transition to modernize and improve agriculture, forestry and fisheries practices, ensuring good nutrition and food security for all.

### World Health Organisation

- The World Health Organization (WHO) is the United Nations' **specialized agency** for health.
- It was established in 1948, and is headquartered in **Geneva, Switzerland**.
- It is an **intergovernmental** organization and works in collaboration with its Member States usually through the Ministries of Health.
- WHO is responsible for:
  - Providing leadership on global health matters,
  - Shaping the health research agenda,
  - Setting norms and standards,
  - Providing evidence-based policy options,
  - Providing technical support to countries,
  - Monitoring and assessing health trends.

## Foreigners Tribunals

The Ministry of Home Affairs (MHA) has amended the **Foreigners (Tribunals) Order, 1964** and has **empowered district magistrates in all States and Union Territories** to set up **tribunals** (quasi-judicial bodies) to **decide whether a person staying illegally in India is a foreigner or not**. Earlier, the powers to constitute tribunals were vested only with the Centre.

Note:

- The amended order (Foreigners (Tribunal) Order, 2019) **also empowers individuals to approach the Tribunals**. Earlier, only the State administration could move to the Tribunal against a suspect.
- The amendment has come **in the backdrop of Assam's final National Register of Citizens (NRC)** which is set to be published by 31st July 2019.
  - If a person doesn't find his or her name in the final NRC, s/he could move to the Tribunal.
  - The amended order also allows District Magistrates to refer individuals who haven't filed claims against their exclusion from NRC to Tribunals to decide if they are foreigners or not.
- As per directions of the Supreme Court, **the Registrar General of India - RGI (under the Ministry of Home Affairs)** published the final draft list of NRC on 30th July 2018 to segregate Indian citizens living in Assam from those who had illegally entered the State from Bangladesh after March 25, 1971.
  - Nearly 40 lakh people were excluded from this final draft list. As many as 36 lakh of those excluded have filed claims against the exclusion.
- **The NRC is a fallout of the Assam Accord, 1985.** The accord states that all illegal foreigners who came to Assam after 1971 from Bangladesh, irrespective of the religion, have to be deported.

## Jal Shakti Mantralaya

**National River Conservation Directorate (NRCD)** has been shifted from the Ministry of Environment and Forest and Climate Change to Jal Shakti Ministry.

- Move aims at **consolidating** administration and bringing water-related issues like conservation, development, management, and abatement of pollution under a **single Ministry**.
- **National River Conservation Directorate (NRCD)** is responsible for implementing the **centrally sponsored** National River Conservation Plan for all rivers across the country except river Ganga and its tributaries (as issues related to Ganga and its tributaries are taken up by **National Mission for Clean Ganga**).

### ***Jal Shakti Mantralaya***

- The government has created a new Ministry called '**Jal Shakti**' after merging **Ministries of Water Resources, River Development & Ganga Rejuvenation** along with **Drinking Water and Sanitation**.

- Jal Shakti Ministry will encompass issues ranging from providing **clean drinking water**, international and inter-states **water disputes**, to the **Namami Gange** project aimed at cleaning Ganga and its tributaries, and sub-tributaries.
- The Ministry will roll out the government's ambitious **plan – 'Nal se Jal' scheme** under **Jal Jivan Plan** to provide **pipled water connection to every household in India by 2024**.

## Kaleshwaram Project

The Kaleshwaram lift irrigation project is aimed to make Telangana drought proof by harnessing the flood waters of the Godavari. The project is an under-construction multi-purpose irrigation project on the **Godavari River in Kaleshwaram, Bhoopalpally, Telangana**.

- The project starts at the **confluence point of Pranahita River and Godavari River**.
  - **Pranahita river** is a confluence of various other smaller tributaries like Wardha, Penganga and Wainganga Rivers.
- Waters of the Godavari will be tapped by reverse pumping and storage, thereby facilitating agriculture on over 38 lakh acres, helping rejuvenate thousands of tanks, providing water for industries, and supplying drinking water to Hyderabad and Secunderabad by creating a series of storage tanks and a network of pipelines.
- The Kaleshwaram project will support **Mission Kakatiya** and **Mission Bhagiratha** schemes designed to provide drinking water to many villages and improve the capacities of tanks.

### **Mission Kakatiya**

It is a flagship programme launched by the **Government of Telangana** which aims at rejuvenation of water tanks and other water storage structures to provide assistance and help to the small and marginal farmers of the state.

### **Mission Bhagiratha**

It is a project for safe drinking water for every village and city household in Telangana State. Its aim is to provide piped water to 2.32 crore people in 20 lakh households in urban and 60 lakhs in rural areas of Telangana. The ambitious project will supply clean drinking water to all households in the state through water sourced from River Godavari and River Krishna.

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## Operation Sankalp

The Indian Navy has launched 'Operation Sankalp' in the Persian Gulf and the Gulf of Oman as a measure to assure the safety and security of the Indian vessels, following the recent maritime incidents in the region.

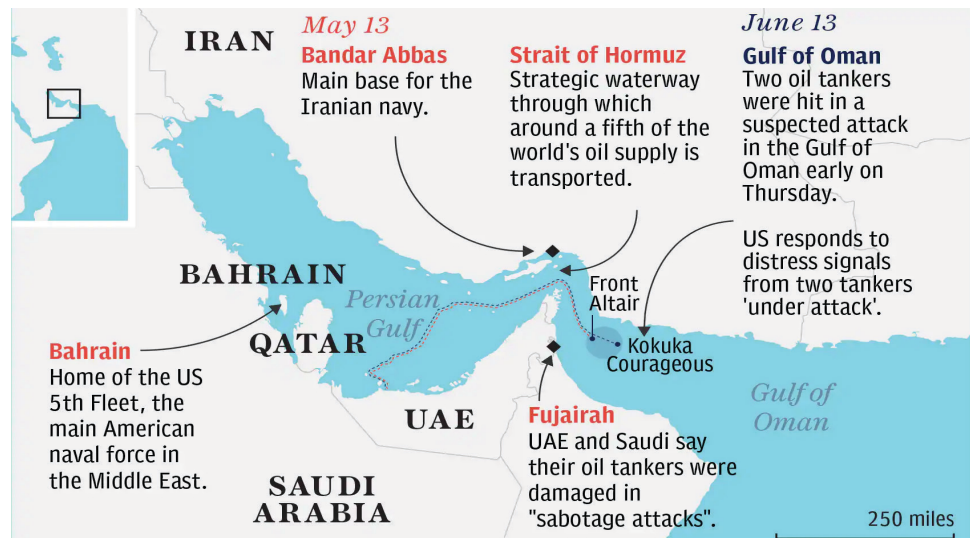
- The operation has been launched in the wake of escalating tension in the Gulf of Oman, where two oil tankers were attacked recently. **The U.S. considers Iran responsible for the attacks, heightening tensions between the two countries.**

### The Persian Gulf

- Also called the **Arabian Gulf**, it is a shallow marginal sea of the Indian Ocean that lies **between the Arabian Peninsula and the southwestern Iran**.
- Its length is around 990 km and its width varies from a maximum of around 340 km to a minimum of 55 km in the **Strait of Hormuz**.
- It is **bordered** on the north, northeast, and east by Iran; on the southeast and south by part of **Oman** and the **United Arab Emirates**; on the southwest and west by **Qatar, Bahrain** and **Saudi Arabia**; and on the northwest by **Kuwait** and **Iraq**.
- The area has approximately two-thirds of the world's estimated proven oil reserves and one-third of the world's estimated proven natural gas reserves.
- **A considerable amount of sea trade passes through the gulf**, leading to heavy traffic in the region.
- There remains an incessant traffic of large tankers that carry oil from the large marine terminals situated in Iran, Kuwait, Saudi Arabia, Bahrain, United Arab Emirates and other locations to all parts of the world.

### The Gulf of Oman

- The Gulf of Oman, northwest arm of the Arabian Sea, **lies between** the eastern portion of the **Arabian Peninsula (Oman)** and **Iran**.



- It is 560 km long and **connects with the Persian Gulf** through the Strait of Hormuz.
- It is a shipping route for the oil-producing area around the Persian Gulf.
- It offers the **only entrance from the Arabian Sea and the Indian Ocean** into the Persian Gulf, thus the world's major oil exporters and importers have a joint interest in its security.

## Technology and Doubling Farmers' Income

The Government has constituted an Inter-Ministerial Committee to examine issues relating to doubling of farmers' income and recommend adoption and role of technology to achieve **doubling of farmers' income in real terms by the year 2022**.

### Major Technology Interventions Include

- **Kisan Suvidha Mobile Application** : The app facilitates dissemination of information to farmers on the critical parameters viz., weather; market prices; plant protection; input dealers (Seed, Pesticide, Fertilizer) farm machinery; etc.
  - This helps farmers make informed decisions to sell produce at the right price and right time.
- **Indian Council of Agriculture Research (ICAR)** has compiled mobile apps developed by State Agricultural Universities and Krishi Vigyan Kendras. Developed in the areas of crops, horticulture, veterinary, etc., these apps offer valuable information to the farmers.

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- **mKisan Portal (www.mkisan.gov.in)** for sending advisories on various crop related matter to the registered farmers through SMSs.
- Launching of **e-National Agriculture Market** initiative to provide farmers an electronic online trading platform.
- Implementation of **Agricultural Marketing Infrastructure**, sub-scheme of the Integrated Scheme of Agricultural Marketing, in order to improve/create scientific storage capacity for storing farm produce, processing farm produce and to reduce post-harvest storage loss.
- Introduction of **Soil Health Card Scheme** to assist State Governments in providing Soil Health Cards to all farmers across the country once in a cycle of 2 years.
  - Soil Health Card provides information to the farmers on nutrient status of their soil along with recommendations on appropriate dosage of nutrients to be applied for improving crop productivity and soil fertility.
- Providing subsidies under **National Food Security Mission** (Oil Seeds and Oil Palm) to farmers on seed components, transfer of technologies, production inputs and water carrying devices.
  - Financial assistance is also being provided under this scheme for block demonstration, frontline demonstration, farmers training to educate farmers to adopt modern techniques of farming to yield good crop economically.
- Use of **space technology** for various programmes/ areas such as forecasting agricultural output using space, agro-meteorology and land-based Observations project, National Agricultural Drought Assessment and Monitoring System, Rice-Fallow Area Mapping and intensification, geo tagging of infrastructure and assets created under Rashtriya Krishi Vikas Yojana, and Crop Insurance.
- Using **machine learning process** along with different computer algorithm for crop classification and area estimation.
- Setting up of **Krishi Vigyan Kendras and Agricultural Technology Management Agencies** at district level for dissemination of technologies among farm community.
  - In addition, farmers are provided information through focused publicity campaigns, Kisan Call Centres, Agri-Clinics and Agri-Business Centres of entrepreneurs, Agri fairs and exhibitions, Kisan SMS Portal, etc.

## Petition for Protection of Non-Nagas in Dimapur

A petition filed before the Supreme Court has sought a direction to the Centre and the Nagaland government to take appropriate steps for the protection of life and liberty, properties and other fundamental rights of non-Nagas living in Dimapur following the imposition of the Inner Line Permit (ILP).

- The plea has challenged certain sections of the **Bengal Eastern Frontier Regulation, 1873** which gives unbridled power to a State to prescribe ILP.
  - **The act empowers a State government to prescribe 'Inner Line'** to prohibit citizens of India or any class of such citizens going beyond the prescribed line without a pass.
  - The colonial-era regulation was passed by the then British government to prohibit Indian citizens to move in selected districts to create monopoly in business.
  - However, it continues to be used in India, officially to protect tribal culture in north-eastern India.

### Inner Line Permit

- ILP is an official travel document issued by the Government of India **to grant inward travel of an Indian citizen into a protected area** for a limited period. Visitors are not allowed to purchase property in these regions.
- Restrictions are imposed on the entry of outsiders **to maintain the original identity of indigenous people of Mizoram, Nagaland and Arunachal Pradesh**. The entry of outsiders are not allowed without ILP.
- The document is issued under the Bengal Eastern Frontier Regulation, 1873 and the conditions and restrictions vary from state to state.

### Background

- Recently, the State Cabinet had taken a decision to extend the operation of the 1873 Regulation in Dimapur.
- Therefore, many non-Nagas who have landed properties with commercial shops, godowns, etc. and who are staying in as tenants, and many locals who earn their income by means of collecting rent from tenants would be adversely affected.

Note:

- Many non-nagas have been regarded as outsiders by the government of Nagaland, which is racial discrimination.

## Smart Policing Survey

**The Quality Council of India (QCI)** executed the survey by assessing 87 shortlisted police stations across the country.

- The assessment was based on parameters like performance in controlling crime, the infrastructure of the police building, mess, optimal use of technology, and citizen feedback.
- The Kalu police station in Rajasthan's Bikaner has been ranked first in the country for crime prevention, investigation and disposal of cases, crime detection, community policing and maintenance of law and order.
  - It also has recreational facilities for police personnel, and a helpdesk for women besides being equipped with wi-fi servers.
- The major criterion chosen for the rankings this time (the survey was started in 2015) was the upgradation of police stations on the **Crime and Criminal Tracking Network System (CCTNS)** portal.
- Fourteen police stations were placed in the A++ category, 12 in the A+, and the remaining 11 in A category as per the SMART policing concept norms.

### SMART Police

- The concept was introduced by the Prime Minister during the 49th annual conference of Directors-General and Inspectors-General of Police in Guwahati on November 30, 2014.
- The term SMART stands for S-Sensitive and Strict; M-Modern with mobility; A- Alert and Accountable; R-Reliable and Responsive; T- Trained and Techno-savvy.
- Some of the features of a SMART Police Station are:
  - Basic amenities for visitors, waiting area, toilets, drinking water, receptionist whom the visitors can meet.
  - Restroom for constables, including a separate room for women constables.
  - Natural lighting and ventilation, solar lighting, energy saving features.
  - CCTNS, CCTV, safe & secure Armoury, Record Room, Communication Room for wireless, computers etc.

- Automated kiosks for filing of complaints by the public (with a back-end system for tracking follow up action).

## Rashtriya Gokul Mission

Government has sanctioned funds under the **Rashtriya Gokul Mission** for setting up of 21 **Gokul Grams** as Integrated Cattle Development Centres.

- As of now, 4 Gokul grams (Varanasi, Mathura, Patiala, and Phora) have been completed and work is under progress in remaining 17 Gokul grams.

### Rashtriya Gokul Mission

- Rashtriya Gokul Mission comprises of two components namely:
  - National Program for Bovine Breeding.
  - National Mission for Bovine Productivity.
- Underlying objectives of the Mission:
  - **Development and conservation** of indigenous breeds in a focused and scientific manner.
  - Undertake **breed improvement** program for indigenous cattle breeds so as to improve the genetic makeup and increase the stock.
  - Enhance **milk production and productivity**.
  - Distribute **disease free** high genetic merit bulls for natural service.

### Significant initiatives

#### under Rashtriya Gokul Mission

- Awards for encouraging farmers/breeder societies to rear indigenous breeds of bovines:
  - **Gopal Ratna Awards:** For farmers maintaining the best herd of Indigenous Breed and practicing best management practices.
  - **Kamdhenu Awards:** For best managed Indigenous Herd by Institutions/Trusts/ NGOs/ Gaushalas or best-managed Breeders' societies.
- **Gokul Gram:** The Rashtriya Gokul Mission envisages the establishment of **integrated cattle development centers, 'Gokul Grams'** to develop indigenous breeds including up to 40% nondescript breeds (belonging or appearing to belong to no particular class or kind) with objectives to:
  - Promote **indigenous cattle rearing** and conservation in a scientific manner.

Note:

- Propagate high **genetic merit bulls** of indigenous breeds.
- Optimize modern **farm management practices** and promote common resource management.
- Utilize **animal waste** in an economical way i.e. cow dung, cow urine
- **National Kamdhenu Breeding Centre:** (NKBC) is being established as a Centre of Excellence to develop and conserve Indigenous Breeds in a holistic and scientific manner.
- **"E-Pashu Haat" – Nakul Prajnan Bazaar:** An e-market portal connecting breeders and farmers, for quality-disease-free bovine germplasm.
- **Pashu Sanjivni:** An animal wellness program encompassing the provision of **animal health cards** (Nakul Swasthya Patra) along with UID identification and uploading data on National DataBase.
- **Advanced Reproductive Technology:** Including Assisted Reproductive Technique- In-vitro Fertilization (IVF)/ Multiple Ovulation Embryo Transfer (MOET) and sex-sorted semen technique to improve the availability of disease-free female bovines.
- **National Bovine Genomic Center** for Indigenous Breeds (NBGC-IB) will be established for selection of breeding bulls of high genetic merit at a young age using highly precise gene-based technology.

### Implementing Agency

- Rashtriya Gokul Mission will be **implemented through the "State Implementing Agency (SIA viz Livestock Development Boards)**.
- State Gauseva Ayogs will be given the mandate to sponsor proposals to the SIA's (LDB's) and monitor implementation of the sponsored proposal.
- All Agencies having a role in indigenous cattle development will be the "Participating Agencies" like ICAR, Universities, Colleges, NGO's, Cooperative Societies and Gaushalas.

### Why conservation of Indigenous breeds is the need of the hour

- Indigenous bovines are **robust** and **resilient** and are particularly suited to the climate and environment of their respective breeding tracts and productivity

of indigenous breeds is less likely to be impacted by the adversities of **climate change**.

- The milk of indigenous animals is high in **fat and SNF content** (The substances in **milk** other than butterfat and water in the form of casein, lactose, vitamins, and minerals which contribute significantly to the nutritive value of **milk**).

## First Resilient Kerala Program

The Government of India, the Government of Kerala and the **World Bank** have signed a Loan Agreement of USD 250 million for the **First Resilient Kerala Program** to enhance the State's resilience against the impacts of natural disasters and climate change.

- The Resilient Kerala Program will focus on strengthening the State's institutional and financial capacity to protect the assets and livelihoods of poor and vulnerable groups through an inclusive and participatory approach.
- The New Program is part of the Government of India's support to Kerala's '**Rebuild Kerala Development Programme**' aimed at building a green and resilient Kerala. This partnership will identify key areas of policy and institutional strengthening to maximize development impact.
- It is the first of two **Development Policy Operations** aiming to mainstream disaster and climate resilience into critical infrastructure and services.
  - State partnership is a key pillar of the Bank's new **Country Partnership Framework** for India. Through such partnerships, the Bank will support selected states striving to bring about systemic improvements in the way development initiatives are planned and executed.

### Objectives of the Program

- It aims to support the State with:
  - Improved river basin planning and water infrastructure operations management, water supply and sanitation services
  - Resilient and sustainable agriculture, enhanced agriculture risk insurance
  - Improved resilience of the core road network
  - Unified and more up-to-date land records in high-risk areas

Note:



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- Risk-based urban planning and strengthened expenditure planning by urban local bodies
- Strengthened fiscal and public financial management capacity of the state.
- **Other initiatives:** The World Bank has been supporting the State through engagements such as the Second Kerala State Transport Project, Dam Rehabilitation and Improvement Project, National Hydrology Project, National Cyclone Risk Mitigation Project Phase 2 and the Kerala Local Government and Service Delivery Project.

**Development Policy Financing (DPF)**

- It is an initiative of the World Bank that aims to help borrowers to achieve **sustainable poverty reduction** through a program of policy and institutional actions, for example, **strengthening public financial management, improving the investment climate, addressing bottlenecks to improve service delivery, and diversifying the economy.**
- This represents a shift away from short-term macroeconomic stabilization and trade liberalization reforms of the 1980s-90s towards more medium-term institutional reforms.



Note:

# Economic Scenario

## Highlights

- Pension Scheme for Traders
- Inflation in India
- Cross Border Insolvency Resolution
- Global Economic Prospects: World Bank
- RBI Monetary Policy
- Indian Accounting Standards
- BOT Model
- RBI's Debt Resolution Norms
- Deadlock in RCEP Trade Negotiations
- UNCTAD World Investment Report 2019
- Compoundable Offences under Direct Tax Laws
- GST Council and National Anti-Profitteering Authority
- Payment and Settlement Systems in India: Vision 2019–2021
- RBI Panel's Recommendations on MSME
- Seven Million Jobs Created in Formal Sector
- Basel III Requirements
- International Equivalence for Personnel Certification
- India's Food Processing Industry
- Side Pocketing in Mutual Funds
- State Divide in Unemployment
- Beekeeping Development Committee
- Financial Stability Report : RBI
- India and USA at WTO
- International MSME Day
- Just Job Index

## Pension Scheme for Traders

The Union Cabinet has approved a **new scheme which assures minimum monthly pension of ₹3000 per month to small shopkeepers, retail traders and the self-employed people after attaining the age of 60 years.** This is being done as part of the government's efforts to offer **universal social security.**

- All small shopkeepers and self-employed persons as well as the retail traders with **GST turnover below ₹1.5 crore and aged between 18-40 years, can enrol for this scheme.** The scheme is expected to benefit more than 3 crore small shopkeepers and traders.
- The scheme is **based on self-declaration** as no documents are required except Aadhaar and bank account. Interested persons can **enrol themselves through more than 3,25,000 Common Service Centres** spread across the country.
- **The Government of India will make a matching contribution in the subscribers' account.** For example, if a person with age of 29 years contributes ₹100/- month, then the Central Government also contributes an equal amount as subsidy into subscriber's pension account every month.

## Nilekani Recommendations on Digital Payments

RBI appointed committee on digital payments, headed by **Nandan Nilekani**, has made recommendations for strengthening **digital payments ecosystem** in India.

*Recommendations:*

- **Removal of Transaction Charges:** On digital payments made to government, there should be no convenience fee on consumers for digital payments made to state-run entities and central departments.
- **Merchant Discount Rates (MDR) Pricing Structure:** 15 basis points (100 bps = 1% point) cut on the interchange rate on card payments which is borne by the merchants.
- **Removal of existing 18% import duty** on POS (point of sale) machines for a period of three years.
- **Reduce the goods and services tax (GST)** on digital transactions so that the acceptance of digital payments can be improved among the customers.
- Put in place a mechanism to **monitor the digital payment systems:**
  - **Digital Financial Inclusion Index** so that progress in an area can be measured along a common scale, indicating the evolution of the users and steps taken for correcting the imbalance.

Note:



- Aggregated **information** based on **blocks** and **PIN codes**, must be available to all players on a monthly basis.
- **Reduce the overall cost to the consumers** such as KYC (Know your customer) process at multiple stages of the transaction and service charges for digital payments.
- **Protection from Fraud and Risk:** Payment systems must rely on machine-driven, online dispute resolution systems to handle complaints.
- Setting up an **Acceptance Development Fund** which will be used for developing new merchants in poorly served areas.
- **Reduce the Gap between “Digital Credits” and “Digital Debits”:** There is a need for improvement on demand or acceptance side of the ecosystem as high-cost structures, including interchange fees, as well as limited financial service offerings, impede merchants from accepting digital payments.
- The target for additional growth of **volume of digital payments by 10 times in three years** and the growth will be driven by a shift from **high-value, low-volume, high-cost transactions to low-value, high-volume, low-cost transactions**.

## Inflation in India

Recently, **Consumer Price Index: Industrial Labour (CPI:IW)** was released by the Ministry of Labour & Employment.

### **Measurement of Inflation in India**

- **Wholesale Price Index WPI**
  - It is the most widely used inflation indicator in India.
  - It is published by the **Office of Economic Adviser, Ministry of Commerce and Industry**.
  - All transactions at the **first point of bulk sale** in the domestic market are included.
  - Major criticism for this index is that the general public does not buy products at wholesale prices.
  - The base year of All-India WPI had been revised from 2004-05 to 2011-12 in 2017.
- **Consumer Price Index CPI**
  - It measures price changes from the **perspective of a retail buyer**.
  - It measures changes over time in the level of retail prices of selected goods and services on which consumers of a defined group spend their incomes.

- Four types of CPI are as follows:
  - **CPI for Industrial Workers (IW).**
  - **CPI for Agricultural Labourer (AL).**
  - **CPI for Rural Labourer (RL).**
  - **CPI (Rural/Urban/Combined).**
- Of these, the first three are compiled by the **Labour Bureau in the Ministry of Labour and Employment**. fourth is compiled by the **Central Statistical Organisation (CSO)** in the Ministry of Statistics and Programme Implementation.
- Base Year for CPI is 2012.

### **CPI vs. WPI**

- **WPI** tracks inflation at the **producer level** while **CPI** captures changes in prices levels at the **consumer level**.
- Both baskets measure inflationary trends (the movement of price signals) within the broader economy, the two indices differ in which weightages are assigned to food, fuel and manufactured items.
- **WPI** does not capture changes in the **prices of services** which **CPI** does.
- In April 2014, the RBI had adopted the CPI as its key measure of inflation.

## Cross Border Insolvency Resolution

A panel led by **Ministry of Corporate Affairs** had suggested adopting the **United Nations Commission on International Trade Laws on cross-border insolvency**.

- **UNCITRAL Model Law on Cross-Border Insolvency, 1997** (Model Law) provides legal framework to deal with cross-border insolvency issues while ensuring the least intrusion into the country's domestic insolvency law.
- **The Insolvency and Bankruptcy Code**, at present, does not effectively deal with cases involving cross-border insolvency.

### **Significance**

- The changes will enable initiation of resolution process in case of personal guarantors to corporate debtors, proprietorship and partnerships.
- **Provisions for cross border insolvency** would enable Indian firms to claim their dues from foreign companies while allowing foreign creditors to recover loans from Indian companies.

Note:

- It will also help foreign branches of Indian banks to recover their dues in India.
- Cross border insolvency provision will bring overseas assets of a domestic corporate debtor into consideration of insolvency resolution in India and will avoid **delays in resolution of stressed assets**.

**UNCITRAL Model Law- The model law deals with four major principles of cross-border insolvency:**

- **Direct access to foreign insolvency professionals and foreign creditors** to participate in or commence domestic insolvency proceedings against a defaulting debtor.
- Recognition of **foreign proceedings** & provision of remedies.
- **Cooperation between domestic and foreign courts** & domestic and foreign insolvency practitioners.
- **Coordination between two or more concurrent insolvency proceedings in different countries.** The main proceeding is determined by the concept of **Centre of Main Interest (COMI)**.

**UNCITRAL**

- The United Nations Commission on International Trade Law is the core **legal body of the United Nations system** in the field of international trade law.
- UNCITRAL was established in 1966 with a recognition that international trade cooperation among states is an important factor in the promotion of friendly relations and, consequently, in the maintenance of peace and security.
- UNCITRAL has provided a valuable platform for countries to compare, examine, debate and adopt principles of international commercial and trade law appropriate to their circumstances.
- India is a **founding member** of UNCITRAL.

## Global Economic Prospects: World Bank

World Bank (WB) has released the **bi-annual** report "Global Economic Prospects: Heightened Tensions, Subdued Investment".

### Global Forecast

- World Bank has downgraded global growth prospects by **0.3% to 2.6% for 2019-20**.

- The cause for downgrade is weaker-than-expected international trade and investment at the start of 2019.
- However, WB has estimated that economies will begin improving here after and growth might touch 2.8% in 2021.
- Risks to global growth include rising trade barriers, a build-up of government debt and slowdowns in several major economies.

### Findings for India

- The World Bank has retained its forecast for growth in India at **7.5% in 2019-20** fiscal and the succeeding years.
- Report has warned that re-escalation of **India-Pakistan tensions such as the one in february** could increase uncertainty and impact investments in the region.
- Private consumption and investment will benefit from strengthening credit growth amid more accommodative monetary policy, with inflation having fallen below the Reserve Bank of India's target.
- It further stated that the Goods and Services Tax (GST) regime is still in the process of being fully established, creating some uncertainty about projections of government revenues.

## RBI Monetary Policy

In its second **bi-monthly monetary policy statement for 2019-20**, the Reserve Bank of India **Monetary Policy Committee (MPC)** has unanimously decided to **cut the policy repo rate by 25 basis points** and change the **monetary policy stance** from 'neutral' to 'accommodative'.

### Highlights

- Following the MPC decision, the **repo rate** now stands at **5.75%** against the earlier **6%**.
- The reverse repo rate under the **Liquidity Adjustment Facility (LAF)** has been adjusted to **5.50%**, and the **Marginal Standing Facility (MSF) rate** and the **bank rate** to **6.0%**.
- The GDP growth for 2019-20 has been **revised downwards** from **7.2%** in the April policy to **7%**.

### Reasons for Rate Cut

- To **spur economic activity**, which decelerated sharply in the January-March quarter.

Note:



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- Weakening of growth, as reflected in a **widening of the output gap (the difference between the actual output of an economy and its potential output)** compared to the April 2019 policy.
- The Rate cut will ensure that **adequate liquidity is available in the system** for all productive purposes. This will be **more comforting for the market** than just a rate cut, especially in light of the slowdown.
- The **headline inflation trajectory** remains **below the target** mandated to the MPC even after taking into account the expected transmission of the past two policy rate cuts.
  - Hence, **there is scope for the MPC to accommodate growth concerns** by supporting efforts to boost aggregate demand, and in particular, reinvigorate private investment activity, while remaining consistent with its flexible inflation targeting mandate.
- This **transmission (of repo rate cut into lending rates)** will naturally find its impact on consumer loans, consumer durables loans, two-wheeler loans, etc.
- Additionally, the RBI said that it has decided to **do away with charges levied on Real-Time Gross Settlement (RTGS) and National Electronic Funds Transfer (NEFT) transactions**, banks will be required to pass this benefit to their customers.
  - The RBI has also decided to set up a committee involving all stakeholders, under the chairmanship of CEO Indian Banks' Association (IBA), to examine the entire gamut of ATM charges and fees.

#### Repo Rate

- The interest rate at which the Reserve Bank lends money to banks against the collateral of government and other approved securities under Liquidity Adjustment Facility (LAF).
- It is also the benchmark policy rate.

#### Reverse Repo Rate

- The interest rate at which the Reserve Bank borrows money from banks against the collateral of eligible government securities under LAF.

#### Liquidity Adjustment Facility (LAF)

- LAF is a tool by which Reserve Bank adjust money supply in the economy.
- It is a monetary policy tool which allows the bank to borrow money through repurchase agreements (repo and reverse repos).

#### Marginal Standing Facility (MSF)

- It is a special window for banks to borrow from RBI against approved government securities in an emergency situation like an acute cash shortage.
- MSF rate is higher than the repo rate.

#### Bank Rate

- This is the long-term rate (Repo rate is for short term) at which central bank (RBI) lends money to other banks or financial institutions. Bank rate is not used by RBI for monetary management.
- This rate has been aligned to the MSF rate and, therefore, changes automatically when the MSF rate changes.

## Indian Accounting Standards

The Reserve Bank of India (RBI) is going to align the definition of 'financial difficulty' with the guidelines issued by the **Basel Committee on Banking Supervision**. The RBI had put out a non-exhaustive indicative list of signs of financial difficulty.

- The RBI had indefinitely **deferred the Indian Accounting Standard (Ind-AS) norms** which were to come into effect from April 1, 2019, as it would have called for higher capital for bad loan provisioning by banks.
- It was the second such deferred move, banks were to implement Ind-AS from April 2018, it also needed legislative amendments to make the format of financial statements compatible with Ind-AS.

#### Indian Accounting Standards (Ind-AS)

- These are a set of accounting standards that govern the accounting and recording of financial transactions as well as the presentation of statements such as profit and loss account and balance sheet of a company.
- The standards were formulated by the **Accounting Standards Board (ASB)**, which was constituted as a body in 1977. ASB is a committee under Institute of Chartered Account of India (ICAI) which consists of representatives from government departments, academicians, other professional bodies viz. ICAI, representatives from ASSOCHAM, CII, FICCI, etc.
- The Ind-AS are named and numbered in the same way as the **International Financial Reporting Standards (IFRS)**.

Note:

### International Financial Reporting Standards (IFRS)

- It is an accounting standard that has been issued by the **International Accounting Standards Board (IASB)** with the objective of providing a common accounting language to increase transparency in the presentation of financial information.
- IASB is a London-based **independent body**, formed in 2001 for establishing the IFRS and succeeded the International Accounting Standards Committee (IASC).

### Basel Committee

- In December 2010, the Basel Committee on banking supervision published Basel III norms. A global regulatory framework for more resilient banks and banking systems which presents the details of global regulatory standards on bank capital adequacy and liquidity, including a countercyclical capital buffer.

## BOT Model

The Union government will soon re-adopt the Build-Operate-Transfer (BOT) model over the Hybrid Annuity Model (HAM) for executing highway projects.

- HAM was brought in by the government in 2015 to encourage private participation and it served the purpose for a few years till banks red-flagged lending for these projects.
- HAM is a mix of **Engineering, Procurement, and Construction (EPC) and BOT formats**.
- **Need to Re-Adopt:** BOT will see **private investment** coming in upfront, which is expected to benefit the centre as the exchequer will not have to pump in money in such projects.

### Models of Public-Private Partnership (PPP)

Commonly adopted model of PPPs include:

- **BOT:** It is conventional PPP model in which private partner is responsible to design, build, operate (during the contracted period) and transfer back the facility to the public sector.
  - Private sector partner has to bring the finance for the project and take the responsibility to construct and maintain it.
  - The public sector will allow private sector partner to collect revenue from the users.

- The national highway projects contracted out by National Highway Authority of India (NHAI) under PPP mode is a major example for the BOT model.
- **Build-Own-Operate (BOO):** In this model ownership of the newly built facility will rest with the private party.
  - On mutually agreed terms and conditions, public sector partner agrees to 'purchase' the goods and services produced by the project.
- **Build-Own-Operate-Transfer (BOOT):** In this variant of BOT, after the negotiated period of time, the project is transferred to the government or to the private operator. BOOT model is used for the development of highways and ports.
- **Build-Operate-Lease-Transfer (BOLT):** In this approach, the government gives a concession to a private entity to build a facility (and possibly design it as well), own the facility, lease the facility to the public sector and then at the end of the lease period transfer the ownership of the facility to the government.
- **Design-Build-Operate-Transfer (DBOT):** In this model, the entire responsibility for the design, construction, finance, and operation of the project for the period of concession lies with the private party.
- **Lease-Develop-Operate (LDO):** In this type of investment model either the government or the public sector entity retains ownership of the newly created infrastructure facility and receives payments in terms of a lease agreement with the private promoter. It is mostly followed in the development of airport facilities.
- **Hybrid Annuity Model (HAM):** The central government bears 40% of the project cost and the remaining amount is arranged by the developer.

## RBI's Debt Resolution Norms

The RBI has issued a new set of norms for dealing with stressed or **Non Performing Assets** (NPA's) assets in the banking sector.

- Resolution plans like **corporate debt restructuring scheme, Strategic Debt Restructuring (SDR)** scheme, change in ownership outside SDR, **Sustainable Structuring of Stressed Assets (S4A)**, joint lenders forum and flexible structuring of existing long-term project loans are withdrawn.
- Apart from banks, new norms are also applicable for **Non-Banking Financial Companies (NBFC), Small Finance Banks** and other **Financial Institutions**.

Note:



**Revised Norms**

- Lenders will get a **30 day review period** to frame a resolution strategy, unlike previous norms that compelled lenders to start a resolution strategy even if there was a one day default.
- Lenders shall recognise incipient stress in loan accounts, immediately on default, by classifying such assets as Special Mention Accounts (SMA).
  - **SMA-0** categories will be treated as default case fit for insolvency resolution if they fail to pay the principal or interest due on them within **0-30 days**.
  - **SMA-1** defaulters will be taken for **Insolvency and Bankruptcy Code** (IBC) if they don't pay between **31-60 days**.
  - **SMA-3** firms will be treated for National Company Law Tribunal (NCLT) in case of no payment of dues within 61-90 days.
- Resolution plan involving restructuring/change in ownership of accounts where the aggregate exposure of lenders is **₹100 crore and above**, will require **Independent Credit Evaluation** (ICE) of the residual debt by **Credit Rating Agencies** (CRAs) specifically authorised by the Reserve Bank for this purpose.
  - Accounts with aggregate exposure of **₹500 crore and above** shall require two such ICEs, others shall require one ICE.
- Lenders will have to submit a **weekly report to the RBI** on defaults by borrowers with exposure of **₹5 crore and above**.
- **System of disincentives** in the form of **additional provisioning for delay** in implementation of resolution plan or initiation of insolvency proceedings.
- Any action by lenders with an intent to **hide the actual status of accounts or evergreen the stressed accounts** will be subjected to stringent supervisory or enforcement actions, including **higher provisioning** on such accounts and **monetary penalties**.
- In order to implement resolution plan, lenders will have to sign **Inter Creditor Agreement** (ICA), within the review period, (ICA will provide ground rules for finalisation and implementation of the resolution plan).

## Deadlock in RCEP Trade Negotiations

Officials from India and China met in New Delhi to try and reach common ground on market-opening commitments under Regional Comprehensive Economic Partnership (RCEP) negotiations.

### Regional Comprehensive Economic Partnership (RCEP)

- RCEP is a **proposed regional economic integration agreement among the 10 ASEAN countries** and its six free-trade agreement partners — **Australia, New Zealand, Japan, China, South Korea and India**.
- **Once implemented, it would result in one of the largest free trade bloc** accounting for 45% of the world's population, and a combined GDP of about \$21.3 trillion and 40% of the world trade.

### India's Concerns vis-a-vis China

- India is not comfortable with opening markets in goods being pushed especially by China. **India wants to offer much lower market access in goods to China compared to other members** such as the ASEAN, Japan and South Korea. However, **China is not willing to accept it**.
- **India wants clearly defined rules of origin** to ensure integrity and sanctity of tariff differentiation. This is **to prevent Chinese goods from flooding the country** through member countries that may have lower or no duty levels.
  - Chinese garments are already making their way into India through the duty-free route under the South Asia Free Trade Pact and the Duty-Free Quota-Free window from Bangladesh.
- **At least 13 countries** including Australia, Japan and New Zealand **oppose India's proposal for strict criteria to determine the source country of a product**, based on which they get tariff concessions in the 16-nation Regional Comprehensive Economic Partnership (RCEP) trade pact.
- India had a trade deficit with 11 RCEP members including China, South Korea and Australia in 2018-19.
- India has so far offered to eliminate tariffs for 70-80% of goods for China over an extended period of time and it is unwilling to give more concessions.

Note:

- **China runs a trade surplus of over \$60 billion with India** and the domestic industry is reeling under heavy competition from Chinese goods.
- **India's aluminium and copper industries are worried about China's presence** in the grouping and anticipate widening of the trade deficit due to an **alarming spike in imports and a potential threat to the Make in India initiative**.
- China is also hinting at going in for a Free Trade Agreement (FTA) between the ASEAN, China, Japan and South Korea (**ASEAN+3**) if the RCEP talks take too long.

#### The South Asia Free Trade Agreement

- The South Asia Free Trade Agreement (SAFTA) is an **agreement** among the seven South Asia countries that form the South Asian Association for Regional Cooperation (**SAARC**): **Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka**.
- It came into effect on 1<sup>st</sup> January 2006, with the **aim of reducing tariffs for intra regional trade among the seven SAARC members**.

## UNCTAD World Investment Report 2019

According to the United Nations Conference on Trade and Development (UNCTAD) World Investment Report 2019, India received foreign direct investments worth USD 42 billion in 2018. India attracted over 77% of the total foreign direct investments that came to the South Asian region.

- The **global FDI slipped by 13% in 2018**, to US\$1.3 trillion from \$1.5 trillion in 2017, the **third consecutive annual decline**.
- In South Asia, overall, **FDI inflows increased by 3.5% to \$54 billion**. The prospects for FDI inflows into South Asia are largely determined by expectations of growing investment into India.

#### UNCTAD

- UNCTAD is a **permanent intergovernmental body** established by the United Nations General Assembly in **1964**. Its headquarter is located in **Geneva, Switzerland**.
- It is **part of the UN Secretariat**.

- It supports developing countries to access the benefits of a globalized economy more fairly and effectively.
- **Investment in India rose by 6% to USD 42 billion** with strong inflows in manufacturing, communication, financial services and cross-border merger and acquisition activities. However, **India's rank as a source country for FDI fell one notch to the 10<sup>th</sup> position as it was overtaken by Spain**.

## Compoundable Offences under Direct Tax Laws

The **Central Board of Direct Taxes** (CBDT) has issued the guidelines for compoundable offences under Direct Tax Laws, 2019.

- **Compoundable offences** are those which can be conciliated by the parties under dispute, without the requirement of the permission of the court.

### Guidelines

Guidelines have classified offences into three categories.

- **The first category** of offences open to compounding include:
  - Defaults under **tax deducted or collected at source**.
  - Failure to **file return**.
- **The second category** of offences, for which **compounding will not be allowed**, deal with:
  - Wilful evasion of tax.
  - Removal or concealment or transfer or delivery of property to thwart tax recovery during a search operation.
- **The third category** of offences that "**shall normally not be compounded**" includes:
  - Offences committed by a person for which he was convicted by a court of law under **direct tax laws**.
  - Enabling others to evade taxes.
  - **Money laundering** (launder money by generating bogus invoices).
  - Offences related to undisclosed foreign bank accounts or assets under the **Black Money** (Undisclosed Foreign Income and Assets).
  - Imposition of Tax Act, 2015 or under the **Benami Transactions** (Prohibition) Act, 1988.

Note:



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## GST Council and National Anti-Profiteering Authority

The **GST Council** in its recent meeting has discussed the proposal of extending the tenure of the **National Anti-profiteering Authority** to one more year (till 30 November 2020).

- NAPA came into existence (just after the rollout of GST) for two years to deal with complaints by consumers against companies for not **passing on GST rate cut benefits**.
- Extension for NAA, (before its two-year sunset clause) is being seen necessary as there are many **pending cases** that need to be resolved before its dissolution.

### National Anti-profiteering Authority

- The National Anti-Profiteering Authority (NAA) was constituted under **Section 171 of the Central Goods and Services Tax Act, 2017**.

### Background

- The formation of NAA comes in the background of **rate-reduction** of a large number of items by GST Council which has made tremendous price reduction effect but the consumers will be benefited only if the traders are making the quick reduction of prices of respective items.

### Functions of National Anti-profiteering Authority

- The **anti-profiteering clause** under the Goods And Services Tax (GST) Act mentions that any reduction in the rate of tax on any goods or services or the benefit of input tax credit must be passed on to the consumer by way of commensurate reduction in the prices of the respective goods or services.
- The Authority's main function is to ensure that traders are not realizing an **unfair profit** by charging high price from consumers in the name of GST and to examine and check such profiteering activities and recommend **punitive actions** including the **cancellation of registration**.

### Governance

- NAA, comprises of Chairman, four technical members, a **Standing Committee, Screening Committees** in every

state and the **Directorate General of Safeguards** in the Central Board of Excise & Customs (CBEC).

- The orders of the NAA can be appealed against only in the high court.

## Payment and Settlement Systems in India: Vision 2019–2021

The Reserve Bank of India (RBI) has released its statement on '**Payment and Settlement Systems in India: Vision 2019–2021**', which outlines the measures needed to be undertaken to foster innovation, cybersecurity, financial inclusion, customer protection, and competition.

- The Payment Systems Vision 2021 envisages achieving a '**highly digital**' and '**cash-lite**' society through the goalposts of competition, cost-effectiveness, convenience, and confidence.
- **The need for a self-regulatory organisation** for the digital payment space, which can serve as a **two-way communication channel** between the players and the regulator. The organisation will also work towards establishing minimum benchmarks, standards, and help discipline rogue behaviour.
- **Potential Gains:** The number of digital transactions is expected to increase more than four times, from 20.69 billion in December 2018 to 87.07 billion in December 2021.
  - The digital payment transaction turnover vis-à-vis Gross Domestic Product (GDP) (at current market prices) is expected to further increase to 10.37 per cent in 2019, 12.29 per cent in 2020, and 14.80 per cent in 2021.
  - The RBI expects accelerated growth in individual retail electronic payment systems, both in terms of the number of transactions and increased availability.
  - Payment systems like **Unified Payments Interface (UPI)** (Immediate Payment Service) are likely to register average annualised growth of over 100 per cent and **National Electronic Funds Transfer (NEFT)** at 40 per cent over the vision period.
- Measures to be taken:
  - The RBI will take measures to increase the **penetration of acceptance infrastructure** in the country.

Note:

- The infrastructure will be upscaled to at least six times the present levels in the next three years' time.
- In order to have a coordinated approach towards regulation, the RBI shall **engage with the other sectoral regulators** like Securities and Exchange Board of India, Insurance Regulatory and Development Authority, Telecom Regulatory Authority of India, etc to remove friction in regulation and ease system operator and customer comfort.
- It will also consider the implementation of e-mandates/standing instructions for retail payment systems, subject to customer protection and adequate safeguards like authenticating payment instrument registration, mandating transaction limits, segments, etc.

#### Cash-lite economy

- It is an economy whereby there is a reduction in the high usage/volume of cash in circulation, thereby encouraging the use of electronic payment channels and reducing the cost of cash production and transportation.
  - A Cash-lite society is a society where most of the purchases of goods or services are made by credit card or electronic funds transfer rather than with cash or cheques, it is an environment where the money is spent without being physically carried from one person to the other.

#### Unified Payments Interface (UPI)

- It is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing & merchant payments into one hood.
- It also caters to the "Peer to Peer" collect request which can be scheduled and paid as per requirement and convenience.

#### National Electronic Funds Transfer (NEFT)

- It is an electronic funds transfer system maintained by the **Reserve Bank of India (RBI)**. It was started in November 2005, the setup was established and maintained by the Institute for Development and Research in Banking Technology.
- NEFT enables bank customers in India to transfer funds between any two NEFT-enabled bank accounts on a one-to-one basis. It is done via electronic messages.

- Unlike real-time gross settlement, fund transfers through the NEFT system do not occur on a real-time basis. NEFT settles fund transfers in half-hourly batches with 23 settlements occurring between 8:00 AM and 7:00 PM on weekdays and the 1<sup>st</sup>, 3<sup>rd</sup> and 5<sup>th</sup> saturday of the calendar month.
- Transfers initiated outside this time period are settled at the next available window. No settlements are made on the second and fourth saturday of the month, or on sundays, or on public holidays.

## RBI Panel's Recommendations on MSME

A Reserve Bank of India (RBI) expert committee on micro, small and medium enterprises (MSMEs) has recommended doubling **the cap on collateral-free loans to Rs 20 lakh** from the current Rs 10 lakh.

- This will be extended to borrowers falling under the Mudra scheme, self-help groups, and MSMEs.
- The current limit of Rs 10 lakh on collateral-free loans was prescribed by RBI in June 2010.
  - **A collateral free loan** means that borrowers do not have to offer any asset or pledge collateral to borrow against.
- The committee has also suggested various long-term solutions for the economic and financial sustainability of MSMEs.
- The report has also **recommended the mainstreaming the restructuring of stressed loans**, considering the central bank had given a one-year window to banks to do so in January 2019.
- The proposal is part of a report prepared **by the eight-member RBI committee** tasked with reviewing the current framework for the MSME sector.
  - The panel was **headed** by former SEBI chairman **U K Sinha**.

#### The MSME definition

- The Micro Small & Medium Enterprises (MSMEs) are defined under the Micro, Small & Medium Enterprises Development (**MSMED**) **Act, 2006** on the basis of capital investment made in plant and machinery, excluding investments in land and building.
- Manufacturing units having investment:
  - below Rs 25 lakh are termed as Micro,

Note:



- those between Rs 25 lakh and Rs 5 crore as Small
- and from Rs 5 crore to Rs 10 crore as Medium.
- Service units, corresponding investment thresholds are:
  - up to Rs 10 lakh are termed as Micro,
  - between Rs 10 lakh to Rs 2 crore as Small,
  - between Rs 2 crore to Rs 5 crore as Medium
- **However, the government is contemplating to change the definition of MSMEs.**
  - The proposed change under a new draft is that **annual turnover, rather than investment size**, should be the criterion for such units.
  - Under the draft, there would be **no difference between a manufacturing and service unit.**
  - Micro can be up to Rs 5 crore of turnover, small up to Rs 75 crore, and medium up to Rs 250 crore of turnover should be considered.

#### Pradhan Mantri MUDRA Yojana

- The Pradhan Mantri MUDRA Yojana (PMMY) is a scheme launched in 2015 for providing loans up to 10 lakh to the non-corporate, non-farm small/micro enterprises.
- These loans are classified as MUDRA loans under PMMY.
- These loans are given by Commercial Banks, RRBs, Small Finance Banks, Cooperative Banks, MFIs and NBFCs.
- Under the aegis of PMMY, MUDRA has created three products namely 'Shishu', 'Kishore' and 'Tarun' to signify the stage funding needs of the beneficiary/entrepreneur and also provide a reference point for the next phase of graduation/growth.
  - **Shishu:** covering loans up to Rs. 50,000
  - **Kishore:** covering loans above Rs. 50,000 and up to Rs. 5,00,000
  - **Tarun:** covering loans above Rs. 5,00,000 and up to Rs. 10,00,000
- As of Feb 1, 2019, over 157 million loans amounting to Rs 7.59 trillion have been extended under PMMY since its inception.

## Seven Million Jobs Created in Formal Sector

The Indian Staffing Federation (ISF) has reported the formalisation of over seven million jobs between

2015-2018 due to reforms and initiatives taken by Indian government.

- The report titled, 'Impact of key reforms on job formalisation and flexi-staffing' mentioned that 1.2 million workers have been added to the flexi-workforce since 2015 and a further 1.53 million are to be added over the next three years.
- The government's current agenda of job creation can be achieved by boosting the aggregate effective demand in the economy through formalisation, industrialisation, urbanisation, financialisation and skilling.
- India will have a 6.1 million flexi-workforce by 2021.
  - Sectors such as logistics, banking, financial services and insurance (BFSI), IT/ ITeS, retail and government would be the **top five sectors, employing over 55 per cent of the total flexi-workforce by 2021.**
- The flexi staff space grew at a Compound Annual Growth Rate (CAGR) of **16.3 per cent in 2018** and is expected to further accelerate to **22.7 percent from 2018-2021.**
- The report establishes **flexi-staffing as a key job creation engine.**

#### Flexi-staffing

- **Flexible Staffing** is an arrangement in an organization where the employees can be from **temporary agencies, leased employees or contract workers.**
- It is more commonly known as temporary staffing and predominantly focuses on the white collar industry.

#### Indian Staffing Federation (ISF)

- The ISF is the apex body representing the Staffing industry/Private Employment Services that is **authorised to discuss with government agencies and other trade bodies on behalf of the staffing industry/private employment services.**
  - The Staffing/private employment services is an enabler **to provide social security** and long term **medical**, and **retirement benefits to temp/ flexi-staff.**
- The purpose of ISF is to enhance long-term growth and ensure its continued ability to make positive contributions to the economy as well as the society **through the services of the staffing industry.**
- **Staffing industry covers a meager 2% penetration of the possible employable size in India.**

Note:

- The acceleration in momentum towards formal employment witnessed in the past three years clearly means the reforms such as the payment of wages act and EPF are having a positive impact.

## Basel III Requirements

According to a report by the Basel Committee on Bank Supervision (BCBS), the **Reserve Bank of India has fallen short** of meeting tougher **requirements set by the Basel III norms**.

- The report looked at adoption status of Basel III standards by 30 global systemically important banks (G-SIBs) as of end-May 2019.
- The RBI is **yet to publish the securitisation framework and rules on Total Loss-Absorbing Capacity (TLAC)** requirements.
  - Securitisation framework includes credit enhancement facility, liquidity facility, underwriting facility, interest rate or currency swaps and cash collateral accounts.
  - TLAC requirements ensures that G-Sibs have adequate loss absorbing and recapitalisation capacity so that critical functions can be continued without taxpayers' funds or financial stability being put at risk.
- The RBI is also yet to come out with draft regulations on **revised Pillar 3 disclosure requirements**, which took effect from end-2016.
- Indian banks are in the process of implementing **rules on Interest Rate Risk in the Banking Book (IRRBB)**. The central bank is also yet to come out with final guidelines on the same. Globally the rules were effective from end-2018.

### Basel III Norms

- Basel III is an **internationally agreed set of measures** developed by the BCBS in response to the financial crisis of 2007-09. The measures aim to strengthen the regulation, supervision and risk management of banks.
- BCBS members are committed to implementing and applying standards in their jurisdictions within the time frame established by the committee.
- **Basel 3 measures are based on three pillars:**
  - **Pillar 1:** Improve the banking sector's ability to absorb ups and downs arising from financial and economic instability

- **Pillar 2:** Improve risk management ability and governance of banking sector
- **Pillar 3:** Strengthen banks' transparency and disclosures

### Basel Committee on Bank Supervision (BCBS)

- It is a **committee under the Bank For International Settlements**.
  - Established in **1930**, the **BIS** is owned by 60 central banks, representing countries from around the world that together account for about 95% of world GDP.
  - Its head office is in **Basel, Switzerland**.
  - Its mission is to **serve central banks in their pursuit of monetary and financial stability**, to foster international cooperation in those areas and to act as a bank for central banks.
- It is the **primary global standard** setter for the prudential regulation of banks and provides a forum for regular cooperation on banking supervisory matters.
- The committee identifies G-SIBs using a methodology that includes both quantitative indicators and qualitative elements.
- A **global systemically important bank** is a bank whose systemic risk profile is deemed to be of such importance that the bank's failure would trigger a wider financial crisis and threaten the global economy.

## International Equivalence for Personnel Certification

India's **national accreditation body**, the National Accreditation Board for Certification Bodies (**NABCB**), has **secured international equivalence for its accreditation programme for personnel certification bodies** in the annual meeting of the **Asia Pacific Accreditation Cooperation** in Singapore on 20<sup>th</sup> June, 2019.

- NABCB signed the Mutual Recognition Arrangement (MRA) of the Asia Pacific Accreditation Cooperation (APAC) based on the international standard, ISO/IEC 17024.
- **ISO/IEC 17024** specifies criteria for the operation of a Personnel Certification Bodies (also known as a certification body for persons).
  - **Personnel Certification Bodies** are the one which confirm the competence of an individual to perform

Note:

a specified service (of electrician, welder etc.) or duty through an issue of a certificate.

- With this recognition, NABCB hopes to **facilitate export of Indian services and skills** into the world market by attesting that persons are certified following international standards by the certifying bodies.
- This would support many professionals in India, especially those who do not have formal education or certificate programme. **Any person carrying ISO/IEC 17024 certificate with NABCB logo will be recognized internationally.**

#### NABCB

NABCB, a **constituent board of Quality Council of India**, an autonomous body attached to the **Ministry of Commerce and Industry**, is responsible for **accreditation of certification/inspection bodies** as per applicable international standards under an international system of equivalence.

#### Asia Pacific Accreditation Cooperation

- The Asia Pacific Accreditation Cooperation (APAC) was established on **1<sup>st</sup> January 2019**.
- Its primary role is to manage and expand a Mutual Recognition Arrangement (MRA) among accreditation bodies in the Asia Pacific region.
- The MRA **facilitates the acceptance of conformity assessment results** (e.g. test reports, test certificates, inspection reports, and certification) across the region and with other regions around the world.
- APAC is **recognized by the Asia Pacific Economic Cooperation (APEC)** as one of four APEC Specialist Regional Bodies (SRBs) that support the work of the APEC Sub-Committee on Standards and Conformance.

## India's Food Processing Industry

The Union Minister of State for Food Processing Industries has stated that **Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)** envisages **creation of direct and indirect employment** for 5,30,500 persons by 2020.

#### Pradhan Mantri Kisan SAMPADA Yojana

- In the year 2016, the Ministry of Food Processing and Industries (MoFPI) had introduced an umbrella Scheme Called "Agro-Marine Processing and Development of

Agro-Processing Clusters" or **SAMPADA**, which was proposed to be implemented with an allocation of Rs 6,000 crore for the period of 2016-20.

- In the year 2017, the government renamed SAMPADA scheme as **Pradhan Mantri Kisan Sampada Yojana (PMKSY)**.
- The **objective** of PMKSY is to supplement agriculture, modernize processing and decrease agri-waste.
- The PMKSY has seven component schemes:
  - Mega Food Parks,
  - Integrated cold chain and value addition Infrastructure,
  - Infrastructure for agro-processing clusters,
  - Creation of backward and forward linkages,
  - **Creation/Expansion of Food Processing & Preservation Capacities**,
  - Food Safety and Quality Assurance Infrastructure, and
  - Human Resources and Institutions.
- Under PMKSY, capital subsidy in the form of **grants-in-aid ranging from 35% to 75%** of the eligible project cost subject to a maximum specified limit is provided to investors under the various schemes for undertaking infrastructure, logistic projects and setting up of food processing units in the country.

#### Other steps taken in the Food Processing Sector

- **100% Foreign Direct Investment (FDI)** through automatic route in **manufacturing of food products** and 100% FDI under Government approval route for retail trading, including through e-commerce, in respect of food products produced and/or manufactured in India has been permitted.
- **A special fund of Rs. 2000 crore** has been created with the **National Bank for Agriculture and Rural Development (NABARD)** to provide affordable credit to food processing projects/units.
- Food & agro-based processing units and cold chain infrastructure has been classified as agriculture activity for **Priority Sector Lending (PSL)**.
- **Fiscal measures** like 100% exemption of Income Tax on profit for new food processing units, 100 % income tax exemption from profit derived by Farmers Producers Organizations (FPOs) having annual turnover of Rs.100 crore have been allowed for activities such as post-harvest value addition to agriculture.

Note:

- **Lower Goods & Service Tax (GST) rates** for the majority of food products have been fixed.
- A new Central Sector Scheme "**Operation Greens**" for integrated development of Tomato, Onion and Potato (TOP) crops value chain, with an outlay of Rs. 500 crore to promote FPOs, agri-logistics, processing facilities, has been launched.

## Side Pocketing in Mutual Funds

- **The Securities and Exchange Board of India (SEBI)** introduced the side pocketing framework in December, 2018 on the back of **IL&FS fallout**, which had failed in meeting its commitments to creditors and lenders, **putting a lot of pressure on the net asset value of most debt funds that owned IL&FS group papers in their portfolio.**
- **The side pocketing is a framework** that allows Mutual Funds (MFs) to segregate the bad assets in a separate portfolio within their debt schemes.
- Under the side pocketing, to protect retail investors from the risky investments, the SEBI has allowed MFs to separate the stressed assets from good quality liquid assets.
- **If a debt instrument is downgraded to default rating by credit rating agencies**, then the MFs have the option to create a side pocket so that good assets can be ring-fenced.
- All existing investors in the scheme are **allotted equal number of units in the segregated portfolio** as held in the main portfolio and **no redemption or subscription is allowed in the segregated portfolio.**
  - Thereafter, the units **(in the segregated portfolio)** have to be listed on a stock exchange within 10 days to facilitate exit of the unit holders.
  - Effectively, this makes **the price discovery of the bad assets with investors having the freedom of either selling it at prevailing price or holding it if they expect the value to recover in future.**

### Misuse of Side pocketing

- It could be misused by MFs to hide their bad investment decisions.
- The SEBI, however, has put in place checks and balances to minimise any such misuse.
  - The trustees of all fund houses will have to put in place a framework that would **negatively impact**

**the performance incentives of fund managers, Chief Investment Officers (CIOs), etc. involved in the investment process of securities under the segregated portfolio.**

- The SEBI has also stated that side pocket should not be looked upon as **a sign of encouraging undue credit risks** as any **misuse of the option** would be considered serious and stringent action can be taken.

## State Divide in Unemployment

**The Periodic Labour Force Survey (PLFS) for 2017-18** reflects huge variations among the states in terms of the **unemployment rate**. The survey reflects the overall unemployment rate in India at **6.1%**.

- Nagaland and Meghalaya occupy the top and bottom positions among all states in terms of the unemployment rate at 21.4% and 1.5% respectively.
- In terms of Rural-Urban divide, urban areas are facing a high rate of unemployment (7.8%) in comparison to rural areas (5.3%).
- **The unemployment rate among females has been observed lower than the males** with 5.7% and 6.2% respectively.
- Goa and Kerala are high in **female unemployment** with a rate of 26% and 23.3% respectively. Meghalaya is at the bottom with 1.9%.

### Periodic Labour Force Survey (PLFS)

- The Periodic Labour Force Survey (PLFS) was launched by the National Sample Survey Organisation (NSSO) in 2017.
- The objective of PLFS is primarily on two aspects:
  - The first is to measure the dynamics in labour force participation and employment status in the short time interval of three months for the urban areas only in the Current Weekly Status (CWS).
  - Thus, in every quarter, PLFS will bring out the level and change estimates of the key labour force indicators in CWS viz. Worker- Population Ratio (WPR), Labour Force Participation Rate (LFPR), Unemployment Rate (UR).
  - Secondly, for both rural and urban areas, level estimates of all important parameters in both usual status and CWS will be brought out annually.

Note:



**Key Employment and Unemployment Indicators**

- **Labour Force Participation Rate (LFPR):** LFPR is defined as the percentage of persons in the labour force (i.e. working or seeking or available for work) in the population.
- **Worker Population Ratio (WPR):** WPR is defined as the percentage of employed persons in the population.
- **Proportion Unemployed (PU):** It is defined as the percentage of persons unemployed in the population.
- **Unemployment Rate (UR):** It is calculated by dividing the number of unemployed by the number in the labour force, that is, the sum of employed and unemployed.
- **Activity Status - Usual Status:** The activity status of a person is determined on the basis of the activities pursued by the person during a specified reference period. When the activity status is determined on the basis of the reference period of the last 365 days preceding the date of survey, it is known as the usual activity status of the person.
- **Usual Principal Status and Subsidiary Status (PS+SS):** The Usual Principal Status and Subsidiary Status approach is an extension to the principal status approach.
  - If a person has engaged in any economic activity for a period of 30 days or more during the preceding 365 days a person is considered as employed under this approach.
- **Activity Status – Current Weekly Status (CWS):** The activity status determined on the basis of a reference period of last 7 days preceding the date of the survey is known as the Current Weekly Status (CWS) of the person.

## Beekeeping Development Committee

**Bibek Debroy** led beekeeping development committee under the Economic Advisory Council to the Prime Minister has made recommendations to enhance the contribution of the beekeeping sector for achieving the target of **doubling of farmer incomes by 2022**.

- The committee was set up to identify ways of advancing beekeeping in India that can help in improving:
  - **Agricultural productivity.**

- Enhancing **employment** generation.
- Augmenting **nutritional security**.
- Sustaining **biodiversity**.

**Key Recommendations**

- **Institutionalize** the National Bee Board and rename it as the **Honey and Pollinators Board of India** under the Ministry of Agriculture and Farmers' Welfare as it will help in advancing beekeeping through multiple mechanisms such as:
  - Setting up of new **integrated bee development centers** and strengthening the existing ones.
  - Creating a honey **price stabilization fund**.
  - **Collection of data** on important aspects of apiculture.
- Simplifying procedures and specify clear standards for **ease of exporting honey** and other bee products.
- Beekeeping should not be restricted to honey and wax only instead marketing of bee products such as **pollen, propolis, royal jelly, and bee venom** can contribute to the income of Indian farmers.
- Recognize honeybees as **inputs to agriculture** and consider landless beekeepers as farmers.
- **Training and development** of beekeepers should be provided by state governments.
- **National and regional infrastructure** should be developed for storage, processing, and marketing of honey and other bee products.
- Plantation of **bee-friendly flora** at appropriate places and engaging women **self-help groups** in managing such plantations.
- Recognition of **apiculture as a subject** for advanced research under the aegis of **Indian Council for Agricultural Research**.

**National Bee Board**

- Small Farmers' Agri-Business Consortium (SFAC) is registered National Bee Board as a society under the societies registration Act, 1860 in 2000.
- National Bee Board (NBB) was reconstituted (with the secretary as chairman) in June 2006.
- The main objective of the National Bee Board (NBB) is the overall development of beekeeping by promoting scientific beekeeping in India to increase the productivity of crops through pollination and increase the honey production for increasing the income of the beekeepers/ farmers.

Note:

### Honey Bee Industry in India

- As per the **Food and Agricultural Organization** database, India ranked **eighth** in 2017-18 in the world in terms of honey production while China stood first.
- India has a potential of about **200 million bee colonies** as against 3.4 million bee colonies today.
- Increasing the number of **bee colonies** will not only increase the production of bee-related products but will boost overall **agricultural and horticultural productivity**.
- As per the National Bee Board and Ministry of Agriculture & Farmers' Welfare India's **honey exports** have jumped from 29.6 to 51.5 thousand tonnes between 2014-15 and 2017-18.
- Presently NBB is implementing National Horticulture Mission (NHM) and Horticulture Mission for North East and Himalayan State (HMNEM).

## Financial Stability Report : RBI

The **Reserve Bank of India** has released the 19th issue of the **Financial Stability Report (FSR)**.

- The report assessed that India's financial system remains stable in the backdrop of improving resilience of the banking sector. However, the emerging trends in the global economy and geopolitical environment pose challenges.

### Major Global and Domestic Macro-Financial Risks

- Lower global growth forecast by international institutions like **World Bank** and **IMF**.
- Adverse geopolitical developments and **trade tensions**.
- Eased monetary policy stance undertaken by the central banks of Advanced Economies' (AEs) and the need for emerging and developing economies to adjust to it.
- Subdued new investment.
- A widening **current account deficit**.
- The challenge of reviving private investment demand while being vigilant about the spillover from global financial markets.

### Financial Institutions: Performance and Risks

- Credit growth of Scheduled Commercial Banks (SCBs) picked up, with Public Sector Banks (PSBs) registering near double digit growth.
- Capital adequacy of the SCBs improved after the recapitalisation of PSBs. **The Non-Performing Asset (NPA) cycle** seems to have turned around.
- **Provision coverage ratio (PCR)** of all SCBs rose sharply to 60.6% in March 2019 from 52.4% in September 2018, increasing the resilience of the banking sector.

#### Provision Coverage Ratio

- The Provisioning Coverage Ratio (PCR) is the percentage of bad assets that the bank has to provide for from their own funds. In other words, it is the ability of banks to service its debt and meet its financial obligations such as interest payments or dividends.
- The higher the coverage ratio, the easier it is to make interest payments on debt or pay dividends.
- Recent **developments in the Non-Banking Financial Companies (NBFC)** sector have brought the sector under greater market discipline.
- There is need for greater surveillance over large **Housing Finance Companies (HFCs)** or NBFCs, as the failure of such companies can cause losses comparable to those caused by the big banks.

### Financial Sector: Regulation and Developments

- In order to finetune the supervisory mechanism for the banks, the Reserve Bank has recently reviewed the structure of supervision in the context of the growing diversity, complexities and interconnectedness within the Indian financial sector.
- The **revised prudential framework on stressed assets** issued by the Reserve Bank further incentivize early adoption of a resolution plan.
- To further **enhance the quality of disclosures made by Credit Rating Agencies (CRAs)** and strengthen the rating framework, the **Securities and Exchange Board of India (SEBI)** has introduced Guidelines for Enhanced Disclosures by CRAs.
- To provide flexibility to pension funds to improve fund performance depending on market conditions, the **Pension Fund Regulatory and Development Authority (PFRDA)** amended the investment guidelines.

Note:



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- The **Insolvency and Bankruptcy Board of India (IBBI)** is showing steady progress in the resolution of stressed assets.

## India and USA at WTO

India has won a major trade dispute against the US at the **World Trade Organization (WTO)**, with a dispute settlement panel.

- India had claimed that the **domestic content requirements and subsidies** instituted by the **governments of the eight states of the US in the energy sector** violated several provisions of the Trade-Related Investment Measures (TRIMs) Agreement and Subsidies and Countervailing Measures Agreement.
- India brought this dispute to the WTO in 2016.
  - The same year, the US had won a case at WTO against India's solar power policies, claiming that policies had resulted in a 90% reduction of U.S. solar exports to India.
- The panel pronounced that subsidies and mandatory local content requirements instituted by eight American states (Washington, California, Montana, Massachusetts, Connecticut, Michigan, Delaware and Minnesota) breached global trade rules.
- The panel found that all the US state measures at issue are inconsistent with **GATT 1994 (Article III-national treatment)** because they provide an advantage for the use of domestic products, which amounts to less favourable treatment for similar imported products.
  - Under the national treatment provision, foreign producers must be treated on a par with domestic producers.
- The US can challenge the panel's ruling before the Appellate Body (AB) of WTO.
  - However, the AB has become dysfunctional because the US has been blocking appointments to it.

### Implications of Ruling

- It reflects that the US and its federal states maintain WTO-inconsistent programmes in the renewable energy sector.
- There is an assertion from world trade body that the US should not undermine renewable energy programmes in other countries such as India on grounds that they violate global trade rules when Washington and its federal states adopt much bigger programmes worth billions of dollars that violate global trade rules.

## International MSME Day

The Ministry of Micro Small and Medium Enterprises (MSME) has organized an international convention on **Micro, Small and Medium Enterprises** based on the theme "**Indian MSMEs, Global Aspirations**" to observe the International MSME day on 27<sup>th</sup> June.

- The objective of the convention is to boost the **international competitiveness** of Indian MSMEs by making them aware of **global trends and practices** and standards in export financing.
- The convention acted as a platform for finding **business and trade partners** and enabling **intensive business discussion** (to increase **support and outreach of SMEs**) with a specific focus on the interaction between international entrepreneurs and selected small and medium entrepreneurs from India.

### International MSME Day

- Since 2017, **United Nation General Assembly**, observes 27th June as the International Micro, Small and Medium-sized Enterprises Day to raise public awareness of their contribution to **sustainable development goals**.
- International Trade Center, launched its report: "**The SME Competitiveness Outlook 2019: Big money for small businesses**" to address the challenges of the MSME sector.

#### The International Trade Centre

- Established in 1964, the International Trade Centre (ITC) is the joint agency of the **World Trade Organization** and the United Nations.
- ITC is the only development agency that is fully dedicated to supporting the internationalization of Small and Medium-sized Enterprises (SMEs).
- ITC enables SMEs in **developing and transition economies** to become more competitive and connect to international markets for trade and investment, thus raising incomes and creating job opportunities, especially for women, young people, and poor communities.

### SMEs and SDGs

- SMEs play an important role in the implementation of **SDG 8** (decent work and economic growth) and **SDG 9** (industry, innovation, and infrastructure).

Note:

- Micro, small and medium-sized enterprises are vital in promoting **innovation, creativity and decent work for all**.
- Efforts to enhance **access to finance** for SMEs across key sectors of national economies are an important element of the implementation of the Sustainable Development Goals (SDGs).
- SDG targets 8.3 and 9.3 call for enhancing the access of SMEs to financial services.

## Just Job Index

**Just Jobs Index (JJI)** is a new data-driven tool to measure the quantity and quality of jobs at the state level. This tool has been developed by the JustJobs Network( a private body), with support from the Azim Premji University.

- The tool draws data exclusively from government sources including the **National Sample Survey Organisation (NSSO)**, the **Labour Bureau**, the **Annual Survey of Industries (ASI)**, the **Reserve Bank of India (RBI)** and the recent **Periodic Labour Force Survey (PLFS)**.
- It covers five dimensions: employment, formality, benefits, income equality and gender equality

### What is a Good Job

- **Employment:** This covers the labour force participation rate, **the unemployment rate** and the youth unemployment rate.
- **Formality:** This looks at how many among the total workforce have written job contracts or earn regular wages, compared to those engaged in informal work,

which can range from self-employment, unpaid family work to working for informal businesses.

- **Benefits:** State expenditure on pensions, the proportion of workers who are part of a union and the proportion of workers that have pension funds make up this dimension. It is a measure of the social protection afforded to workers, especially vital in an economy where millions are one expensive illness away from poverty.
- **Income Equality:** Since credible income data is hard to come by, the authors have used consumption data to calculate consumption-based inequality as one of the indicators of income inequality. The other indicators are the ratio of minimum wages to average real wages and the ratio of informal wages to average wages.
- **Gender Equality:** This is quantified by the ratio of female to male employment rates, labour force participation rates and the ratio of their wages.

### Suggestions

- The report proposes the establishment of a **National Employment Strategy** with a three-pronged focus:
  - First, generating **labour-intensive jobs** in industry and in agriculture.
  - Second, making **investments in human capital**, especially in quality education and universal healthcare, not just in short-term skill training.
  - Third, **strengthening labour market institutions** through simplifying and rationalising labour regulation and providing a national minimum wage.
- Not just the central government, even the states could make interventions. State level index can be developed for that.



Note:



# International Relations

## Highlights

- US Withdraws GSP for India
- India-Marshall Islands TIEA
- Global Peace Index 2019
- Hongkong Protest
- SCO Summit- 2019
- NATO Ally Status to India
- UN Report on Myanmar Rohingya Crisis
- Fewer but Newer Nuclear Arms: SIPRI
- India's NSG bid
- India's Non-Permanent Seat at the UNSC
- Kobe-Ahmedabad Sister Cities

## US Withdraws GSP for India

The US has announced that it will terminate India's designation as a beneficiary of its **Generalized System of Preferences (GSP)** from June 5, 2019.

### What is GSP?

- The idea of granting developing countries preferential tariff rates in the markets of industrialized countries was originally presented at the first **United Nations Conference on Trade and Development (UNCTAD)** conference in 1964.
- The GSP was adopted at UNCTAD meet in New Delhi in 1968, and was instituted in 1971.
- There are currently **13 countries** which **grant GSP preferences to developing and least developed countries**: Australia, Belarus, Canada, the European Union, Iceland, Japan, Kazakhstan, New Zealand, Norway, the Russian Federation, Switzerland, Turkey and the United States of America.
- **GSP is the largest and oldest U.S. trade preference program. Established by the Trade Act of 1974**, GSP promotes economic development by eliminating duties on thousands of products when imported from one of the 120 designated beneficiary countries and territories.

### Impact of GSP Withdrawal

- India has been the biggest beneficiary of the GSP regime.
- In 2018, **\$6.3 billion** of Indian merchandise exports to the U.S. were covered by GSP.

- The sectors which could face the impact of the withdrawal of the GSP regime are **gems and jewellery, leather and processed foods**.
- However, India has said that **the impact is "minimal" given that Indian exporters were only receiving duty-free benefits of \$190 million on the country's overall GSP-related trade of \$5.6 billion**.
- This could impact India's competitiveness in items groups such as raw materials in the organic chemicals sector and intermediary goods in the US market, alongside items such as iron & steel, furniture, aluminium and electrical machinery.
- **The impact on small industries in the country could be significant.** Such industries would lose their market share in the U.S. without fiscal support to help them maintain their edge.

### Why GSP was Revoked?

- A series of decisions taken by the Indian government has led to trade friction between the two countries:
  - India's **new e-commerce rules** — which have impacted American companies like Amazon and Walmart (majority owner of Flipkart).

#### New e-commerce norms

- The vendors that have any stake owned by an e-commerce company (equity stake) cannot sell their products on that e-commerce company's portal.
- Any vendor who purchases 25% or more of its inventory from an e-commerce group company will be considered to be controlled by that e-commerce company, and thereby barred from selling on its portal.

Note:

- The policy mandates that no seller can sell its products exclusively on any marketplace platform and that all vendors on the e-commerce platform should be provided services in a “fair and non-discriminatory manner”.
- Price controls on medical devices (cardiac stents).
- Tariffs on products like smartwatches and high-end mobile phones.
- Lack of greater market access for the U.S. dairy industry.

## India-Marshall Islands TIEA

Recently, India has **notified** the **Tax Information Exchange Agreement (TIEA)** signed with the Marshall Islands in 2016.

- The Agreement enables the exchange of information, including banking and ownership information, between the two countries for tax purposes.
- The Agreement will enhance mutual cooperation between India and the Marshall Islands by providing an effective framework for the exchange of information in tax matters which will help curb tax evasion and tax avoidance.



- The agreement also provides for the sharing of information on request and representatives of one country to undertake tax examinations in other country.
- The Marshall Islands are a chain of volcanic islands and coral atolls in the Pacific Ocean, between Hawaii and the Philippines.

## Global Peace Index 2019

India has been ranked **141** among 163 countries on the Global Peace Index 2019. India bagged 136<sup>th</sup> rank in 2018.

### Global Peace Index (GPI)

- It is released by Australian think tank **Institute for Economics & Peace**.
- It ranks countries according to their level of peacefulness based on **three thematic domains**:
  - The level of societal safety and security.
  - The extent of ongoing domestic and international conflict.
  - The degree of militarisation.
- **Possible effects of climate change on peace** is newly included in this research.
- In the last five year, the global score of GPI has improved, with 86 countries improving and 76 recording deteriorations.

### Findings of the Report

- **Most peaceful: Iceland** remains the most peaceful country in the world, a position it has held since 2008.
  - Other countries at the top of the Global Peace Index (GPI) are New Zealand, Austria, Portugal, and Denmark.
- **Least peaceful:** Afghanistan is now the least peaceful country in the world, replacing Syria, which is now the second least peaceful.
  - South Sudan, Yemen, and Iraq comprise the remaining five least peaceful countries
- **Position of South Asian countries:** Bhutan topped the index with 15<sup>th</sup> rank, Sri Lanka 72<sup>nd</sup>, Nepal 76<sup>th</sup>, Bangladesh 101<sup>st</sup> and Pakistan 153<sup>rd</sup> on the index.
- **Climate hazards:** India along with the Philippines, Japan, Bangladesh, Myanmar, China, Indonesia, Vietnam and Pakistan are the nine countries with the highest risk of multiple climate hazards.
  - India has the 7<sup>th</sup> highest overall natural hazard score.
- **Military expenditure:** US, China, Saudi Arabia, Russia and India are the top five countries with the largest total military expenditure.

Note:

## Hongkong Protest

Massive protests in Hongkong has erupted against a government plan to allow extradition to mainland China.

- The mass demonstration was one of the largest in the city's history and a stunning display of rising fear and anger over the erosion of civil liberties.
- The protest recalled the **pro-democracy Umbrella Movement** five years ago.

### About Hongkong

- Hongkong is situated on the southeast coast of China. Hong Kong's strategic location on the **Pearl River Delta and South China Sea** has made it one of the world's most thriving and cosmopolitan cities.
- Hong Kong as we know it today was born when China's **Qing dynasty** government was defeated in the First Opium War in 1842. It ceded Hong Kong Island to **Britain**. Hongkong was under the control of the British empire until 1997. The Sino-British declaration under the principle of '**One Country, Two Systems**', Hong Kong became a **Special Administrative Region (SAR)** of the People's Republic of China on 1<sup>st</sup> July 1997.



- This arrangement allows the city to enjoy a high degree of autonomy, retaining its capitalist system, independent judiciary and rule of law, free trade and freedom of speech.
- The interference of the communist regime of China in the internal affairs of Hongkong and its oppressive

policies have led to various pro-democracy protests for autonomy in recent times.

### Umbrella Movement

- The Umbrella Movement started as a spontaneous **social movement** for **democratic development** in Hong Kong in September 2014.
- The revolution was named so because of the use of umbrella for defence against police pepper spray.

## SCO Summit- 2019

The 19<sup>th</sup> annual **Shanghai Cooperation Organisation (SCO)** summit was held on 13-14 June 2019 in **Bishkek, Kyrgyz Republic**.

- The heads of the member states reviewed the implementation of the results of the **Qingdao Summit** and the priority goals for SCO development in the context of current global political and economic processes.
  - The **Bishkek Declaration** was adopted by the member states.

### Note:

Another "Bishkek Declaration" adopted in 2013 by 12 countries (including India) is associated with the conservation and protection of Snow Leopard.

### Highlights of the SCO-2019 Bishkek Declaration

- **Security**
  - The member states condemned terrorism in all its forms and manifestations. They urged the international community to strengthen global cooperation in efforts against terrorism in line with the **UN Charter and the principles of international law**, without politicisation and double standards, while respecting the sovereignty and independence of all states.
  - The declaration also pressed for consensus regarding the adoption of the **Comprehensive Convention on International Terrorism**.
- **Economy**
  - The declaration resolves for expanding and deepening cooperation in trade and finance, increasing the share of national currencies in mutual financial transactions and development of technological parks.

Note:

- **Space**
  - Keeping outer space **free from weapons** and importance of **peaceful use** of outer space.
- **Narcotic Drug Threat**
  - Need to address the illegal cultivation, production, circulation, sales and dissemination of narcotic drugs, psychotropic substances and precursors.
- **Russia will assume the presidency of the SCO next year.** In 2020, the Russian Federation will host a regular SCO Heads of State Council Meeting.



#### Shanghai Cooperation Organisation(SCO)

- SCO is a **permanent intergovernmental** international organisation, formed in **2001**.
- It is a Eurasian political, economic and military organisation aiming to maintain peace, security and stability in the region.
- It is a successor to **Shanghai Five**.
- Its members include Kazakhstan, China, Kyrgyzstan, Russia, Tajikistan, Uzbekistan, India and Pakistan.

## NATO Ally Status to India

Two top American lawmakers have moved a key legislation in the Senate which seeks to advance the US-India strategic relationship.

- The legislation will amend the Arms Control Export Act to bring India at par with the US' NATO allies— Israel, Australia, New Zealand and South Korea for purposes of selling military items under the ITAR (International Traffic in Arms Regulations) list.

#### Background

- There are two technology control lists in the US system – one is under the **Export Administration Regulations**, which places controls on the sale of

dual-use items that have both civil and military uses and the second is the **ITAR list**.

- The civil nuclear deal paved the way for India to access items on the first set of lists, i.e. those under the Export Administration Regulations.
- The Arms Control Export (AEC) Act governs the ITAR list. The amendment, therefore, will make it possible for the US to fulfil India's operational requirements in quick time, thus improving its reliability on supplies.

#### Importance

- The amendment was moved as part of the National Defense Authorization Act 2020 of the USA, giving a big boost to India-US defence trade.
- This would remove current legislative barriers to export of major high-tech defence equipment to India which is normally shared with only a few countries.
- Although, it is an important signal of US political support for enhancing defense ties but is unlikely to have tangible impact on trade flows in the near term.
- The amendment needs to be passed by both the Senate and the House of Representatives before it can be signed by the US President into law.

#### North Atlantic Treaty Organization

- North Atlantic Treaty Organization (NATO) is a military alliance established by the North Atlantic Treaty (also called the Washington Treaty) of April 4, 1949, by the United States, Canada, and several Western European nations to provide collective security against the Soviet Union.
- A key provision of the treaty, the so-called Article 5, states that if one member of the alliance is attacked in Europe or North America, it is to be considered an attack on all members. That effectively put Western Europe under the "nuclear umbrella" of the US.
  - NATO has only once invoked Article 5, on September 12, 2001 following the 9/11 attacks on the World Trade Center in the US.
- As of 2019, there are 29 member states, with **Montenegro** becoming the latest member to join the alliance in 2017.

#### Recent Issues

- A big source of the internal strain is American President Donald Trump's recurrent demand that countries devote an amount equal to at least two percent of GDP to defence spending In 2018.

Note:



- However, only seven of NATO's 29 member states hit the two-percent target.
- Strained relationship over selling of defence equipments.
  - The US has halted delivery of equipment related to its F-35 fighter jets to Turkey over its plans to buy [Russia's S-400 missile defence system](#).
  - U.S. wants Turkey to buy the Patriot defence system of the USA, instead of Russia's S-400s.
- Recently, the Republic of Macedonia changed its name to the "[Republic of North Macedonia](#)" to enter the North Atlantic Treaty Organization (NATO) and the [European Union \(EU\)](#) as its accession to both organizations was vetoed by Greece.

## UN Report on Myanmar Rohingya Crisis

The UN Secretary-General has accepted an independent report on how the UN System operated in Myanmar, leading up to the mass exodus of the [Rohingyas](#) following serious human rights abuses.

- The report concluded that there were "**systemic and structural failures**" that prevented a unified strategy from being implemented.
- It covers the period 2010-2018, encompassing the UN's response to the systematic and brutal abuse of hundreds-of-thousands of mainly – **Muslim Rohingya in Rakhine state**, by the national army and security forces, which began in August 2017.
- It was described by the **UN human rights chief** at the time as a **textbook example of ethnic cleansing**.

### Findings of Report

- **Fragmented Strategy:** The report has expressed displeasure over the functioning of the UN agency in handling the violence against the Rohingya. It observes that serious errors were committed and opportunities were lost in the UN system following a **fragmented strategy** rather than a common plan of action.
- **Improper Reporting:** There appear to have been instances of **deliberately de-dramatizing events** in reports prepared by the Resident Coordinator, as well as instances of various UN entities, including the Office for the Coordination of Humanitarian Affairs (OCHA), of not sharing their analysis with other entities of the UN System.

- **Polarisation:** It appears that the increasing polarisation among officials and staff was fuelled, at least in part, by the emotional reactions to the horrific events taking place on the ground.
- The foundations of **systemic and structural shortcomings** in the UN's presence in Myanmar.
  - Insufficient inter-governmental support.
  - The absence of a clear and unifying strategy.
  - The weakness of a clear nodal point for coordination.
  - Dysfunctional actions at the level of the Country Team.
  - Shortcomings of systematic and unified analysis from the field

### Conclusion and Recommendations

- **Shared Responsibility:** It was the shared responsibility on the part of all parties to protect the Rohingya's.
  - The agencies involved have not been able to accompany the Government's political process with constructive actions.
- The report says that the UN Security Council should bear some responsibility, "for not providing enough support to the Secretariat when such backing was required and continues to be essential.
- **The key lesson** was to foster an environment encouraging different entities of the UN System to work together to reinforce a "**broader, system-wide strategy**".

### Rohingya

- The Rohingya people are stateless, Indo-Aryan ethnic group who reside in Rakhine State, Myanmar.
- There were an estimated 1 million Rohingya living in Myanmar before the 2016–17 crisis. An estimated 625,000 refugees from Rakhine, Myanmar, had crossed the border into Bangladesh since August 2017. The majority are Muslim while a minority are Hindu.
- Described by the United Nations as one of the **most persecuted minorities** in the world. The Rohingya population is denied citizenship under the 1982 Myanmar nationality law. They have denied the Rohingya the possibility of acquiring a nationality. Although Rohingya history in the region can be traced back to the 8th century, Myanmar law does not recognize the ethnic minority as one of the eight national indigenous races.

Note:

### Office for the Coordination of Humanitarian Affairs (OCHA)

- OCHA is the part of the United Nations Secretariat responsible for bringing together humanitarian actors to ensure a coherent response to emergencies. OCHA also ensures there is a framework within which each actor can contribute to the overall response effort.
- It works to overcome obstacles that impede humanitarian assistance from reaching people affected by crises, and it provides leadership in mobilizing assistance and resources on behalf of the humanitarian system.
- OCHA is not an operational agency directly engaged in the delivery of humanitarian programmes, and its added value is as an honest broker, facilitator, thought leader and global advocate, providing support to the humanitarian system.

## Fewer but Newer Nuclear Arms: SIPRI

The Stockholm International Peace Research Institute (SIPRI) has reported that the world is witnessing less nuclear arms but with modernising and increasing size.

- **At the start of 2019**, the United States, Russia, Britain, France, China, India, Pakistan, Israel and North Korea had a total of some **13,865 nuclear weapons** with a **decrease of 600** from previous year.
- The drop in recent years can mainly be attributed to the **US and Russia**, whose combined arsenals still make up more than **90 percent of the world's nuclear weapons**.
  - It is partly a result of the **New START treaty** – that was signed between the United States and the Russian Federation in 2010 which puts a cap on the number of deployed warheads as well as getting rid of obsolete warheads from the Cold War era.
  - There is a concern on the future of treaty as it will expire in 2021 and there is no serious discussion on its extension.
- **The Non-Proliferation of Nuclear Weapons (NPT)** has also played a vital role in controlling proliferation of nuclear arms.
  - Because of the NPT, the number of nuclear arms has been drastically reduced since a peak **in the mid-1980s when there were some 70,000 nuclear warheads** in the world.

- This decrease in number of nuclear arms is observed with **modernisation of nuclear arms coupled with increasing size of arms** especially by China, India, and Pakistan.
- The report has shown worry over the **build-up of nuclear arms** on both sides of the border **between India and Pakistan** and the danger of a conventional conflict escalating to a nuclear one.
- Global disarmament efforts also suffered a blow when the United States announced in February, 2019 that it would withdraw from the **Intermediate-Range Nuclear Forces (INF) treaty**, prompting Russia to say it would also suspend its participation.
  - **Intermediate-Range Nuclear Forces (INF) treaty** was signed by the United States and the Soviet Union in 1987 to eliminate and permanently forgo all of their nuclear and conventional ground-launched ballistic and cruise missiles with ranges of **500 to 5,500 kilometers**.

### The Stockholm International Peace Research Institute (SIPRI)

- The SIPRI is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament.
- Established in 1966 at Stockholm, SIPRI provides data, analysis and recommendations, based on open sources, to policymakers, researchers, media and the interested public.

### The Treaty on the Non-Proliferation of Nuclear Weapons (NPT)

- The NPT is a landmark international treaty whose objective is:
  - to prevent the spread of nuclear weapons and weapons technology,
  - to promote cooperation in the peaceful uses of nuclear energy,
  - to further the goal of achieving nuclear disarmament.
- The Treaty represents the only **binding commitment** in a multilateral treaty to the goal of disarmament by the nuclear-weapon States.
- Opened for signature in 1968, the Treaty entered into force in 1970.
- A total of 191 States have joined the Treaty, including the five nuclear-weapon States.

Note:

## India's NSG bid

China has clarified that **India's membership of the Nuclear Suppliers Group (NSG) was not on the agenda of the plenary** of the grouping that **concluded in Nur-Sultan (Kazakhstan)** on 21<sup>st</sup> June, 2019.

- It also stated that **discussion** on India's entry into the 48-nation club would take place only **after reaching a specific plan on non-NPT (Treaty on the Non-Proliferation of Nuclear Weapons) members' participation** in the grouping.
- It has also refused to suggest a deadline by which such a consensus can be reached among the member states.
- **China** has been firm on its stand that **only those countries which have signed the NPT** should be allowed to enter the organisation.
- **Majority of the NSG member states** including the US, Russia, Iceland, Denmark, Finland, Sweden and Norway **back for India's membership** in the grouping **considering its non-proliferation record**.
- **India** is keen to become a member of NSG as it seeks to significantly **expand its nuclear power generation** and also enter the export market in coming years.

### NSG

- The Nuclear Suppliers Group (NSG) **was created following the nuclear test in 1974** by a non-nuclear-weapon State (India), which demonstrated that nuclear technology transferred for peaceful purposes could be misused.
- It is a **group of nuclear supplier countries** that seeks to contribute to the non-proliferation of nuclear weapons through the implementation of two sets of guidelines for nuclear exports and nuclear-related exports.
- The grouping has **48 participating governments** and the NSG Guidelines are implemented by each member in accordance with its national laws and practices.
- **The NSG takes decisions by consensus.**

## India's Non-Permanent Seat at the UNSC

All the countries in the Asia-Pacific Group at the United Nations have unanimously supported India for a non-permanent seat at the UN Security Council (UNSC) for a two-year term in 2021-22.

- Both Pakistan and China have supported India's candidature.
- The Asia-Pacific Group consists of 55 members states, they get to nominate one of its members for the June 2020 elections to a non-permanent seat on the UNSC.
- India has been a non-permanent member of the UNSC seven times, the most recent was for the year 2011-12.
- Estonia, Niger, Tunisia, Vietnam and St. Vincent and the Grenadines were elected earlier this month.
- India has been contending for permanent membership at the UNSC from many years and has been a part of G-4 grouping which is continuously lobbying for **UNSC reforms**.

### United Nation Security Council

- The United Nations Charter established six main organs of the **United Nations**, including the Security Council.
  - It gives primary responsibility for maintaining international peace and security to the Security Council, which may meet whenever peace is threatened.
- All members of the United Nations agree to accept and carry out the decisions of the Security Council.
  - While other organs of the United Nations **make recommendations** to member states, only the Security Council has the power to **make decisions** that member states are then **obligated to implement** under the Charter.

### Permanent and Non-Permanent Members

- The Council is composed of 15 Members:
  - **Five permanent members:** China, France, the Russian Federation, the United Kingdom, and the United States.
  - **Ten non-permanent members** elected for two-year terms by the General Assembly (with the end of term year):
- Belgium (2020), Côte d'Ivoire (2019), Dominican Republic (2020), Equatorial Guinea (2019), Germany (2020), Indonesia (2020), Kuwait (2019), Peru (2019), Poland (2019), South Africa (2020).

### Selection of Non-Permanent Members of the Security Council

- Each year, the General Assembly elects five non-permanent members (out of ten in total) for a two-year

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term. The ten non-permanent seats are distributed on a **regional basis**:

- five for African and Asian countries;
  - one for Eastern European countries;
  - two for Latin American and Caribbean countries;
  - two for Western European and other countries.
- Aspiring member needs the vote of two-thirds of the 193 UN General Assembly members to win a non-permanent seat on the UNSC.

### **United Nations Regional Groups**

- The Regional Groups are the geopolitical regional groups of member states of the United Nations. UN member states were unofficially grouped into **five geopolitical regional groups**.
- Many UN bodies are allocated on the basis of geographical representation. Top leadership positions, including **Secretary-General and President of the General Assembly**, are rotated among the regional groups.
- The groups also coordinate substantive policy and form common fronts for negotiations and bloc voting.

## **Kobe-Ahmedabad Sister Cities**

A Memorandum of Understanding (MoU) of **sister-city partnership** was signed by Japan and India during the Indian Prime Minister's visit for 2019 **G20** Osaka summit in Japan.

- It will cultivate, promote and enhance opportunities on the business, academic and cultural front between Kobe in Hyogo, Japan and Ahmedabad in Gujarat, India.
- In November 2016, India and Japan signed a **sister-state relationship MoU** for Gujarat and Hyogo prefecture.
- The MoU sought to promote mutual cooperation between Gujarat and Hyogo in the fields of academics, business, cultural cooperation, disaster management and environmental protection.
- **The UNESCO** has recognized **Ahmedabad** as the **World Heritage City** and Kobe as the Creative Design City, and therefore, both are recognized by the world as cities of repute.
- This common thread will help people connect and this is very important for the growth on other fronts.
- In 2013, India signed the sister city agreements with China – the pairs were Delhi-Beijing, Bengaluru-Chengdu and Kolkata-Kunming.



Note:



# Science and Technology

## Highlights

- Gestational Diabetes Mellitus
- Barcoding of Medicine
- Hypersonic Technology Demonstrator Vehicle
- Moon's Aitken Crater
- Chandrayaan-2 Mission
- Unapproved Sowing of Genetically Modified Crops
- Jumping Genes
- India to Set Up its Own Space Station
- Spectrum-Roentgen-Gamma Telescope
- Selenium-Graphene Based Catalyst in Fuel Cell
- ICANN and NASSCOM Collaboration
- Membrane to Clean Toxic Effluents
- Report on Epilepsy
- Arogyapacha: 'Miracle Plant'
- Methane in the Martian Air
- Superbugs Can Be Transmitted Through Plants
- New Biomarker for Malaria Detection
- Existing Method of Diagnosis
- DRDO's Herbal Drug for Leucoderma
- Evidence of Supernova Remnants
- Robots Replacing Manufacturing Jobs
- Cancer Detection Tool

## Gestational Diabetes Mellitus

A recent paper published in the Journal of the Association of Physicians of India has argued the importance of screening of every pregnant woman for high blood glucose even if no symptoms are exhibited.

- **Gestational Diabetes Mellitus (GDM)** is defined as any degree of glucose intolerance with onset or first recognition during pregnancy.
- GDM not only **influences immediate maternal (preeclampsia, stillbirth, macrosomia, and need for cesarean section) and neonatal outcomes (hypoglycemia, respiratory distress)**, but also increases the risk of future Type 2 diabetes in mother as well as the baby.
- Prevention at the earliest stage of development of the foetus is essential to prevent children from becoming predisposed to diabetes or other non-communicable diseases (NCD) in the future.
  - Higher glucose transfer to the foetus, when the mother has high blood sugar, stimulates the foetal pancreatic cells to start secreting insulin earlier and in higher quantities. Once initiated, it becomes self-perpetuating.
  - In addition, when the maternal glucose reading is high (over 110 mg/dl), the amniotic fluid becomes glucose enriched. After 20 weeks, the foetus begins

to swallow amniotic fluid, which further stimulates production of insulin.

### Gestational Diabetes in India

- India has an estimated 62 million people with Type 2 Diabetes Mellitus (DM) which is expected to go up to 79.4 million by 2025.
- In parallel with the increase in diabetes prevalence, there seems to be an increasing prevalence of gestational DM (GDM), that is, diabetes diagnosed during pregnancy.
- India has a **very high prevalence of GDM by global standards**. Conversion rates to Type 2 diabetes are also very high.
- Interventions during and immediately after pregnancy provide important opportunities to improve the lives of mothers and children today and reducing diabetes in future generations.
- Screening and appropriate management of diabetes during pregnancy provides a unique opportunity to prevent Type 2 diabetes in two generations.
- Lack of awareness in society is one of the reasons that GDM is given low priority in public health delivery system in India.
- Therefore, the Ministry of Health has developed national guidelines for testing, diagnosis and management of hyperglycemia in pregnancy, and they recommend

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early testing at the time of contact (during the first trimester) and if the test is negative, yet another test should be done between 24-28 weeks.

## Barcoding of Medicine

The government is planning to make barcoding mandatory on all medicines sold locally in a bid to offset India's growing reputation as a source of counterfeit medicines.

### Why it is done?

- The office of the **United States Trade Representative (USTR)** recently highlighted that India has a growing problem of counterfeit medicines, in its annual '**Special 301 Report**' on intellectual property protection and review of 'notorious markets' for piracy and counterfeiting released in April.
- According to the USTR report, **almost 20%** (\$4.3 billion in 2013-14) of all pharmaceutical goods sold in the Indian market are counterfeit.
- Barcoding for domestic sales of drugs **will ascertain the authenticity of medicines**, ability to monitor their ready availability, expiration, track and trace their recalls when needed.

### Pharmaceutical Sector in India

- India is one of the leading global producers of low-cost generic medicines due to its high domestic demand and inexpensive manufacturing costs. The country's pharmaceutical market is the **world's third largest** in terms of **volume**, but the thirteenth largest in value.
  - While counterfeiting is a global issue, it is much more prevalent in low and middle-income countries with an estimated 10 to 30% of medicines in these countries being counterfeit, compared to just 1% of medicines in high-income countries.

### Reasons for Counterfeit Medicines Market in India

- Limited access to medical care, especially in rural areas
- Fragmented supply chain
- Lack of consumer awareness
- Prevalent practice of self-medication
- High cost of genuine medicines
- Weak enforcement of legislation and corruption

- Prevalence of online pharmacies
- Technology advancements in counterfeiting

### Classification of Spurious and Substandard Drugs in India

- As per the **Drug and Cosmetic Act, 1940**, poor quality drug comprises of misbranded, spurious and adulterated drugs.
- Central Drugs Standard Control Organisation (CDSCO) under Directorate General of Health Services, Ministry of Health & Family Welfare has categorised non-standardised quality (NSQ) products in three categories A, B and C that is helpful in categorising the products during quality evaluation.

### Steps to be Taken

- **Raising Public Awareness:** Approximately 78% of India's 650 million mobile phone users have access to the internet, and online education about counterfeit and spurious medicine may be an effective way to tackle the issue quickly and efficiently.
- **Implementing Innovative Anti-Counterfeiting Measures:** New generation anti-counterfeiting technologies, such as the use of forensic markers (chemical, biological and DNA taggants), cloud-based supply chain data repositories, and blockchain technology in supply chains can be used to fight the menace of counterfeit drugs.

## Hypersonic Technology Demonstrator Vehicle

The **Defence Research and Development Organisation (DRDO)** has conducted **maiden** test of an **indigenously developed Hypersonic Technology Demonstrator Vehicle (HTDV)** along with several other technologies. It is being developed by DRDO with assistance from **Israel, UK and Russia**.

- HTDV project is intended to **serve multiple military and civil purposes**.
  - It is an unmanned scramjet demonstration aircraft for hypersonic speed flight, which can cruise at a speed of 6 mach and move up to an altitude of 32.5 kilometres in 20 seconds.
  - While it can be used for **launching cruise missiles**, it will also serve the purpose for **launching satellites at a low cost**.

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- Under this project, a hypersonic vehicle is also being developed that will be powered by a scram-jet engine.
  - This is dual-use technology, which when developed, will have multiple civilian applications including low-cost satellites launch.
  - It will also be available for long-range cruise missiles of the future. E.g.: Brahmos 2.

### **Scramjet Engine Technology Demonstrator**

- As of now, satellites are launched into orbit by multi-staged satellite launch vehicles that can be used only once (expendable).
  - These launch vehicles carry oxidiser along with the fuel for combustion to produce thrust.
  - Nearly 70% of the propellant (fuel-oxidiser combination) carried by present day launch vehicles consists of oxidiser.
  - Launch vehicles designed for one time use are expensive and their efficiency is low because they can carry only 2-4% of their lift-off mass to orbit. Thus, there is a worldwide effort to reduce the launch cost.
  - Therefore, the next generation launch vehicles must use a propulsion system which can utilise the atmospheric oxygen during their flight through the atmosphere which will considerably reduce the total propellant required to place a satellite in orbit.
- Ramjet, Scramjet and Dual Mode Ramjet (DMRJ) are the three concepts of air-breathing engines which are being developed by various space agencies.
- **A ramjet is a form of air-breathing** jet engine that uses the vehicle's forward motion to compress incoming air for combustion without a rotating compressor.
  - Fuel is injected in the combustion chamber where it mixes with the hot compressed air and ignites.
  - A ramjet-powered vehicle requires assisted take-off like a rocket assist to accelerate it to a speed where it begins to produce thrust.
  - Ramjets work most efficiently at supersonic speeds around Mach 3 (three times the speed of sound) and can operate up to speeds of Mach 6.
  - However, the ramjet efficiency starts to drop when the vehicle reaches hypersonic speeds.
- **A scramjet engine is an improvement** over the ramjet engine as it efficiently operates at hypersonic speeds and allows supersonic combustion. Thus it is known as Supersonic Combustion Ramjet, or Scramjet.

- **A dual mode ramjet (DMRJ)** is a type of jet engine where a ramjet transforms into scramjet over Mach 4-8 range, which means it can efficiently operate both in subsonic and supersonic combustor modes.

## **Moon's Aitken Crater**

Scientists have detected an anomaly in the moon's gravitational field because of heavy metal lodged in the mantle deep below the **Moon's South Pole-Aitken basin** (the largest preserved impact crater anywhere in the solar system).

- Possible explanations for this anomaly are:
  - The metal from the asteroid that formed this crater is still embedded in the Moon's mantle, rather than sinking to the Moon's core.
  - The large mass might be a concentration of dense oxides associated with the last stage of lunar magma ocean solidification.
  - This new hypothesis is based on data from NASA's Gravity Recovery and Interior Laboratory (GRAIL) and Lunar Reconnaissance Orbiter missions.

### **Gravity Recovery and Interior Laboratory (GRAIL)**

Gravity Recovery and Interior Laboratory (GRAIL) was a dual-spacecraft mission that involved placing two identical spacecrafts (named "Ebb" and "Flow" to GRAIL-A and GRAIL-B respectively) in orbit around the Moon to use high-quality gravitational field mapping to determine its internal structure.

- The mission was launched in 2011 under **NASA's Discovery Program**.
  - NASA's Discovery Program began in 1992 to achieve outstanding results by launching smaller missions using fewer resources and shorter development times.
  - Its main objective is to enhance our understanding of the solar system by exploring the planets, their moons, and small bodies such as comets and asteroids.
- Ebb and Flow were decommissioned and powered down in anticipation of deliberate impact on the lunar surface Dec. 17, 2012.

### **Lunar Reconnaissance Orbiter**

- The Lunar Reconnaissance Orbiter (LRO) is a **NASA** moon mission that has been in operation since 2009.

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- The mission particularly focuses on the moon's poles to search for water or ice that could exist in permanently shadowed craters.

## Chandrayaan-2 Mission

For the first time in the history of **Indian Space Research Organisation (ISRO)**, two **women will head** the Chandrayaan-2 mission.

- **Ritu Kridhal** and **M Vanitha** are leading as project and mission directors respectively for the Chandrayaan-2 mission.
- Chandrayaan-2 is India's second lunar exploration mission after Chandrayaan-1, developed by ISRO.

### Objectives

- **Quantify the water** available on the moon's surface.
- **Map its topography**, to explore chemicals and minerals such as magnesium, iron, and helium.
- Study topmost part of the **lunar atmosphere**.

### Significance

- **Global Power:** If successful, India will be the **fourth country** (After Russia, China, and the USA) to land a rover on the moon.
  - **India will be the first** country to land on the **southern pole** of the moon.
  - This would give ISRO an opportunity to name that site on the moon.
- **Indigenous Mission:** 13 instruments from India, one instrument from US space agency, NASA.
- **Future Space Exploration:** Mission will also expand the country's footprint in space as the moon is the perfect test-bed for proving technologies required for future space exploration.

### Complexities Involved in Landing

- Trajectory Accuracy
- Communication hurdle
- Lunar dust
- Extreme temperatures
- Trans-lunar injection and capture
- Orbiting

## Unapproved Sowing of Genetically Modified Crops

The Ministry of Environment, Forest and Climate Change (MoEFCC) has sought a detailed report on the sowing of unapproved Genetically Modified (GM) Cotton and Brinjal in Maharashtra.

- Organised by the farmer's union **Shetkari Sanghata**, more than 1,000 farmers had publicly sown unapproved transgenic cotton and brinjal in Akola district of Maharashtra demanding introduction of Herbicide Tolerant (Ht) Bt cotton and Bt brinjal.
  - The farmers termed it as the '**civil disobedience**' movement to protest the central government's indecisiveness in approving the next generation of Genetically Modified (GM) cotton.

### Background

- In India, the introduction of GM seeds requires approval of the **Genetic Engineering Approval Committee (GEAC)**, a body under the **MoEFCC**.
  - Till date (2019), commercial release is granted for Bt cotton, but similar approvals for Bt mustard and Bt brinjal are awaited.
- In case of cotton, the first two generations of Bt have seen the introduction of '**Cry1Ab**' and '**Cry2Bc**' genes from the soil bacterium, **Bacillus thuringiensis** (Bt), into the cotton seed.
  - This makes the crop resistant to the attack of **pink bollworm**.
- The third generation, i.e. herbicide tolerant Bt (HtBt) cotton variety saw the addition of '**Cp4-Epsps**' gene from another soil bacterium, **Agrobacterium tumefaciens**, which produces a modified protein that allows the plant to withstand herbicide glyphosate.
  - Farmers are not able to spray glyphosate on normal cotton because the chemical does not distinguish between the crop and weed, but the herbicide tolerant Bt (HtBt) cotton remains unaffected by glyphosate.
- Like the first two hybrids, HtBt has also been developed by the US based Bayer Monsanto.
  - The company had submitted a proposal to GEAC for approval in 2013. However, the proposal was later withdrawn by the company because of various regulatory issues with the government.

Note:



drishti



- While HtBt is not approved for commercial release, farmers in Gujarat, Andhra Pradesh and Maharashtra have been surreptitiously planting the crop using smuggled seeds.
  - According to estimates by the Commissioner of Agriculture, Maharashtra, as much as 15% of the 40 lakh hectares of the state had come under this unapproved hybrid.

## Jumping Genes

The scientists have recently discovered a technique using “**jumping genes**” for genetic editing. It could offer a seamless, safer alternative to **CRISPR-Cas9** process.

- The technique could allow edited genes to be **more precisely** inserted into genomes, possibly addressing concerns with current CRISPR systems that can lead to off-target editing and random deletions or even cancer.

### Transposons: Jumping Genes

- Jumping genes are also known as **transposons**, it randomly jumps from one site to the other, inserting genetic information as they go, using enzymes called transposases.
- It can effectively slide into the DNA without cuts.
- The jumping gene possesses all the **necessary chemical properties** to directly insert, or integrate without a DNA double-strand break.
- Jumping gene **could effectively be programmed** with a guide, and it can insert itself with incredible precision into user-defined sites in the genome.
- Researchers sequenced the edited genome and found that the insertion was precisely done, with no extra copies created elsewhere, a problem that can occur with gene editing that uses CRISPR.
- The researchers found the jumping gene was capable of depositing “genetic cargoes into the genome,” delivering sequences up to 10,000 bases long.
- This approach could allow for therapeutic genes to be inserted into the genome in a potentially safer way than is currently possible. It could be a game-changer for certain types of cells, like neurons, which resist gene editing using the “cutting” process.

## India to Set Up its Own Space Station

India is planning to launch its own **space station by 2030**, joining the league of US, Russia, and China to an elite space club.

- A space station is a **habitable spacecraft** capable of supporting human crewmembers and designed to remain in space.
- As of now, the **International Space Station (ISS)** is the only fully functioning space station and largest human-made body in low Earth orbit.

### Indian Space Station

- The Indian space station will be much **smaller (mass of 20 tonnes)** than the International Space Station and will be used for carrying out **microgravity experiments** (not for space tourism).
- Preliminary plan for the space station is to accommodate astronauts for up to **20 days in space**, and the project will be an extension of the **Gaganyaan mission**.
- It will orbit Earth at an altitude of around **400 km**.
- **ISRO** is working on **space docking experiment (Spadex)**, a technology that is crucial for making the space station functional.
  - **Space Docking** is a technology that allows transferring humans from one spacecraft to another.

### Significance

- Space station is essential for collecting meaningful **scientific data**, especially for biological experiments.
- Provide platforms for greater **number and length** of scientific studies than available on other space vehicles (as Gaganyaan will take humans and perform experiments in microgravity for few days only).
- Each crew member stays aboard the station for **weeks or months**, but rarely more than a year.
- Space stations are used to study the effects of **long-term space flight** on the human body.

## Spectrum-Roentgen-Gamma Telescope

A joint team of **German-Russian scientists** will be launching a **Spectrum-Roentgen-Gamma (SRG)** space

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telescope. It will create a **three-dimensional (3D) X-ray** map of the universe and unveil unknown supermassive black holes, dark energy and stars.

- The SRG telescope aims to detect up to 3 mn supermassive black holes from the Milky Way.
- The telescope will be launched into space on a **Russian-built Proton-M rocket** from **Baikonur Cosmodrome in Kazakhstan**.
- The four-year mission will survey the entire sky eight times and track the evolution of the universe and dark energy.
- This is the first telescope which is sensitive to high energy hard X-rays.
- The mission will have **two independent** telescopes:
  - A German-built e-ROSITA (Extended Roentgen Survey with an Imaging Telescope Array)
  - A Russian-built ART-XC (Astronomical Roentgen Telescope X-ray Concentrator)
- Each of them covers X-ray bands stretching to relatively much higher energies: 0.2–10 kilo-electron volts (keV) for eROSITA, and 5–30 keV for ART-XC.

#### X-Rays

- X-rays are a form of high-energy electromagnetic radiation. X-radiation is referred to as Röntgen radiation, after the German scientist **Wilhelm Rontgen** who discovered these in 1895.

#### Soft and Hard X-rays

- X-rays are usually described by their maximum energy, which is determined by the voltage between the electrodes.
- X-rays with high photon energies (above 5–10 keV) are called **hard X-rays**.
  - Due to their penetrating ability hard X-rays are widely used to image the inside of visually opaque objects.
- Those with lower energy (and longer wavelength) are called **soft X-rays**.

#### Previous Missions

- Germany's ROSAT mission in the 1990s was sensitive only to 'soft' X-rays, with energies of about 2 keV.
- NASA's **Chandra X-ray Observatory** and **NuSTAR**, can see high-energy radiation and resolve tiny details of cosmic structures. But, they see only small parts of the sky.

- SRG was first proposed in 1987, by Russian astrophysicists, but the fall of the Soviet Union in 1991 led to the cancellation of the plan. It was revived in 2004, but a proposal to send an X-ray telescope to the International Space Station was scrapped when NASA ended its space-shuttle program in 2011.
- The joint mission was approved by the German space agency and Roscosmos later in 2009.

## Selenium-Graphene Based Catalyst in Fuel Cell

A multi-institutional team of scientists from India has developed a **selenium-graphene-based catalyst** which is more **efficient in terms of cost and performance**. It also remains stable for longer than the usual platinum-based catalysts.

- Modern energy technology, for example, fuel cells which are used commercially in hydrogen fuel-based cars, require good catalysts that are efficient as well as cost-effective.
- Normally, fuel cells use expensive elements like **platinum**. These expensive metal-based technologies perform excellently for initial few cycles, but then get degraded in performance due to many reasons:
  - Graphene, modified with selenium atoms in very low amounts, can perform like platinum in a demonstrated reaction.
  - The oxygen reduction reaction is a key step in the functioning of the fuel cell. Graphene by itself is a "poor" catalyst of this reaction. It involves the reduction of oxygen in two steps, each of which consumes two electrons. This is not very useful either for fuel cells or metal-air batteries.
  - Neither selenium nor graphene are useful by themselves, the combination of both works efficiently.
  - **Poisoning-Resistant:** Methanol fuel cells, a common form of fuel cell used, suffer from a "**poisoning**" effect. It is found that the catalyst that is developed has a high tolerance for poisoning.

#### Fuel cell

- Fuel cells are **electrochemical devices** that **convert chemical energy from the reactants directly into electricity and heat**.

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**Poisoning Effect**

- This is a part of the process where the methanol reaches the negative electrode and coats it, the electrode becomes ineffective after some cycles. This is especially problematic when expensive catalysts like platinum are used.

**Selenium**

- Selenium is a **non-metallic chemical element**, member of the group XVI of the periodic table. In chemical activity and physical properties it resembles sulfur and tellurium.
- Selenium has **good photovoltaic and photoconductive properties**, and it is used extensively in electronics, such as photocells, light meters and solar cells.

**Graphene:** It is a one-atom-thick layer of carbon atoms arranged in a hexagonal lattice. It is the building-block of graphite (which is used, among other things, in pencil tips).

- Graphene is the thinnest material known to man at one atom thick, and also incredibly strong - about 200 times stronger than steel.
- It is an excellent conductor of heat and electricity and has interesting light absorption abilities.
- The device consists of an electrolyte layer in contact with a porous anode and cathode on either side.
- In a standard fuel cell, gaseous fuels are fed continuously to the anode (negative electrode), while an oxidant (oxygen from the air) is fed continuously to the cathode (positive electrode). Electrochemical reactions take place at the electrodes to produce an electric current.
- **Advantages of fuel cell systems are:**
  - High operating efficiency is not a function of system size.
  - A highly scalable design.
  - Several types of potential fuel sources are available.
  - Zero or near-zero greenhouse emissions.
  - There are no moving parts in the fuel cell stack, which provides reliable, vibration-free operation.
  - Nearly instantaneous recharge capability when compared to batteries.
- **Limitations of fuel cell systems are:**
  - Cost-effective, mass-produced pure hydrogen storage and delivery technology.
  - Fuel Reformation technology may need to be considered if pure fuel is not used.

- Fuel cell performance may gradually decrease over time due to catalyst degradation and electrolyte poisoning if pure fuel is not used.

## ICANN and NASSCOM Collaboration

Global internet body **Internet Corporation for Assigned Names and Numbers (ICANN)** and Indian IT industry body **NASSCOM** to develop identifier technology that can be used for managing devices and infrastructure using the internet.

- Both the bodies will first focus on updating the Internet of Things (IoT) devices using domain name system (DNS) even in the situation when the manufacturer or supplier has closed down the business.
- The project focuses on testing the use of the DNS to update IoT firmware and studying how the proposed technology could scale outside a lab environment.

### Internet Corporation for Assigned Names and Numbers (ICANN)

- ICANN is a **non-profit body** that administers domain names and Internet Protocol addresses (IPs) globally. It was formed in 1988 by the US Department of Commerce. It has become independent of US control since October 1st, 2016.
- It also ensures that computers across the internet can find one another through defined unique pathways and identifiers.

### National Association of Software and Services Companies (NASSCOM)

- NASSCOM, a **not-for-profit** industry association, is the apex body for the IT industry in India.
- Established in 1988, NASSCOM's relentless pursuit has been to constantly support the IT and BPO industry.

## Membrane to Clean Toxic Effluents

Recently the scientists at **Council of Scientific and Industrial Research- North East Institute of Science and Technology (CSIR-NEIST)** have developed a ceramic membrane with the help of a mixture of potter's clay, stone dust and tea waste which can clean toxic effluents.

Note:



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- The membrane was tested on effluents from a textile unit. It could remove adsorptive dyes from wastewater.
- The study was funded by the **Department of Science and Technology (DST)**.

### Applications

- These filters are especially useful in petrochemical processing, where it is not possible to use organic membranes.
- It is capable of discolouring two commonly used dyes - **Methylene blue** and **Congo red** - from water.
  - Methylene blue is a toxic dye, while Congo red is a known cancer-causing agent.
- Ceramic filters and membranes are commonly used in several sectors like food and beverage, drugs and chemicals, waste recovery and recycling industries.

### Properties

- Ceramic membranes can withstand frequent cleaning, harsh operating environments and situations that require continuous flow of material.
- They can also be regenerated over many cycles and used for separation of both aqueous and non-aqueous solutions.
- The newly developed membrane has **good thermal and chemical stability**.
- The used membrane could also be regenerated by heating at 400 degrees for 30 minutes, without much loss of efficiency.

### Council of Scientific and Industrial Research (CSIR)

- CSIR is an **autonomous** research and development body established by the **Government of India in 1942**.
- It covers a wide spectrum of science and technology – from radio and space physics, oceanography, geophysics, chemicals, drugs, genomics, biotechnology and nanotechnology to mining, aeronautics, instrumentation, environmental engineering and information technology.
- It provides significant technological intervention in many areas with regard to societal efforts which include environment, health, drinking water, food, housing, energy, farm and non-farm sectors.

### CSIR Firsts

- First to introduce DNA fingerprinting in India.
- Designed & developed India's first all-composite aircraft Hansa.

- Designed and developed India's first 14-seater plane 'SARAS'.
- First to produce baby food from buffalo milk by the name of Amulspray.
- First to produce the indelible ink used in elections in the country.
- Completed the first Complete **Genome Sequencing** of an Indian.
- First indigenous "Electronic Nose" to detect toxic fumes.

## Report on Epilepsy

A report "Epilepsy, a public health imperative" has been released by the **World Health Organization** and leading non-governmental organizations for epilepsy, **the International League Against Epilepsy** and the **International Bureau for Epilepsy**.

- In low and middle-income countries, early death among people with epilepsy is significantly higher than in high-income countries.
- More than 75 percent of people with epilepsy in low-income countries are at risk of premature death, due to lack of access to anti-seizure medicines.
  - The reasons include possible lack of access to health facilities when seizures are long-lasting or occur close together without recovery in between, and preventable causes such as drowning, head injuries and burns.
- The report states that the treatment gap for epilepsy is unacceptably high, when 70 percent of people with the condition can be seizure-free when they have access to medicines that can cost as little as \$5 per year and can be delivered through primary health systems.
- Roughly half of adults with epilepsy have at least one other health condition. The most common are depression and anxiety.
  - Around 23 percent of adults with epilepsy will experience clinical depression during their lifetime and 20 per cent will have anxiety.
- Mental health conditions such as these can make seizures worse and reduce the quality of life.
  - Development and learning difficulties are experienced by 30-40 percent of children with epilepsy.

Note:



- Stigma also prevents people from taking treatment.
- The Report states that “political will” facilitates the integration of diagnosis and treatment for epilepsy into the primary health services.

### Epilepsy

- Epilepsy is a central nervous system (neurological) disorder in which brain activity becomes abnormal, causing seizures or periods of unusual behavior, sensations, and sometimes loss of awareness.
- Anyone can develop epilepsy. It affects both males and females of all races, ethnic backgrounds and ages.

## Arogyapacha: ‘Miracle Plant’

Scientists from the University of Kerala have decoded the genetic make-up of **Arogyapacha (Trichopus zeylanicus)**, a highly potent medicinal plant endemic to the **Agasthya hills**.

- This ‘miracle plant’ is known for its traditional use by the **Kani tribal community** to combat fatigue.
- Studies have also proved its varied spectrum of pharmacological properties such as anti-oxidant, aphrodisiac, anti-microbial, anti-inflammatory, immunomodulatory, anti-tumour, anti-ulcer, anti-hyperlipidemic, hepatoprotective and anti-diabetic.
- The project is bound to open up a new window to the plant’s molecular secrets, the genome and annotation data will be a valuable resource to expedite research on Arogyapacha, particularly its secondary metabolism, genetic breeding, and comparative studies.

### Kani Tribe

- Traditionally **Kani tribes** are a **nomadic** people. They are **indigenous** to tropical forests of the **Agasthyamalai hills of the Western Ghats**, a mountain range in **Kerala**. They have a population of almost 25,000.
- Kani has a rich tradition of using wild plants found in the region for health reasons. According to Kani tribal customs, only the **Plathi (tribal physician)** have the right to transfer and disseminate their traditional medicinal knowledge.

### Agasthya Hill

- **Agasthya** hill is a 1,868-metre (6,129 ft) tall peak within **Neyyar Wildlife Sanctuary, in the Western Ghats of Kerala**. This peak is a part of the **Agasthyamala Biosphere Reserve** which lies on the border of Kerala and Tamil Nadu.
- The peak is named after Hindu sage **Agastya**, who is considered to be one of the seven rishis (Saptarishi) of Hindu Puranas. It is a pilgrimage centre for devotees.
- The **Thamirabarani River** is a perennial river which originates from the eastern side of the range and flows into the Tirunelveli district of Tamil Nadu.
- In Tamil traditions, **Agastya** is considered as the father of the Tamil language and the compiler of the **first Tamil grammar called Agattiyam**. The Malayalam language is considered to be born from Agasthya.
- Agasthyamala Biosphere Reserve is among 20 new sites added by UNESCO to its World Network of Biosphere Reserves in March 2016.

## Methane in the Martian Air

**NASA’s Curiosity Rover** has discovered high amounts of methane in the Martian air, a gas that on Earth is usually produced by living things.

- The Curiosity rover has found 21 parts per billion of methane, or three times the 2013 finding.
  - The gas seems to rise and fall with the red planet’s seasons.
- **However, the Trace Gas Orbiter**, a newer European spacecraft launched in 2016 with more sensitive instruments, **did not detect any methane at all** in its first batch of scientific observations last year.

### NASA Curiosity Mission

- The Curiosity is the largest and most capable rover ever sent to Mars. It landed on Mars in August, 2012.
- The purpose of the mission is to find chemical and mineral evidence of past habitable environments on Mars.

### The ExoMars Trace Gas Orbiter (TGO)

- The orbiter is the first in a series of joint missions between the European Space Agency (ESA) and Roscosmos, the Russian space agency.

Note:

- It was designed to search for trace gases in the Martian atmosphere, such as methane, water vapor, nitrogen oxides and acetylene.
  - These gases could provide evidence for possible biological or geological activity on Mars.
- It also will monitor seasonal changes in the Martian atmosphere and will look for water-ice beneath the surface.

## Superbugs Can Be Transmitted Through Plants

Researchers at the University of Southern California have found that **antimicrobial resistant bacteria** or superbugs can be **transmitted to humans through plants**.

- Antibiotic-resistant infections are a threat to global public health, food safety and an economic burden.
- To prevent these infections, it is critical to understand how these bacteria are transmitted.
- Spread of antibiotic-resistant superbugs from plants to humans is different from outbreaks of diarrheal illnesses caused immediately after eating contaminated vegetables. **Superbugs can asymptotically hide in (colonise) the intestines for a long time** while escaping and causing an infection.
- The study shows the linkage shared by the environment and human health to agriculture and microbiomes.

### Superbug

It is a term used to describe strains of bacteria that are resistant to the majority of antibiotics commonly used today. Resistant bacteria cause pneumonia, urinary tract infections and skin infections.

### Antimicrobial Resistant-Bacteria

- Antimicrobial resistant-bacteria occur naturally and are found in people, animals, food, and the environment (in water, soil and air). They can spread between people and animals, including from food of animal origin, and from person to person.
- It is facilitated by the **inappropriate use of medicines**, for example, using antibiotics for viral infections such as the flu.
- Inadequately treated sewage waste containing resistant bacteria which mixes in the environment also magnifies the burden of antimicrobial resistance.

## New Biomarker for Malaria Detection

A researcher's team from the **Indian Council of Medical Research's Jabalpur** - based **National Institute of Research in Tribal Health** has identified **glutamate dehydrogenase** as a new **biomarker** in the body of the **malaria parasite** for malaria detection.

- It will help to develop a **more sensitive and accurate** diagnostic test for malaria detection.

### Biomarker

- Biomarkers are key molecular or cellular events that **link a specific environmental exposure to a health outcome**.
- Biomarkers play an important role in understanding the relationship between exposure to environmental chemicals, the development of chronic human diseases, and the identification of subgroups that are at increased risk for disease.

## Existing Method of Diagnosis

- Currently, tests used for diagnosing malaria are based on a gene, **Histidine-rich Protein 2 (HRP2)**, replete with amino acid Histidine.
  - The studies have shown that this gene is often absent in some strains of the malaria parasite. Consequently, significant levels of malaria infection were going undetected.
- Scientists across the world have been searching for new biomarkers that would be more effective. The study provides scientific evidence for the conserved nature of **Glutamate dehydrogenase** sequences in Indian isolates which can be used as a potential biomarker for diagnosis of malaria.

### ICMR-National Institute of Research in Tribal Health (NIRTH)

- It is a permanent institute of Indian Council of Medical Research (ICMR) under the Department of Health Research, Ministry of Health of Family Welfare.
- The NIRTH was established on 1<sup>st</sup> March 1984 in Jabalpur by ICMR with the mandate **to improve health and create awareness among tribals** through applied and operational research. This institute is recognized by the WHO as its collaborative Centre for the health of the indigenous population.

Note:

- The institute has conducted several important research projects on Malaria, Filariasis, Tuberculosis, Diarrhea, Virology, Fluorosis and Social Sciences.

## DRDO's Herbal Drug for Leucoderma

**Defence Research and Development Organisation (DRDO)** has developed a herbal drug 'Lukoskin' for treatment of Leucoderma.

- **Leucoderma** is a **skin** and **auto-immune disorder** also called **vitiligo**. Autoimmune disorders occur when the immune system attacks the body's own tissues and organs.

### Significance

- Present remedies of vitiligo-like allopathic, surgical and adjunctive are either **costly or single molecule based**, with a very low level of efficacy and develop side-effects like a blister, edema, irritation in the skin.
- **Lukoskin**, available in **ointment** and **oral liquid** form, has seven herbal ingredients having properties such as skin **photosensitizer**, **anti-blister**, **anti-irritation**, **antiseptic**, wound healing and **copper supplementing** properties, while the oral dose has been formulated to check the emergence of new spots.

### Vitiligo or Leucoderma

- Vitiligo is a skin disease in which **pale white patches** start forming on the skin, due to lack of **melanin** (a pigment in the skin).
- It is **neither contagious nor life-threatening**.
- **Genetic conditions** or **stress-induced** situations are more prone to the occurrence of disease.
- **Leucoderma patients** are also vulnerable to inflammation in the **iris**, loss of **hearing** and **sunburn**.

### Facts

- The worldwide incidence of leucoderma has been reported 1-2%.
- In India, its incidence is around 4-5%.
- In some parts of Rajasthan and Gujarat, its incidence is as high as 5-8%.
- Leucoderma (skin disorder) is considered a **social stigma in India** where people confuse it with leprosy (a contagious disease caused by bacteria).

### Symptoms

- Vitiligo commonly occurs in people in their twenties; however, it can occur in any stage.
- People with autoimmune diseases, such as **hyperthyroidism** are more prone to it than those who don't have any autoimmune diseases.

## Evidence of Supernova Remnants

A team of Indian astronomers has found significant evidence of a supernova explosion in a star-forming region called G351.7-1.2.

- The evidence of explosion is in the form of a high-velocity jet of atomic hydrogen.
- The explosion should have resulted in a compact stellar object such as a neutron star or a pulsar or a black hole. However, there is no trace of either yet.
- **The Giant Metrewave Radio Telescope (GMRT)**, operated by the National Centre of Radio Astrophysics in Pune was used in observation.
- A large number of gas clouds of bubble-shaped, which is usual for a supernova remnant were observed.

### Notes:

**Black Holes:** The term 'black hole' was coined in the mid-1960s by American Physicist John Archibald Wheeler. It refers to a point in space where the matter is so compressed as to create a gravity field from which even light cannot escape. Black-holes were theorized by Albert Einstein in 1915.

**Supernova:** A supernova is the explosion of a star. It is the largest explosion that takes place in space. A supernova happens where there is a change in the core, or centre, of a star. A change can occur in two different ways, with both resulting in a supernova.

### Neutron stars:

- Neutron stars comprise one of the possible evolutionary end-points of high mass stars.
- Once the core of the star has completely burned to iron, energy production stops and the core rapidly collapses, squeezing electrons and protons together to form neutrons and neutrinos.
- A star supported by neutron degeneracy pressure is known as a 'neutron star', which may be seen as a pulsar if its magnetic field is favourably aligned with its spin axis.

Note:

**Big Bang:** The Big Bang Theory is the leading explanation about how the universe began. At its simplest, it says the universe as we know, started with a small singularity, then inflated over the next 13.8 billion years to the cosmos that we know today.

## Robots Replacing Manufacturing Jobs

As per a report by analysis firm Oxford Economics, it is predicted that robots are going to replace 10% of jobs in the manufacturing sector in the next 10 years.

- Manufacturing could lose 20 million positions replaced by robots by 2030.
- Each new industrial robot is going to wipe out 1.6 manufacturing jobs.
- The report states that it is expected that automation should boost the economy as a whole, but it is likely to create greater inequality.
  - The pockets of workers most vulnerable to automation can often be found in rural areas with a traditional, labor-intensive industrial base.
  - The **International Monetary Fund (IMF)** and the **Organisation for Economic Co-operation and Development (OECD)** have also expressed concern over the risk of rising inequality.
- The report also highlights the importance of taking policy action to reduce the likely impact of robotization in these vulnerable areas.
- People displaced from jobs are likely to find that the services sector have also been squeezed by automation.
- It states that more than half of **U.S. factory workers** displaced by robots over the past two decades were absorbed into three employment categories – transport, construction and maintenance, and office and administration work.

- Now these categories are the most vulnerable to automation over the next decade.

- Loss of jobs because of automation is also confirmed by the **World Economic Forum (WEF)** in its report '**Future of Jobs**'.

## Cancer Detection Tool

The team at Yale University has developed a tool which can potentially detect triggers in patients with renal as well as brain cancers, a finding that could advance the treatment of cancer by early detection.

- The researchers have found how cancer cells are triggered to spread to other parts of the body (this process of spreading of cancer cells is called **metastasis**).
- Finding and treating cancer at an early stage can save lives. However, treatment becomes more difficult, once cancer gets **metastasised or spreads**.

### Metastases

- It is the plural form of metastasis. It most commonly develops when cancer cells break away from the main tumour and enter the bloodstream or lymphatic system. These systems carry fluids around the body. This means that the cancer cells can travel far from the original tumour and form new tumours when they settle and grow in a different part of the body.
- Metastases can also sometimes develop when cancer cells from the main tumour, typically in the belly, or abdominal cavity, break off and grow in nearby areas, such as in the liver, lungs, or bones.
- **Advantages:** The discovery can potentially be used to develop new prognostic tests and pave the way for more personalised clinical interventions.
  - Novel drugs can be developed to target the cells and prevent them from undergoing the change in environment which acts as a trigger to cancer.



Note:



# Environment and Ecology

## Highlights

- UN-Habitat Assembly
- Oussudu Lake
- World Environment Day
- India Backs Dhanauri for Ramsar Site Tag
- India's First Emissions Trading System for Particulate Pollution
- Asola Wildlife Sanctuary
- River Linking Project
- Cyclone Vayu
- Air Pollution and Life Expectancy
- Phosphine as Fumigant
- Plastic Ingestion
- Colour Morphs of Wild Cat
- Rare Easterly Winds over the Indian Ocean
- Sheath Blight Disease
- World Day to Combat Desertification and Drought
- Climate Change and Crop Production
- Climate Change Impacting Small Island Developing States
- Flood Hazard Atlas
- Water Vulnerable Megacities in India
- Joint Effort to Conserve Wildlife at Bandipur
- Normalized Difference Vegetation Index
- Day Zero Situation
- Ozone Pollution

## UN-Habitat Assembly

India has been elected to the Executive Board of the **first UN-Habitat Assembly** at the Plenary Session of the Assembly that was held in **Nairobi, Kenya**.

- **Theme: "Innovation for Better Quality of Life in Cities and Communities"**.

### Outcome of the UN-Habitat Assembly

- **Contribution** of more than \$152 million toward making cities more inclusive, safe, resilient and sustainable by the member countries.
- Communities, cities or towns that improve their solid waste management and reduce their waste management expenditure will be publicly recognised as **'Waste-Wise Cities'**.
  - The initiative asks communities, cities and towns around the world to **"rethink, reduce, recycle, refuse and reuse waste"**.
- The **strategic plan** of the UN human settlements programme for the period 2020–2025 is presented. The plan aims to advance sustainable urbanisation as a driver of development and peace, to improve living conditions for all.
- Participating nations also presented their statements

on efforts to promote the **New Urban Agenda (NUA)** and sustainable urban development.

### UN-Habitat

- The United Nations Human Settlements Programme is the United Nations programme for human settlements and sustainable urban development.
- It was established in 1978 as an outcome of the **First UN Conference on Human Settlements and Sustainable Urban Development (Habitat I)** held in Vancouver, Canada, in 1976.
- UN-Habitat maintains its **headquarters** at the United Nations Office at **Nairobi, Kenya**.
- It is mandated by the United Nations General Assembly to promote socially and environmentally sustainable towns and cities with the goal of providing adequate shelter for all.
- It is a member of the **United Nations Development Group**. The mandate of UN-Habitat derives from the **Habitat Agenda**, adopted by the United Nations Conference on Human Settlements (Habitat II) in Istanbul, Turkey, in 1996.
- The **twin goals** of the Habitat Agenda are:
  - Adequate shelter for all.
  - The development of sustainable human settlements in an urbanizing world.

Note:

## Oussudu Lake

**Vulnerability assessment study** conducted in Oussudu lake, Puducherry had shown concern over rising plastic pollution in water bodies.

- The report had highlighted that the canals have become **dumping grounds** for used plastic bags, thermocols, cups, plates, pipes and bottles.

### Recommendations

- Prior to **Plastic Ban**, it is necessary to adopt **daily usage of alternative packing items**.
- Encourage people to **identify and manufacture** alternative packing items.
  - Hoteliers should be encouraged to **shift to banana leaf**, teak leaf, vanathula leaf and mantharai leaf for serving and packing food.
- **Skill development** in producing alternate packing materials should be encouraged.
- Enforcement of **rules and regulations** for the production and use of plastic.

### Conservation Efforts

- Under the government's renovation plan the region near the lake will make **litter free** so that it becomes favourable of the migratory birds.
- The lake region will be declared as **no horn and plastic free zone**.

#### About Oussudu Lake

- The Ousteri Lake also referred to as Oussudu Lake is a man-made lake situated about 10 km from Puducherry, shared equally with Tamil Nadu.
- It is recognized as one of the **important wetlands of Asia** by the Asian Wetland Bureau.
  - It is also recognised as a wetland of **National Importance** under the National Wetland Conservation Program and identified as **Important Bird Area** by Bombay Natural History Society (BNHS).
- The structure of the lake is complex consisting of **water, wetlands and mudflats**.
- Lake acts as the **single largest catchment of fresh water** in Puducherry.
- The vegetation of the lake (ranges from small herbs to trees) supports **migratory avifauna** as well as **native birds** during summer and winter.

## World Environment Day

**World Environment Day** is observed on the **5<sup>th</sup> of June every year** for encouraging worldwide awareness and action to protect our environment.

- Since it **began in 1974**, the event has grown to become a global platform for public outreach that is widely celebrated in over 100 countries.
- **World Environment Day 2019** is being **hosted by China** with a **theme of "Air Pollution"**. India hosted **World Environment Day 2018** emphasizing on **prevention of 'Plastic Pollution'**.
- The Government launched **#SelfiewithSapling** campaign as part of the World Environment Day celebrations, urging people to plant a sapling and post a selfie with it on social media.

### Air Pollution

- The **Air (Prevention and Control of Pollution) Act, 1981** defines "**air pollutant**" as any solid, liquid or gaseous substance present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.
- Air pollution is responsible for about **one-third of deaths from stroke, chronic respiratory disease, and lung cancer**, as well as **one-quarter of deaths from heart attack**. Air pollution is also fundamentally altering our climate, with profound impacts on the health of the planet.
- **According to the WHO, about 92 per cent** of people worldwide do not breathe clean air. Air pollution costs the global economy \$5 trillion every year in welfare costs.
  - Ground-level ozone pollution is expected to reduce staple crop yields by 26% by 2030.
- Recently India has formulated and **launched the National Clean Air Programme (NCAP)** whose objective is prevention, control and abatement of air pollution besides augmenting the air quality monitoring network.

#### Air (Prevention and Control of Pollution) Act, 1981

- The **Air (Prevention & Control of Pollution) Act** was enacted by the Parliament in 1981 with an objective to prevent, control & abatement of air pollution.
- The act provides for the establishment of **Central Pollution Control Board (CPCB) at the apex level**

Note:



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and **State Pollution Control Boards at the state level** to advise the government on any matter concerning the improvement of the quality of the air and prevention, control and abatement of air pollution.

- The CPCB also lays down standards for the quality of air and provides technical assistance and guidance to the State Pollution Control Board.

## India Backs Dhanauri for Ramsar Site Tag

The Ministry of Environment Forest and Climate change has asked Uttar Pradesh forest department, to propose **Dhanauri in Greater Noida** as a wetland of international importance under the Ramsar convention.

- If accepted by the [Ramsar Convention](#), Dhanauri will get legal protection from land use change.

### *Dhanauri as Ramsar Site*

- Dhanauri supports a large population of the **vulnerable Sarus cranes**.
- The [wetland](#) meets two criteria (out of nine) to be declared a Ramsar site:
  - It has more than 1% of the biogeographic population of one species: the Sarus crane.
  - The area supports congregation of more than 20,000 waterfowl and other species.

### Criteria for Ramsar Site Tag

- If the site contains a representative, rare, or unique example of a natural or near-natural wetland type.
- Support vulnerable, endangered, or critically endangered species or threatened ecological communities.
- Support populations of plant and animal species important for maintaining the biological diversity of a particular biogeographic region.
- Support plant and animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.
- Regularly supports 20,000 or more waterbirds.
- Regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.

- Supports a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and populations
- An important source of food for fishes, spawning ground, nursery and migration path on which fish stocks, either within the wetland or elsewhere, depend.
- Regularly supports 1% of the individuals in a population of one species or subspecies of wetland-dependent non-avian animal species.

## India's First Emissions Trading System for Particulate Pollution

**Gujarat Pollution Control Board (GPCB)** has initiated a programme for a market-based trading system to reduce air pollution in **Surat, Gujarat**.

- It is a market-based system where the government sets an emission limit and allows industries to buy and sell permits to stay below the emission cap.
- The emission trading scheme (ETS), was designed by **Gujarat Pollution Control Board (GPCB)** along with a team of researchers from the **Energy Policy Institute at the University of Chicago (EPIC)**, the **Economic Growth Center at Yale University** and others from the **Abdul Latif Jameel Poverty Action Lab (J-PAL)**.
- Globally, cap and trade systems have been used to reduce other forms of pollution, such as programmes that have successfully reduced sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) in the United States. **But the Gujarat programme is the first in the world to regulate particulate air pollution.**

### *Emission Cap and Trade System*

- Under this system, the regulator first defines the total mass of pollution that can be put into the air over a defined period by all factories put together.
- Then, a set of permits is created, each of which allows a certain amount of pollution, and the total is equal to the cap.
- These permits are the quantity that is bought and sold.
- Each factory is allocated a share of these permits (this could be equal or based on size or some other rule).

Note:



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- After this, plants can trade permits with each other, just like any other commodity on the National Commodity and Derivatives Exchange Limited (NCDEX).
- Whatever the final allocation, the total number of permits does not change so the total pollution is still equal to the predefined cap.

## Asola Wildlife Sanctuary

**Ministry of Environment and Forests (MoEF)** has declared an area of 1 km around the **Asola Bhatti Wildlife Sanctuary** in Gurugram and Faridabad as **Eco-sensitive zone**.

- Activities such as commercial mining, setting up of industries, and establishment of major hydro-electric projects will be prohibited.

### Asola Wildlife Sanctuary as Eco Sensitive Zone

- The Asola wildlife sanctuary has large **floral and faunal diversity**.
- Sanctuary comprises of around 200 species of **resident and migratory birds**.
- Wildlife habitats inside the sanctuary act as **water recharge zone** for Delhi, Faridabad and Gurugram.

### Regulated Activities

- Construction: Only "small temporary structures" for eco-tourism activities.
- Hotels and resorts will not be allowed within 1 km of the boundary of the protected area or up to the extent of the Eco-Sensitive Zone, whichever is nearer.
- Small scale non polluting industries
- Felling of trees
- Civic infrastructure

### Banned Activities

- Commercial mining
- Stone quarrying
- Industrial and polluting industries
- Saw mills brick kilns

### Allowed Activities

- Rain water harvesting
- Organic farming
- Cottage industries
- Agroforestry

**Asola-Bhatti Wildlife Sanctuary** is spread over 32.7 square kilometers, and is at the end of important wildlife corridor that starts from Sariska National Park in Alwar, Rajasthan and passes through Mewat, Faridabad and Gurugram districts of Haryana.

## River Linking Project

The National Green Tribunal (NGT) has stayed the Godavari-Penna river interlinking projects due to lack of environmental clearance.

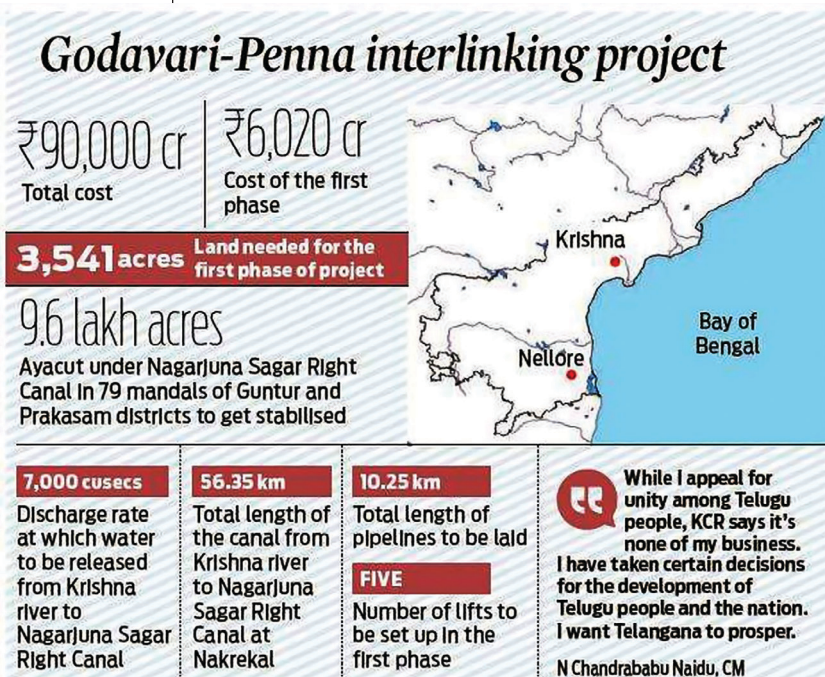
- The NGT has said that the project falls under the purview of **Environment (Protection) Act, 1986**.
- The river valley projects require environmental clearance and consent under the **Water (Prevention and Control of Pollution) Act, 1974** and the **Air (Prevention and Control of Pollution) Act, 1981**.

### Godavari-Penna interlinking project

- This project is part of the **Godavari-Krishna linkage project**, and it is to be completed in five phases.

### Penna River

- The Penna river is also known as Pennar. It rises in **Nandi Hills in Chikballapur District of Karnataka** and runs north and east through the states of Karnataka and Andhra Pradesh to empty into the Bay of Bengal.



Note:



- It is 597 kilometres long, with a drainage basin covering 55,213 km<sup>2</sup> in Karnataka and Andhra Pradesh.
- This is a seasonal river, the main source of the water is from rain. The river basin lies in the **rain shadow region of Eastern Ghats** and receives 500 mm average rainfall annually.
- The **major tributaries** of the Penna are the **Jayamangali, Kunderu and Sagileru from the north** and **Chitravathi, Papagni and Cheyyeru from the south**.

### Godavari River

- The Godavari is India's **second longest** river after the Ganga. Its source is in **Trimbakeshwar, Maharashtra**.
- It flows east for 1,465 kilometres, draining the states of **Maharashtra, Telangana, Andhra Pradesh, Chhattisgarh, Odisha** and **Karnataka**, ultimately emptying into the Bay of Bengal through its extensive network of tributaries.
- The river has a **religious significance**, it is also known as the **Vridha Ganga**.
- The major **left bank tributaries** include the **Purna, Pranhita, Indravati and Sabari river** and the **right bank tributaries** are **Pravara, Manjira, Manair**.

## Cyclone Vayu

Cyclone Vayu hit the state of Gujarat and ravaged several port towns.

- Cyclone Vayu was the second deadliest cyclone to hit the state of Gujarat since 1998.
- **Cyclone Vayu**, named by **India**, was a **deep depression** which developed into a strong cyclone.
- Cyclones are sustained by very **strong low-pressure areas** at their core. Winds in surrounding areas are forced to rush towards these low-pressure areas.
  - Similar low-pressure areas, when they develop near or over land, are instrumental in pulling the monsoon winds over the country as well.
  - The low-pressure area at the center of the cyclone was far more powerful than any local system that can pull the monsoon winds moving northeast.

#### Different Cyclonic Alerts

- **Yellow:** Be Updated
- **Orange:** Be prepared
- **Red:** Take action
- **Green:** No warning

### Arabian Sea Cyclones

- Cyclonic activity is comparatively **less intense in the Arabian sea**, as compared to the Bay of Bengal, where high-intensity severe cyclones originate frequently.
- In the last 120 years, just about 14% of all cyclonic storms, and 23% of severe cyclones, around India have occurred in the Arabian Sea.
- Arabian Sea cyclones are also **relatively weak** compared to those emerging in the Bay of Bengal.
- **Gujarat coastline**, where most of the cyclones emerging in the Arabian Sea are headed, is not very densely populated, ensures that the **damage potential of the cyclones** on the western coast is **comparatively low**.

### Why is the Bay of Bengal More Prone to Cyclones?

- **Temperature Difference:** The low-pressure system of cyclone need a continuous supply of heat energy and as the Bay of Bengal is warmer than the Arabian sea, it is able to provide the heat energy needed to sustain the low-pressure system.
- **Sea Surface Temperatures and Humidity:** Both directly correlate with chances of cyclone formation.
  - The Bay of Bengal receives **higher rainfall and constant inflow of fresh water** from the Ganga and Brahmaputra rivers.
  - This means that the Bay's surface water keeps getting refreshed, making it impossible for the **warm water to mix with the cooler water below**, making it ideal for depression.
  - On the other hand, the Arabian Sea receives stronger winds that help dissipate the heat, and the lack of constant fresh water supply helps the warm water mix with the cool water, reducing the temperature.
- **Absence of large landmass between the Pacific and the Bay**, allows cyclonic winds to easily move into the Bay of Bengal.
- **Cyclones from Pacific Ocean:** Low-pressure system originating from the Pacific ocean also travel towards the left to the Bay of Bengal.

## Air Pollution and Life Expectancy

An environment think tank **Centre for Science and Environment** in its report "**At the crossroad**" has said

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that **life expectancy in India has gone down by 2.6 years** due to deadly diseases caused by air pollution.

The report is based on the study of three different organisations:

- The Global Burden of Disease Study 2017
- WHO publication titled **Air Pollution and Child Health**
- The review papers by scientists from the Forum of International Respiratory Societies

### Key Findings

- Air pollution is now the **third highest** cause of death among all health risks ranking just above smoking in India. This is a combined effect of outdoor particulate matter (PM 2.5), ozone and household air pollution.
- Air pollution can harm acutely as well as chronically, potentially affecting **every organ in the body**.
  - Ultra-fine particles pass through lungs are taken up by **cells and carried via the bloodstream** to expose virtually all cells in the body. Air pollution may be damaging every organ and virtually every cell in the human body.
  - **Chronic obstructive pulmonary disease (COPD)** are responsible for the 49% of overall deaths due to air pollution, followed by lung cancer deaths (33%), diabetes and ischaemic heart disease (22% each) and stroke at (15%).

### Evidence of Health Risk

- This year has seen mounting evidence on the impact of air pollution on public health.
  - According to the **State of Global Air 2019** estimates, **over 1.2 million Indians** died early due to exposure to unsafe air in 2017.
  - **Type 2 Diabetes:** This study has, for the **first time**, accounted for risks from type 2 diabetes linked to air pollution. This has serious implications for India where type 2 diabetes has taken an epidemic form.
  - Epidemiological studies in Asia, Europe and North America, supported by toxicology research, have provided strong evidence that exposure to ambient and household PM2.5 contributes to type 2 diabetes incidence and mortality.
  - Exposure to PM 2.5 pollution has contributed to 2,76,000 deaths and 15.2 million DALYs from type 2 diabetes in 2017 worldwide.
  - Approximately 80% of Indians breathe air that is worse than the levels recommended by **National**

**Ambient Air Quality Standards, the entire population** of the country lives in areas with PM2.5 concentrations above the WHO Air Quality Guideline of 10 µg/m<sup>3</sup>.

- **Premature death:** India records the **highest premature deaths** of children under five years due to toxic air.

### Disability-Adjusted Life Year (DALY)

- It quantifies the burden of disease from mortality and morbidity.
- DALYs for a disease or health condition are calculated as the sum of the Years of Life Lost (YLL) due to premature mortality in the population and the Years Lost due to Disability (YLD) for people living with the health condition or its consequences.

## Phosphine as Fumigant

Scientists from the **National Centre for Integrated Pest Management (NCIPM)** and **Indian Council of Agricultural Research (ICAR)** have conducted experiments in four different agro-climatic locations for the **use of Phosphine as replacement of methyl bromide**.

- Phosphine is highly effective against the pests as a fumigant in a gaseous form. It is normally produced using aluminium phosphate as substrate.
- Phosphine may be as effective as the methyl bromide in killing insect pests and can be used as **quarantine fumigant at ports**.

### Methyl Bromide

- Methyl bromide is used for killing insect pests and as quarantine fumigant at ports. **Methyl bromide** is an **ozone-depleting substance**.
- India has signed and ratified the **Montreal Protocol**, and is committed to phasing out methyl bromide and other ozone-depleting substances (ODS) by 2015.
  - The fumigant is still used at Indian ports for treating cereals and pulses imported from other countries to quarantine insect pests.
- The fumigant is said to have **60 times ozone-depleting potential** than refrigerant chlorofluorocarbons, which has already been phased out globally.
- 95% of the countries in the world have phased out methyl bromide and only India and a few South East Asian countries currently permit its use.

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- India has been penalising those who are exporting food products without treating them with methyl bromide and this has been an issue of contention in many bilateral trade deals.

### Use of Phosphine

- India has banned the use of methyl bromide in domestic warehouses, phosphine is used in its place as a fumigant.
  - **Methyl bromide is not good for repeated use** as it leaves residues in the grains.
  - The grains stored in warehouses need to be fumigated every three months and phosphine which has no residual build-up, should be preferred over methyl bromide.
- Currently, methyl bromide is preferred as **quarantine pest fumigant** as it is fast-acting and provides an advantage of time.
  - It is capable of killing pests like grain borers, beetles and weevils in less than 24 hours.
  - Phosphine, on the other hand, takes almost five days.

### Ozone-depleting substances

- These are **man-made gases** that destroy ozone once they reach the ozone layer.
- Ultraviolet radiation can have detrimental effects on both humans and the environment such as inducing skin cancer and cataracts, distorting plant growth and damaging the marine environment.
- Ozone-depleting substances include Chlorofluorocarbons (CFCs), Hydrochlorofluorocarbons (HCFCs), Hydrobromofluorocarbons (HBFCs), Halons, Methyl bromide, Carbon tetrachloride, Methyl chloroform.
- These substances have been used as refrigerants in commercial, home and vehicle air conditioners and refrigerators, foam blowing agents, components in electrical equipment, industrial solvents, solvents for cleaning (including dry cleaning), aerosol spray propellants, fumigants.

## Plastic Ingestion

The World Wide Fund for Nature's (WWF) study has revealed that people worldwide could be ingesting five grams of microscopic **plastic particles** every week, which is equivalent to the weight of a credit card.

- **Microplastics** are plastic particles measuring **5 mm** in size or smaller.

## Key Findings

### Sources of plastic ingestion:

- **Drinking water** is one of the largest sources of plastic ingestion (with plastic particles found in bottled, tap, surface and groundwater).
- **Shellfish:** It account for as much as 0.5g a week.
- **Inhalation** represented a negligible proportion of microplastics entering the human body.
- **Indoor air** because of its **limited circulation** is more heavily polluted with plastic than the outdoors.
  - Major sources of **Indoor airborne microplastics** are synthetic textiles and household dust.

### Global Plastic Burden

- In the last two decades, the world has produced as much plastic as during the rest of history, and the industry is set to **grow by 4%** a year until 2025.
- About one-third of waste plastics are dumped or **leaches into nature, polluting land, rivers and the sea.**
- **Ocean** will contain **one metric tonne of plastic for every three metric tonnes of fish by 2025.**

### Plastic Pollution and Wildlife

- Animals also ingest large quantities of plastic that they cannot pass through their digestive systems, resulting in **internal abrasion, digestive blockage** and **death.**
- **Toxins** from ingested plastic also harm breeding and impair the immune system of animals.

### Curbing Plastic Pollution

- **Political and economic actions** to reduce the amount of plastic being disposed of into the environment.
- **Minimize the use** of plastics and **encourage recycling** of plastics instead of taking stringent acts of total ban or zero plastic.
- **Legally binding agreement** to combat marine plastic pollution - it should be a stand-alone treaty like the Montreal Protocol or the Paris Agreement.
- **Binding national commitments** and protocols for restricting commercial and household use of plastics.

## Colour Morphs of Wild Cat

Indian scientists from the **Zoological Society of London (ZSL)**, an international conservation charity, and University College London (UCL) have discovered **six color morphs** of the golden cat in **Dibang Valley of Arunachal Pradesh.**

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### Color morphs

- Colour morphs are basically occurrence of **two or more discrete colour forms** of the animal within a population. **For example:** Black panther is a color morph of the common leopard.
- Colour morphs are thought to arise from **random genetic mutations** and take hold in the population through **natural selection**.
- **Dibang Valley** hosts the **world's most diverse range** of colour morphs of a wild cat species ever reported in one site.

### Significance

- Understanding the **evolutionary theory of color morphs** could help scientists to understand how quickly species can **adapt and evolve** to changing environments.
- This would help scientists to gain a better insight into the **resilience capacity of the species to climate change or habitat degradation and destruction**, which is also the reason for the decreasing population of these species.
- Color Morphs could help in **conservation of Asiatic Golden Cats**, as it provides **Ecological Benefits** to cats like:
  - Occupying **different habitats** at different elevations from wet tropical lowland forests to alpine scrubs.
  - Providing **camouflage** while preying on pheasants and rabbits.

#### Asiatic Golden Cat

- Asiatic Golden Cat is a medium-sized wild cat native to **north-eastern Indian** subcontinent.
- The **Asiatic golden cat** (*Catopuma temminckii*) is listed as **near threatened** on the International Union for Conservation of Nature's Red List of threatened species.
- Asiatic cats are mentioned in **Wildlife Protection Act's** schedule 1.
- Wild cats are also included in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendix 1.

#### Dibang Valley

- Dibang Valley District is located in the North-Easternmost corner of Arunachal Pradesh.
- Largest district of Arunachal Pradesh with the lowest density of population in India.
- India's **first 'snow tigers'** were spotted in upper reaches of Dibang Valley.

## Rare Easterly Winds over the Indian Ocean

- Climate Prediction Centre of the US National Weather Service has said that **unusually warm waters in the Arabian Sea** have set up a **rare band of easterly winds** over the Indian Ocean, which has significantly **delayed the monsoon** onset over the Kerala coast.
- The number of factors has led to a dry spell in India:
  - **Madden-Julian Oscillation (MJO)**: Its location and strength may play an important role in the development of monsoon over India during the next several weeks.
  - **Cyclone 'Vayu'**: It took advantage of an MJO wave traversing the West Indian Ocean and adjoining South Arabian Sea.
  - **Storm initiation**: Over the East Indian Ocean and adjoining Bay of Bengal have led to **oceanic circulation** over North-East and adjoining East-Central Bay.

#### Madden-Julian Oscillation

- It is an oceanic-atmospheric phenomenon which affects weather activities across the globe. It brings major fluctuation in tropical weather on weekly to monthly timescales.
- The MJO can be defined as an eastward moving 'pulse' of clouds, rainfall, winds and pressure **near the equator** that typically recurs every 30 to 60 days.
- It's a traversing phenomenon and is most prominent over the Indian and Pacific Oceans.

## Sheath Blight Disease

- Sheath blight is a **fungal disease** caused by **Rhizoctonia solani**.
- **Rice sheath blight** is an increasing concern for rice production, especially in intensified production systems.
- Infected leaves dry out and die more rapidly, young tillers can also be destroyed. As a result, the leaf area of the canopy can significantly be reduced by the disease. This reduction in leaf area are the primary **causes of yield reduction**.

#### Why and Where it occurs?

- Sheath blight occurs in areas with **high temperature** (28–32°C), **high levels of nitrogen fertilizer**, and relative humidity of crop canopy from 85–100%.

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- Plants are more vulnerable to sheath blight during the rainy season.
- High seeding rate or close plant spacing, dense canopy, the disease in the soil, sclerotia or infection bodies floating on the water, and growing of high yielding improved varieties also favour disease development.

## World Day to Combat Desertification and Drought

The World Day to Combat Desertification and Drought is observed every year on **17<sup>th</sup> June**. India for the first time will host the 14th session of the Conference of Parties (COP-14) of the United Nations Convention to Combat Desertification (UNCCD) in September, 2019.

- **The Theme** of 2019 is **"Let's Grow the Future Together"**.

### United Nations Convention to Combat Desertification (UNCCD)

- It was established in 1994, the **sole legally binding international agreement** linking environment and development to sustainable land management. The Convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found.
- **UNCCD 2018-2030 Strategic Framework:** It is the most comprehensive global commitment to achieve **Land Degradation Neutrality (LDN)** in order to restore the productivity of vast expanses of degraded land, improve the livelihoods of more than 1.3 billion people, and reduce the impacts of drought on vulnerable populations to build.
- The UNCCD is particularly committed to a **bottom-up approach**, encouraging the participation of local people in combating desertification and land degradation.

### UNCCD Estimate of Desertification

- **Land & Drought:** By 2025, 1.8 billion people will experience absolute water scarcity, and 2/3 of the world will be living under water-stressed conditions.
  - A complex and slowly encroaching natural hazard with significant and pervasive socio-economic and environmental impacts to cause more deaths and displace more people than any other natural disaster.
- **Land & Human Security:** By 2045 some 135 million people may be displaced as a result of desertification.

- Achieving land degradation neutrality -by rehabilitating already degraded land, scaling up sustainable land management and accelerating restoration initiatives – is a pathway to greater resilience and security for all.
- **Land & Climate:** Restoring the soils of degraded ecosystems has the potential to store up to 3 billion tons of carbon annually.
  - The land use sector represents almost 25% of total global emissions. Its rehabilitation and sustainable management are critical to combating climate change.

### India and UNCCD

- The Union Ministry of Environment, Forest and Climate Change (MoEFCC) in partnership with the **International Union for Conservation of Nature (IUCN)** also launched a flagship project on enhancing capacity on **forest Landscape Restoration (FLR)** and **Bonn Challenge** in India, through a pilot phase of 3.5 years implemented in the States of Haryana, Madhya Pradesh, Maharashtra, Nagaland and Karnataka.

#### Desertification

- It is the degradation of land in arid, semi-arid and dry sub-humid areas. It is caused primarily by human activities and climatic variations. Desertification does not refer to the expansion of existing deserts.
- It occurs because dryland ecosystems, which cover over one-third of the world's land area, are extremely vulnerable to overexploitation and inappropriate land use.
- Poverty, political instability, deforestation, overgrazing and bad irrigation practices can all undermine the productivity of the land.

#### Bonn challenge

- The Bonn Challenge is a global effort to bring 150 million hectares of the world's deforested and degraded land into restoration by 2020, and 350 million hectares by 2030.
- At the UNFCCC Conference of the Parties (COP) 2015 in Paris, India also joined the **voluntary Bonn Challenge Pledge** to bring into restoration 13 million hectares of degraded and deforested land by the year 2020, an additional 8 million hectares by 2030.
- India's pledge is one of the largest in Asia.

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## Climate Change and Crop Production

According to a recent study, India's **grain production is vulnerable to climate change**, primarily because of the **decline in yield of rice crop during extreme weather conditions**.

- Researchers from Columbia University in the US studied the effects of climate on **five major crops in India**: finger millet, maize, pearl millet, sorghum, and rice.
  - These five grains are essential for meeting India's nutritional needs.
  - These crops make up the vast majority of grain production during the June-to-September monsoon season with rice contributing three-quarters of the supply for the season.
- It can be noted that recently, the **United Nations' State of Food Security and Nutrition in the World report 2018** said that climate change is already having a **negative effect on global agriculture** and is driving up the **number of hungry people around the world**.
- The study, however, found that **the yields from grains** such as millet, sorghum, and maize are **more resilient to extreme weather**.
- On the other hand, **yields from rice** experiences **larger declines during extreme weather conditions**.
  - By relying more and more on rice, India's food supply is **potentially vulnerable** to the effects of varying climate.
- Therefore, expanding the area planted with alternative grains like finger millet, maize, pearl millet, sorghum can reduce variations in Indian grain production caused by extreme climate.
- The study shows that **diversifying the crops** that a country grows can be an effective way to adapt its food-production systems to the growing influence of climate change.
  - It also offers benefits like **improving nutrition, saving water, reducing energy demand and greenhouse gas emissions from agriculture**.
- Of late, there has been growing awareness about these alternative grains, often clubbed as **"Smart Food"**. Few important developments are:
  - **India celebrated 2018 as the national year of millets**. Moreover, India's proposal to observe an **International Year of Millets in 2023** has been approved by the Food and Agriculture Organisation (FAO).

- **ICRISAT** which conducts research on six highly nutritious drought-tolerant crops, recently discovered important factors for **heat and drought tolerance in chickpea**.

## Climate Change Impacting Small Island Developing States

The **United Nation (UN)** in its report on **World Population Prospects 2019** has warned that many Small Island Developing States (SIDS) may fail to achieve several Sustainable Development Goals (SDGs) by 2030 because of increasing population and climate change risks.

### Small Island Developing States

- Small Island Developing States (SIDS) are islands of the Caribbean Sea and the Atlantic, Indian and Pacific Oceans.
- The SIDS were recognized as a distinct group of developing countries in June 1992, at the UN Conference on Environment and Development. Total number of SIDS are 39.
- SIDS' unique and particular vulnerabilities are highlighted in **"The Future We Want"**, adopted at the **United Nations Conference on Sustainable Development** (also known as Rio+20) that took place in Rio de Janeiro, Brazil in June 2012
- Their small size, remoteness, narrow resource and export base, and exposure to global environmental challenges and external economic shocks, including to a large range of impacts from climate change and potentially more frequent and intense natural disasters, SIDS continue to address those structural and external challenges to achieve their sustainable development.

### Reasons for Missing SDGs

- **Population:** Several SIDS, including Comoros, Guinea-Bissau, Sao Tome and Principe, the Solomon Islands and Vanuatu, are experiencing a sharper population growth, higher than the global average rate of 1.07 per cent.
- **Climate Change:** The challenge is bigger for these small countries because of their vulnerability to climate change, climate variability and sea-level rise.

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- **Geographical Reasons:** One-third of the entire population of SIDS lives on lands that are less than **five metres below the sea level**. This makes them highly vulnerable to sea-level rise, storm surge and coastal destruction.

### ***Impact of Climate Change on SIDS***

These countries contribute only 1 per cent of global greenhouse gas emissions, and yet are among the first to experience the worst impacts of climate change.

- Agricultural production, fisheries, and related sectors are declining as the climate changes threatening livelihoods and economic growth.
- **UN Environment Programme** in its report highlighted that the extreme weather spawned by climate change is destroying SIDS land, real estate and infrastructure, with economically catastrophic effects.
- Tourism forms the foundation of many SIDS economies, and climate change is impacting it. Tourists are being discouraged from travelling to SIDS in the fear of violent and life-threatening storms.

## **Flood Hazard Atlas**

Odisha has released a **unique flood hazard atlas** on the basis of **historic flood inundation** captured through **satellite imagery** over the period from 2001 to 2018.

- **Flooding in Odisha:** Every year vast areas of the state are inundated when there is overflow in major rivers like the **Mahanadi, Brahmani, Baitarani, Subarnarekha** and **Rushikulya**.
  - Some of the rivers like the **Vamsadhara** and **Budhabalanga**, also cause **flash floods** due to instant run-off from their hilly catchments.

### ***Flood Hazard Atlas***

- It is the mapping and zonation of an area prone to frequent flooding, the mapping is done on the basis of the data of the past few years. **The National Remote Sensing Centre (NRSC) of the Indian Space Research Organisation (ISRO)**, Hyderabad does **flood hazard zonation**.

### ***Benefits of Flood Hazard Atlas***

- **Better Preparedness:** A more **concise focus** on the effects and impacts of the flooded area is possible during the early **planning stages**.

- **Risk reduction or mitigation techniques** can be recommended for the same portion of the study area.
  - **Location, severity, or frequency** of hazard can be done more easily.
- **Proper Assessment of Area:** A study area or sub-area can be expanded, reduced, or deleted. Study areas can be divided into sub-areas requiring more information, additional assessments, or specific reduction techniques.
- **Risk Evaluation:** A more realistic evaluation of risks to new development is possible. Appropriate hazard reduction techniques can be more easily developed to deal with an emergency situation.
- **Rehabilitation Planning:** It could be initiated in advance with proper coordination among different central and state agencies.

## **Water Vulnerable Megacities in India**

Four Indian cities, **Chennai, Kolkata, Mumbai** and **Delhi** have been ranked among the top 20 megacities in the world facing high levels of water scarcity.

- **A study by the World Wildlife Fund (WWF)** evaluated 400 cities globally in 2018 with focus on megacities facing high combined levels of water scarcity — recent and projected drought.
- **Chennai has emerged in top position** as the city facing the most severe water scarcity and drought in the world.
- **Kolkata has been ranked at number 2, Mumbai at 11 and Delhi at 15.**
- Large cities, mostly located along the banks of large rivers, are vulnerable to water scarcity because of the vastly over-allocated and mismanaged river-systems.
- **Frequent droughts and flooding due to climate change and depleting levels of water in the reservoirs** are some of the reasons behind the water crisis in these megacities.
- **Loss of wetlands** is a key reason. Reports have noted that the world has lost 35% of its wetlands since 1970 and is losing them three times faster than forests.
  - As the wetlands shrink, the city loses its natural waste water tank, and in the absence of enough sewage treatment plants, the wastewater goes straight into the river.

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### The World Wildlife Fund (WWF)

- The **World Wide Fund for Nature (WWF)** is an **international non-governmental organization founded in 1961**, working in the field of wilderness preservation, and the reduction of humanity's footprint on the environment.
  - It was formerly named the World Wildlife Fund, which remains its official name in Canada and the United States.
  - **Headquarters: Gland, Switzerland.**
  - The group's mission is "**to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature**".
- East Kolkata Wetland, a Ramsar site is an example of the case.

## Joint Effort to Conserve Wildlife at Bandipur

**National Tiger Conservation Authority (NTCA)** has convened an inter-state meeting of senior forest personnel from **Karnataka, Tamil Nadu and Kerala** at Bandipur in Karnataka.

- It has decided to make a concerted effort to conserve wildlife in the region. The joint effort would primarily focus:
  - To eradicate **invasive plants** such as **Senna Spectabilis** which caused a major threat to the wildlife habitat in the **Nilgiri Biosphere Reserve**.
  - To ensure inter-state coordination in conserving the endangered **vulture population** in the region.
  - To mitigate increasing human-wildlife conflict on the forest fringes of the region. As part of it, **information regarding radio-collared animals and their movements would be exchanged** among the department staff.
  - To stop **forest fire** and information on such incidents would be handed over to the officials in the adjacent sanctuaries and tiger reserves.
  - Information on accused in forest cases would also be exchanged each other to avert **wildlife-related crimes**.

### Bandipur Tiger Reserve

- Bandipur Tiger Reserve came into being in 2007. The name is derived from a village called Bandipur

where the administrative unit of the Tiger Reserve is located.

- **It the largest protected area in southern India and the largest habitat of wild elephants in South Asia, together with the adjoining Nagarhole National Park, Mudumalai National Park and Wayanad Wildlife Sanctuary.** It is part of the Nilgiri Biosphere Reserve.
- The **Moyar River** originating from the Nilgiri Mountain Range near Pykara, meandering through the reserve over a length of more than 20 Km. It is the major water source for wildlife and people living in and around the reserve.
- The Tiger Reserve is a distinctive landmass located at the tri-junction area of the States of **Karnataka, Tamil Nadu and Kerala**.

## Normalized Difference Vegetation Index

A recent study has found that the normalized difference vegetation index does not yield a reliable estimate of **food abundance** for **elephants** in tropical forests.

- Normalized Difference Vegetation Index (NDVI) estimates the **density of vegetation** and amount of **food abundance** available for herbivorous animals, for example, elephants.
- This index has a **negative correlation** with graminoids (grassy food – grasses, sedges, and rushes – preferentially consumed by elephants) in tropical forests.
  - Negative correlation implies grass density is low in areas with a high value of NDVI (which indicates healthier vegetation).

### Normalized Difference Vegetation Index

- NDVI calculates the difference between the **red and near infrared components** of light reflected by objects (like satellite).
- Since healthy vegetation strongly **absorbs red and reflects near-infrared light**, this difference can indicate the presence of healthy vegetation and can be mapped into a **colour code** (green and red).
- **High NDVI value** (bright green) indicates healthier vegetation whereas **low value** (red) indicates less or no vegetation.

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- Data obtained from satellites (like Sentinel-2, Landsat and SPOT) that produce red and near-infrared images are used for estimating NDVI.

### Significance

- **Agriculture:** Farmers use NDVI for **precision farming** and to **measure biomass**.
- **Forestry:** Foresters use NDVI to **quantify forest supply and leaf area index**.
- **Environment:** NDVI is used to **inform the ecology of various species**, from elephants and red deer to mosquitoes and birds.
- **Drought:** NASA states that NDVI is a **good indicator of drought** when water limits vegetation growth, it has a lower relative NDVI and density of vegetation.

## Day Zero Situation

It has been reported that **Shimla**, Himachal Pradesh and **Udupi** and **Mangaluru** in coastal Karnataka are on the **verge of becoming Tier 2 cities** which would have a **'Day Zero' situation soon**.

### Case of Shimla

- Shimla, which has a population of 0.17 million, gets approximately 10,000 visitors daily during the peak tourist season in summer.
- At the time of the peak tourist season, **the demand for water rises to 45 million litres per day (MLD)**. However, due to **scanty rain and snowfall and drying up of the perennial water sources**, Shimla has **reserves of only 18 to 27 MLD**.

### Case of Udupi

- The **Swarna river and the Baje dam** are the main source of water for the Udupi city.
- The dam reached the **'dead storage' limit** this year. Dead storage refers to water in a reservoir that cannot be drained by gravity and has to be pumped out.
- The city has been divided into six zones and drinking water from the Swarna is at present being supplied once in six days to each one of these zones in turns.

### Case of Mangaluru

- A vented dam was built across the city's **Netravati river** at Thumbe in 1993 to ensure an adequate and continuous supply of water throughout the year.

Another dam 50 metres downstream of the vented dam was constructed and commissioned in 2016 to meet the future water supply needs of Mangalore

- But this year, with **no inflow into the Netravati**, the corporation has taken the hard decision of water rationing.

### Day Zero Situation

- It is a situation **when there will be no water in the taps and the use of water will become restricted for vital services only**.
- Considering the present situation of water crisis in the cities of Shimla, Udupi and Mangaluru, they are being termed as **soon to be India's Cape Towns**.

### Case of Cape Town

- In January 2018, officials in Cape Town announced that the city of 4 million people was three months away from running out of municipal water.
- **Labelled "Day Zero"**, 12<sup>th</sup> April, 2018, was to be the date of the largest drought-induced municipal water failure in modern history, the result of three consecutive years of anemic rainfall.
- One year on, **Cape Town has apparently made it through the worst of a historic drought without turning off the taps**, although the water supply is still tenuous.
- The steps taken include:
  - Cape Town's government **ramped up water tariffs** and enforcement of prohibitions on heavy users, **prohibiting the use of municipal water** for swimming pools, lawns, and similar **non-essential uses**.
  - Farmers diverted additional water stored for agricultural purposes to the city.
  - The city's government also implemented a **new water-pressure system**, saving roughly 10 % of overall municipal water consumption.

## Ozone Pollution

According to the data presented by the **Ministry of Environment, Forest and Climate Change** in the Lok Sabha, ozone was reported as a prominent pollutant (for 95 days between 2016 and 2018) in Delhi (contributing to rising **air pollution in Delhi**).

- Delhi has witnessed 122 micrograms per cubic metre (ug/cu m) of ozone pollution which is 1.22 times

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higher than the eight-hour average standard which is 100 ug/cu m.

### Ozone

Ozone (composed of three atoms of oxygen) occurs both in the Earth's upper atmosphere (stratosphere) and at ground level (troposphere). It can be good or bad, depending on where it is found:

- **Good Ozone:** Ozone occurs naturally in the Earth's upper atmosphere (Stratosphere) where it forms a **protective layer** that shields us from the sun's harmful ultraviolet rays.
  - **Ozone depleting gases** like chlorofluorocarbons (CFCs), HCFCs, halons, destroy this protective shield and causes hole in the ozone.
  - India had adopted the **Kigali Amendment** (aims to phase-down hydrofluorocarbons).
- **Bad Ozone:** In the Earth's lower atmosphere (troposphere) near ground level, ozone is formed when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources react chemically in the presence of **sunlight**.
  - **Surface level Ozone** is a harmful air pollutant.

### Impacts of Ozone Pollution

- Surface level ozone causes **damage** to **crops** and **forests**.
- Irritation can occur in the **respiratory system** giving rise to **coughs** and an uncomfortable sensation in the chest.
- Ozone worsens bronchitis, emphysema, asthma, etc and increases the risk and susceptibility to pulmonary inflammation like **Chronic Obstructive Pulmonary Disease** (COPD).
- It may reduce **lung function** and make breathing difficult.

### Government Efforts

- Shifting to **BS-VI compliant vehicles from BS-IV**.
- Shutting down of the Badarpur thermal power plant.
- Banning of garbage burning.
- **Graded Response Action Plan** (GRAP).
- Launch of the **National Clean Air Programme** (NCAP).
- Setting up of a monitoring network for assessment of the ambient air quality at 779 locations, covering 339 cities in 29 states and six Union territories



Note:

# Art & Culture

## Highlights

- Nilgiri Tribals Tensed Over Destruction of Rock Art
- Buddhist Relic Unearthed in Andhra Pradesh
- Bacterial Spray and Decaying Monuments
- Maharaja Ranjit Singh
- Modernization of Army
- Wide Empire

## Nilgiri Tribals Tensed Over Destruction of Rock Art

Around **40%** of the rock paintings in Karikiyoor at Kil Kotagiri in the Nilgiri forests have been **destroyed by trekkers, tourists, and vandals**.

- **Irula tribal community**, who have an ancestral link to the Nilgiri forest's rock art site, are extremely angered at the damage by illegal trekkers.

### About Irula Tribe

- Irula people reside in northern districts of **Tamil Nadu** and in some parts of **Kerala**.
  - Tribes have their origin from ethnic groups of **Southeast Asia and Australia**.
  - They speak Irula language that is closely related to the Dravidian **language** like Kannada and Tamil.
  - Irulas are among the **Particularly Vulnerable Tribal Groups (PVTGs)**.
    - The PVTGs are the **marginalized section** of the Scheduled tribes of India and are relatively isolated, educationally and socio-economically backward, living in a habitat far away from amenities.
    - PVTG is **not a constitutional category**. It is a Government of India's classification created with the purpose of enabling improvement in the conditions of certain communities with particularly low development.
  - **Scripts** on the rock paintings in Karikiyoor resemble the script found in **Indus civilization** sites of northern India.
- Rock Art:** Rock art is human-made markings placed on natural stone.

- Rock art is often divided into three forms: **petroglyphs**, which are carved into the rock surface, **pictographs**, which are painted onto the surface, and **earth figures**, formed on the ground.
- **Significance**
  - The rock paintings serve as a **"historical record"**, detailing the hunting habits and **ways of life** of the local communities.
  - Rock arts are used for **ritualistic purposes** by local residents.
  - Tribal communities rely on the rock arts for deriving their **cultural connections** by following the customs engraved in the rock art.
- Rock art in India is extensively found in the caves of:
  - **Bhimbetka Caves:** Located between Hoshangabad and **Bhopal**, in the foothills of the Vindhya Mountains.
  - **Bagh Caves:** Located on the bank of Baghani river in the Dhar district of **Madhya Pradesh**.
  - **Jogimara Caves:** Paintings were created before the Ajanta and Bagh Caves and belong to **Pre-Buddha caves**.
    - Situated at Amarnath near the origin of Narmada, in Surguja in Chhattisgarh.
  - **Armamalai Caves:** Armamalai cave paintings located in **Vellore district of Tamil Nadu**, are known for a Jain temple with ancient paintings, petroglyphs and rock art.

## Buddhist Relic Unearthed in Andhra Pradesh

A Buddhist relic has been unearthed in Andhra Pradesh. It is a limestone pillar, which is carved with half lotus medallions at the centre and top portions on all four sides.

Note:

- It belongs to the Amaravati school of Art of the [Ikshvaku times](#).

#### Amaravati School of Art

- Amaravati school of art evolved and flourished for nearly six centuries commencing from 200-100 BC in India itself, i.e. it has no outside influence.
- It was patronized first by the Satavahanas and later by the Ikshvakus.
- The material used is a distinctive **white marble** and Amaravati sculptures have a sense of movement and energy with profound and quiet naturalism in human, animal and floral forms.
- Both religious (mainly Buddhist) and secular images were present in this style.
- It might be a part of Shilamandapa Buddhist monastery where buddhist teachers offered regular discourses on the dhamma of the Buddha.
- The exploration was undertaken under '**Preserve Heritage for Posterity**', an awareness campaign launched by the Cultural Centre of Vijayawada and Amaravati (CCVA), to bring artefact to limelight which remained in neglect in different parts of Andhra Pradesh.

## Bacterial Spray and Decaying Monuments

A study has identified bacteria responsible for calcification and hardening of lime.

- When the rain water seeps into the monumental structure, lime leaches through basaltic rock joints. This leached lime is acted upon by bacteria, which turn it into hard calcified lime.
- Many monuments have been losing its shine and beauty due to white deposits on its surface. **For Example: The Salabat Khan tomb**, located 125 kilometres from Aurangabad in Maharashtra, the study of whom was conducted by the **National Museum Institute of History of Art, Conservation and Museology**.
  - The study identified certain bacteria responsible for calcification and hardening of lime, which have been given below:
    - Bacillus sp,
    - Arthrobacter sp,
    - Agromyces Indicus and
    - Aquamicrobium sp species.

- **Bacterial Spray:** A spray of identified organisms along with calcium carbonate can create calcite layer that will help preserve exteriors of monuments.
  - In this method, micro-organisms are evenly sprayed on the surface and are fed with nutritional medium containing calcium and urea.
  - The bacteria then induces carbonate precipitation by creating low acidic medium and converting dissolved calcium into a protective surface coating of calcium carbonate.
  - This process is also known as biocoating. Under it, identified organisms are used to preserve exterior of monuments.
- The study proves that living bacteria can be used to clean as well as protect old and historic monuments and also to seal the cracks, if any, without causing any damage to the monument or its surface.
  - Currently marble surfaces of historic monuments are cleaned by applying mud packs, which at times can be damaging.

#### National Museum Institute of History of Art, Conservation and Museology

- The National Museum Institute of the History of Art, Conservation and Museology was formed and registered on January 27, 1989 under the Societies Registration Act, 1860.
  - It is located in Delhi.
- It provides for various courses of study, training and research in different branches of History of art, Museology, Conservation, etc.

## Maharaja Ranjit Singh

A statue of Maharaja Ranjit Singh, who ruled Punjab for almost four decades (1801-39), was inaugurated in **Lahore** on the occasion of 180<sup>th</sup> death anniversary of the legendary Sikh ruler.

- In 2016, the town of **St Tropez** in France unveiled the Maharaja's **bronze statue** as a mark of respect.

#### Maharaja Ranjit Singh

- He was born on November 13, 1780 in **Gujranwala**, now in **Pakistan**.
- At that time, Punjab was ruled by powerful chieftains who had divided the territory into Misls.

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- Misl refers to the sovereign states of the **Sikh Confederacy**, that rose during the 18<sup>th</sup> century in the Punjab region in the northern part of the Indian subcontinent after the collapse of the Mughal Empire.
- Ranjit Singh overthrew the warring Misls and established a **unified Sikh empire** and was given the title **Lion of Punjab** (Sher-e-Punjab) for his success in freeing Lahore (his capital) from the Afghan invaders.

## Modernization of Army

- He combined the strong points of the **traditional Khalsa army** with western advances in warfare to raise **Asia's most powerful indigenous army** of that time.
- He also employed a large number of **European officers**, especially French, to train his troops.
- He appointed French General **Jean Franquis Allard** to modernize his army.

## Wide Empire

- Ranjit Singh's **trans-regional empire** (spread over several states) included the former Mughal provinces of Lahore and Multan besides part of Kabul and the entire Peshawar.
- The boundaries of his state went up to **Ladakh** — in the northeast, **Khyber pass** (route the foreign rulers took to invade India) in the northwest, and up to **Panjnad** in the south where the five rivers of Punjab fell into the Indus.

## Legacy

- The Maharaja was known for his **just and secular rule**.
  - Both Hindus and Muslims were given powerful positions in his darbar.
- He turned **Harimandir Sahib** at Amritsar into the **Golden Temple** by covering it with gold.
- He is also credited with funding **Hazoor Sahib gurudwara** at the final resting place of Guru Gobind Singh in Nanded, Maharashtra.



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# Social Issues

## Highlights

- Draft National Education Policy Unveiled
- Disability Summit, 2019
- End of Childhood Index
- India and the Hunger Fight
- Acute Encephalitis Syndrome
- Vaccine for Alzheimer's Disease
- World Day Against Child Labour
- Nipah Virus and Fruit Bat
- Hypoglycemia and Acute Encephalitis Syndrome
- Piped Water Connection by 2024
- National Health Mission and Janani Suraksha Yojana
- Anaemia in Women
- Trafficking in Persons Report
- New Injection for Type-2 Diabetes
- National Food and Nutrition Security Analysis
- NITI Aayog's Health Index
- Celiac Disease
- Triclosan and Osteoporosis
- Married Women Out of Labour Force
- Agreement with the World Bank to Eliminate TB

## Draft National Education Policy Unveiled

Committee led by **Dr K. Kasturirangan** presented **new draft of National Education Policy**.

- The draft policy is built on foundational pillars of **access, equity, quality, affordability & accountability**.

### Key Recommendations

- **Sanskrit at All Levels of Education:** Sanskrit should be taught at all levels of **school and higher education** as one of the optional languages on par with all Schedule 8 languages.
  - Sanskrit textbooks at the foundational and middle school level may be rewritten in **Simple Standard Sanskrit (SSS)** in order to teach **Sanskrit through Sanskrit (STS)**.
- **Extension of the Right To Education (RTE) Act:** RTE, which currently applies to classes I to VIII, will now be applicable to the entire school system from pre-school to class XII, covering children of ages 3 to 18 years.
- **Restructuring of the School Curriculum and 5+3+3+4 Design:** Under the proposed 5+3+3+4 design,
  - The first five years of schooling of children in the age group of 3 to 8 years would be marked as **Foundational Stage** (it includes three years of pre-primary plus **grade-1 and grade-2**).

- The next three years of schooling, to be marked as a **Preparatory Stage** for the children in the age group of 8 to 11 years (will include **grades 3 to 5**).
- **Middle Stage (grades 6 to 8)** for the students in the age group of 11-14 years.
- **Secondary Stage (grades 9-12)** for students in the age group of 14-18 years.
- Schools will be re-organized into **school complexes**.
- **System for flexible and multiple board examinations:** Introduction of a **semester system in school education** for students of classes 10<sup>th</sup> to 12<sup>th</sup>, with provisions for holding "**flexible and modular board examinations**".
  - Students will be able to take a board examination in a given subject in whichever semester they take the corresponding class in school, whenever they feel most ready.
  - They should be able to take any such subject board examination again if they feel they can study and do better.
- **Restructuring of the higher education institutions** by placing them under three categories:
  - The first primarily being focused on **research**.
  - Second, providing **high-quality teaching** across disciplines with significant contribution to research.
  - Third providing **quality teaching focussed on undergraduate education**.
  - It also suggests the introduction of **four-year undergraduate programmes** in higher education

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institutions and restructuring of the current 3 year BA, BSc, B.Com. and B.Voc. programmes with provisions to provide students with "multiple exits and entry options".

- **Establishment of a Rashtriya Shiksha Aayog (National Education Commission)** as a **constitutional body** through an Act of Parliament, with the **Prime Minister** being its Chairperson.
  - Rajya Shiksha ayog/State Education Commissions may be constituted in each state.
- **Establishment of Single Higher Education Regulator—National Higher Education Regulatory Authority (NHRA)** — that will subsume all other bodies like UGC, AICTE and others into it.
- **A national programme for the professional development** of faculty members of higher education institutions.

## Disability Summit, 2019

The Government of Argentina, International Alliance Disability (IDA), and the Latin American Network of Non-Governmental Organizations of Persons with Disabilities and their Families (RIADIS) has hosted the second "Disability Summit, 2019" at the Buenos Aires.

- The first "Global Disability Summit" was held in London in 2018.
- The Summit represents an opportunity to reflect on the formulation and strengthening of public policies and good practices in the different discussion panels, with the voices of people with disabilities to be at the forefront.
- The Summit will bring together governments, organizations of people with disabilities, civil society organizations, international organizations, international cooperation agencies, academia and the private sector, with the hope of achieving real change for people with disabilities.

### International Alliance Disability

- The **International Disability Alliance (IDA)** was created in 1999. It is an umbrella organization focused on improving awareness and rights for individuals with disabilities around the globe.
- It is an alliance of **eight global and six regional organizations** of persons with disabilities.
- It advocates at the UN for a more inclusive global environment for persons with disabilities and their organizations.

### United Nations Convention on the Rights of Persons with Disabilities

- The **United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)** is an optional UN protocol. It was adopted on 13<sup>th</sup> December 2006 at the United Nations Headquarters in New York.
- **India signed** the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) and subsequently **ratified** the same on 1<sup>st</sup> October 2007. The Convention came into effect on 3<sup>rd</sup> May 2008.
- The **International Day of Persons with Disabilities** is observed on **3<sup>rd</sup> December**.

## End of Childhood Index

India ranks 113<sup>th</sup> out of 176 countries on an index that evaluates countries on the wellbeing of children. The **End of Childhood Index** is part of the **Global Childhood Report** released by UK-based **Save the Children**, a non-profit organisation that works for child rights.

### Performance of India

- **Child Mortality:** India has **reduced** its child mortality rate by **55%** in the last two decades, from 88 deaths per 1,000 live births in 2000 to 39 deaths per 1,000 live births in 2017.
- **Stunting of Children:** Low height for age, among children below age five, **fell 25% globally** between 2000 and 2019.
  - In India, about 38% of children under five were stunted, the second-worst performance compared to its neighbours after Pakistan (40.8%). China (6%) had the lowest rate in the region, followed by Nepal (13.8%), Sri Lanka (17.3%), Bangladesh (17.4%) and Bhutan (19.1%).
  - There are wide **disparities between states in India** — while 48.3% of children are stunted in Bihar, 45.3% in Jharkhand and 37.6% in Chhattisgarh, Kerala has the least at 19%, followed by Tamil Nadu (27.1%)
- **Free Universal Education:** Despite India's advances at giving free universal education to its children, about 20% of them (aged 8-16) were still out of school as of 2018.
- **Child Marriages:** India halved its number of child marriages in 18 years. This change has been fastest among girls younger than 15 years of age.

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- **Adolescent Births:** India alone accounts for nearly three-quarters of the global reduction in adolescent births and has managed to reduce adolescent births by 63% since 2000, which has resulted in 2 million fewer young mothers.

## India and the Hunger Fight

The United Nations has set the year 2030 as the deadline to end global hunger and **India as of now has performed poorly in its efforts to eliminate hunger with most states not on track to meet the UN's Sustainable Development Goal-2 (SDG-2).**

### **Sustainable Development Goal-2 (Zero Hunger)**

- Goal-2 seeks sustainable solutions **to end hunger in all its forms by 2030 and to achieve food security.**
- Achieving this Goal requires better access to food and the widespread promotion of sustainable agriculture. **This entails improving the productivity and incomes of small-scale farmers by promoting equal access to land, technology and markets,** sustainable food production systems and resilient agricultural practices.

### **Government of India Initiatives**

- The **National Nutrition Strategy** aims to accelerate the decline of malnutrition in India. **The National Nutrition Mission monitors the growth of children,** as well as checks the pilferage of food rations provided at Anganwadi Centres.
- **POSHAN Abhiyaan,** launched in 2017-18, **aims to reduce stunting, under-nutrition, anaemia and low birth weight through** synergy and convergence among different programmes, better monitoring and improved community mobilisation.
- **Antyodaya Anna Yojana (AAY)** aims to provide food at subsidized prices to poor families.
- The **Integrated Child Development Scheme (ICDS)** envisages comprehensive early childhood care and development by focussing on children in the age group of 0-6 years, pregnant women and adolescent girls.
- **Mid-Day Meal (MDM)** scheme **aims to improve nutritional levels among school children** which also has a direct and positive impact on enrolment, retention and attendance in schools.
- Under the **Pradhan Mantri Matru Vandana Yojana (PMMVY),** ₹6,000 is transferred directly to the bank

accounts of pregnant women for availing better facilities for their delivery.

- **The National Mission on Agriculture Extension and Technology** enables delivery of appropriate technologies and improved agronomic practices for farmers.
- **The National Mission on Sustainable Agriculture** and the **National Food Security Mission** aims to enhance agricultural productivity, and the **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)** aims to improve water-use efficiency.

## Acute Encephalitis Syndrome

Several children have died in the **Muzaffarpur district** of north Bihar, due to **Acute Encephalitis Syndrome (AES),** which is locally known as **Chamki bukhar (brain fever).**

- The AES cases in Muzaffarpur and adjoining **litchi producing districts** have been observed mostly from April to June, particularly in children who are **undernourished** with a history of visiting litchi orchards.
- **High temperature** during summer, along with humidity, is considered to be an ideal situation for the outbreak of Acute Encephalitis Syndrome.
- Relationship between **consumption of litchi** and **AES** was postulated by National Centre for Disease Control, Delhi (along with Centre for Disease Control US) in acute encephalitis in children in Muzaffarpur.
- Unripe litchis contain the **toxins hypoglycin A** (naturally occurring amino acid) and **methylenecyclopropylglycine (MCPG),** which cause vomiting if ingested in large quantities.

### **Acute Encephalitis Syndrome**

- **Acute Encephalitis Syndrome** is a severe case of encephalitis **transmitted by mosquitoes** and is characterized by **high fever** and **inflammation of the brain.**
- The disease most commonly affects **children and young adults** and can lead to considerable **morbidity and mortality.**
- **Causative Agents: Viruses** are the main causative agents in AES cases, although other sources such as **bacteria, fungi, parasites, spirochetes, chemicals, toxins, and noninfectious agents** have also been

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reported over the past few decades. **It is not vaccine-preventable.**

- **Japanese Encephalitis Virus (JEV)** is the major cause of AES in India (ranging from 5%-35%).
- **Herpes Simplex Virus, Nipah virus, Zika virus, Influenza A virus, West Nile virus, Chandipura virus, mumps, measles, dengue, scrub typhus, S.pneumoniae** are also found as causative agents for AES.
- **Symptoms:** They include confusion, disorientation, coma, or inability to talk, high fever, vomiting, nausea, and unconsciousness.
- **Diagnosis: The National Vector Borne Disease Control Programme** in India has set up countrywide surveillance for AES through sentinel sites with a focus on detecting Japanese Encephalitis Virus (JEV).

### Government Initiatives

In order to reduce morbidity, mortality, and disability in children due to JE/AES, Government of India under **National Programme for Prevention and Control of Japanese Encephalitis/Acute Encephalitis Syndrome (NPPCJA)** has developed a multi-pronged strategy with the convergence of the concerned Ministries.

- **Ministry of Health and Family Welfare:**
  - Strengthening and expanding JE vaccination
  - Strengthening of public health activities
  - Better clinical management of JE/AES Cases
  - Physical Medicine and Rehabilitation (PM&R)
  - Establishing of the district counselling centre
  - Monitoring, supervision, and coordination
- **Ministry of Drinking Water and Sanitation** for the provision of safe water supply.
- **Ministry of Women and Child Development** for providing high-quality nutrition to vulnerable children.
- **Ministry of Social Justice and Empowerment** for establishing District Disability Rehabilitation Centers for disability management and rehabilitation.
- **Ministry of Housing and Urban Poverty Alleviation (HUPA)** for ensuring the supply of safe water in slums and towns.
- **Ministry of Human Resource** (Department of School Education) to provide special facilities for disabled children for their education.

## Vaccine for Alzheimer's Disease

**Dr. Kiran Bhaskar** (an Indian-American scientist at the University of New Mexico) led team has developed an early version vaccine for **Alzheimer's disease**.

- **Vaccine intervention** could rescue **memory impairments** and **prevent neurons** from dying by **reducing tau tangles** in parts of the brain that are critical to **memory and learning**.
- The vaccine uses **Virus-Like Particles (VLP)** that helps mice to develop **antibodies** to get rid of tau tangles in them, which are responsible for breeding symptoms of Alzheimer's in humans also.
- **Tau** is a protein that when it occurs in tangled formations in the brain of Alzheimer patients, disrupts the ability of neurons to communicate with one another in the brain.
- Body's **immune system** is capable of **generating antibodies** that are responsible for eliminating tau tangles.

### Alzheimer's

- Alzheimer's disease is a **neurological disorder** which causes brain cells to **degenerate** and **die**. This leads to **loss of memory**, problems with words in **speaking or writing**, **poor judgment**, changes in **mood and personality**, **confusion with time or place** etc.
  - At the first stage, these symptoms are mild but they become **more severe with time**.
- Alzheimer's is the most common **cause of dementia** among older adults.
  - Dementia is a group of brain disorders that cause the loss of intellectual and social skills.
- It is caused by the build-up of proteins known as **tangles or plaques** within the brain and is also known as the third type of diabetes.
- **Ageing** is the greatest risk factor for Alzheimer's disease but sometimes symptoms may occur at the age of 30s or so because of rare genetic changes in the people.
- Alzheimer's is an **incurable disease**, as the death of brain cells cannot be reversed.
- **Women** have a **higher risk** of having Alzheimer's disease than men.

Note:

- According to the US Department of Health and Human Services, nearly twice as many women have Alzheimer's disease as men.

### Fact and Findings

- India houses more than **4 million** people suffering from some form of dementia and this number is set to **triple by 2050**.
- Worldwide, at least 44 million people are living with dementia, making the disease a global health crisis that must be addressed.
- **Western countries** report a high rate of Alzheimer's, mainly on account of better diagnosis compared to countries like India where it is often ignored as a natural process of ageing.

## World Day Against Child Labour

A 'Baal Panchayat' (Children's Parliament) was organised in the Delhi by Kailash Satyarthi's Children's Foundation on the occasion of **World Day against Child Labour**.

- Children presented a charter of demands in the children's parliament which they wished to convey to the Government of India.
- According to the Census 2011, most child labour in India are employed for agriculture and allied activities. This is in sync with the global trend which shows that 71 per cent of child labour is concentrated in this sector.

### World Day Against Child Labour

- Every year **12<sup>th</sup> June** is celebrated as the **World Day Against Child Labour**. The **International Labour Organization (ILO)** launched the **World Day Against Child Labour in 2002** to focus attention on the global extent of child labour and the action and efforts needed to eliminate it.
- **The theme of 2019: "Children shouldn't work in fields but on dreams".**
- **Target 8.7 of the SDG** calls on the global community to take immediate and effective measures to eradicate forced labour and end modern slavery.

### ILO Convention on Child Labour

- India has ratified six out of the eight core/fundamental International Labour Organisation (ILO) Conventions.

- The Forced Labour Convention, 1930 (No. 29)
- Abolition of Forced Labour Convention, 1957 (No. 105)
- Equal Remuneration Convention, 1951 (No. 100)
- Discrimination (Employment and Occupation) Convention, 1958 (No. 111)
- Minimum Age Convention, 1973 (No. 138)
- Worst Forms of Child Labour Convention, 1999 (No. 182).
- India has **not ratified** the core/fundamental Conventions, namely **Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)** and **Right to Organise and Collective Bargaining Convention, 1949 (No. 98)**.

## Nipah Virus and Fruit Bat

Fruit bats have been identified as carriers of the deadly **Nipah virus** in Kerala.

### Fruit Bat

- Fruit bats, as opposed to insectivorous bats, survive largely on a diet of fruit, which they **locate with their sense of smell** (insectivorous bats locate their prey through **echolocation**, i.e, locating the source of the echoes of their own sound).
- Fruit bats belong to the Pteropodidae family; those in the Pteropus genus within this family are natural hosts for the Nipah virus.
- Fruit bats are widely found in South and Southeast Asia and are also known as **flying foxes**.

### Nipah Virus and Fruit Bat Connection

- The virus survives in the bat's body without causing disease, allowing it to jump to susceptible mammals like humans or pigs when bats come in contact with them.
- The National Institute of Virology had found that the virus was first transmitted from fruit bats identified as Pteropus.
- In Bangladeshi outbreaks, researchers found antibodies to Nipah in the Indian flying fox.

### Significance

- Identifying the source of the Nipah infection will help prevent future spread, as Nipah virus has a spillover

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effect i.e virus seems to have moved from **bats to humans** in one event and after this moved from **one human to another**.

### **Why are so many diseases linked to bats?**

- All bats can carry viruses, some of them deadly like:
  - Severe Acute Respiratory Syndrome (SARS) antibodies were found in insectivorous bats.
  - Ebola antibodies were found in Hammer-headed fruit bat.
  - Indian Flying Fox hosts over 50 viruses.
- With around 1,200 species, bats comprise 20% of the earth's mammalian diversity.
- Long periods of flying raises the temperatures of bats, boosting their immune responses and helps them survive the microbes' pathogenic effects.

## **Hypoglycemia and Acute Encephalitis Syndrome**

In the outbreak of Acute Encephalitis Syndrome (AES) in Bihar, witnessing around 350 cases and 103 deaths, **most of these deaths have been attributed to hypoglycaemia i.e. low blood sugar**.

- Hypoglycemia is a commonly seen sign among patients of AES, and the link has been the subject of research over the years.

### **About AES**

- **Acute Encephalitis Syndrome (AES)** is a broad term involving several infections which affects young children. The syndrome can be caused by **viruses, bacteria or fungi**. In India, the most common cause is the virus that causes Japanese Encephalitis (JE).
- The syndrome is also caused by infections such as **scrub typhus, dengue, mumps, measles**, and even **Nipah or Zika virus**.

### **How is Hypoglycemia linked to AES?**

- Hypoglycemia is not a symptom but a sign of AES. The combination of AES with hypoglycaemia is **unique** to Muzaffarpur (Bihar), Vietnam and Bangladesh.
- In Bihar, convulsions in children (which is AES) are found in combination with hypoglycemia. This hypoglycemia is caused by malnourishment and lack of proper diet.

- **Methylene Cyclopropyl Glycine (MCPG)** which has been known to be a content of litchi fruit has been shown to cause hypoglycemia in experimental animals.
- When litchi harvesting starts in May, it is common for children to feed on fallen litchis and sleep without food. The toxin in litchi lowers blood sugar level during the night, and these children are found unconscious in the morning.
- The attributing factors to **hypoglycaemic AES are malnutrition, heat, lack of rain and entero-virus**.
- A team from the Centers for Disease Control, Atlanta, and Christian Medical College, Vellore, has concluded that heat, humidity, unhygienic conditions and malnutrition, unique to these areas, together contribute to the rise in AES.

### **How is the government tackling AES?**

- The Bihar government introduced **free vaccines** at all primary health centres. The current coverage is 70%.
- The central and state governments have conducted **awareness campaign** since February asking people not to expose their children to sun, ensure a proper diet and increase fluid intake.
- **Early hospital referral** and standard treatment for convulsions, high fever and vomiting can save lives.

## **Piped Water Connection by 2024**

The Prime Minister has recently said that the **government will provide piped water to every household** in the next five years i.e. by **2024**.

- This is the **12<sup>th</sup> time** that India has set a deadline to take water at the household-level.

### **Challenges**

- It would be an **enormous exercise**:
  - Some 8.43 million households, currently without drinking water facilities, have to be connected to piped water in the next five years.
  - Some 4,620 households would have to be added to the network every day for the next five years, at the rate of 40 litres per day.
- India remains haunted by what is known as the **"slippage" problem**. It means **villages/habitations covered** with safe drinking water facilities **slip back**

Note:

to 'not-covered' status due to various reasons that include **drying up of the source** or collapse of the facilities due to non-maintenances.

- Currently, India is facing a **water stressed situation**, two major reasons being, **drying reservoirs** and **dipping groundwater levels**.
- It is to be seen from where the piped water supply scheme would draw water as currently the country is going through a **water crisis situation**.
- **The quality of water sources** — both surface and ground sources — is hardly suited to drinking. According to NITI Aayog, nearly 70% of all of the country's fresh water sources are contaminated.
- **Water, being a state subject**, the scope of the centre's intervention is therefore limited.

### Way Forward

- There is an urgent need to **create awareness among the people** for the conservation of water.
- **The Jal Shakti Ministry needs to work with states** to ensure piped water to every household in the country.
- The **sources as well as the quality of water** in the country needs to be maintained on an urgent basis.

## National Health Mission and Janani Suraksha Yojana

**Janani Suraksha Yojana (JSY)** is a safe motherhood intervention under the **National Health Mission (NHM)**. The Yojana was launched on 12<sup>th</sup> April 2005. It is being implemented in all states and UTs with special focus on low performing states.

JSY is a **100% centrally sponsored scheme** and it integrates **cash assistance with delivery and post-delivery care**.

- **Objectives:** It was launched for reducing **maternal and neonatal mortality**, to promote institutional delivery among pregnant women especially with **weak socio-economic status** i.e. women from Scheduled Castes, Scheduled Tribes and BPL households.
- **Cash Assistance:** Under the JSY, eligible pregnant women are entitled to cash assistance irrespective of the age of mother and number of children for giving birth in a government or accredited private health facility.

- **Area of Focus:** The scheme focuses on the poor pregnant woman with special dispensation for states that have low institutional delivery rates, namely, the states of Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Assam, Rajasthan, Odisha, and Jammu and Kashmir.
- While these states have been named **Low Performing States (LPS)** under the scheme, the remaining States/UTs have been named **High Performing States (HPS)**.
- The scheme also provides performance-based incentives to women health volunteers known as **ASHA (Accredited Social Health Activist)** for promoting institutional delivery among pregnant women.

### Accredited Social Health Activist (ASHA)

- ASHA is a trained female community health activist. Selected from the community itself and accountable to it, the ASHA workers are trained to work as an interface between the community and the public health system.
- The role of an ASHA is that of a community level care provider. This includes a mix of tasks: facilitating access to health care services, building awareness about health care entitlements especially amongst the poor and marginalized, promoting healthy behaviours and mobilizing for collective action for better health outcomes and meeting curative care needs as appropriate to the organization of service delivery in that area and compatible with her training and skills.

### National Health Mission

- National Health Mission (NHM) was launched by the government of India in 2013 subsuming the **National Rural Health Mission** and the **National Urban Health Mission**. It was further extended in March 2018, to continue till March 2020.
- The main components include health system strengthening in rural and urban areas for - **Reproductive-Maternal-Neonatal-Child and Adolescent Health (RMNCH+A)**, and **Communicable and Non-Communicable Diseases**. The NHM envisages achievement of universal access to equitable, affordable & quality health care services that are accountable and responsive to people's needs.
- The National Health Mission seeks to ensure the achievement of the following indicators:

Note:



- Reduce **Maternal Mortality Rate** (MMR) to 1/1000 live births.
- Reduce Infant Mortality rate (IMR) to 25/1000 live births.
- Reduce Total Fertility Rate (TFR) to 2.1.
- Prevention and reduction of anaemia in women aged 15–49 years.
- Prevent and reduce mortality & morbidity from communicable, non-communicable; injuries and emerging diseases.
- Reduce household out-of-pocket expenditure on total health care expenditure.
- Reduce annual incidence and mortality from Tuberculosis by half.
- Reduce the prevalence of **Leprosy** to <1/10000 population and incidence to zero in all districts.
- **Annual Malaria** Incidence to be <1/1000.
- Less than 1 per cent microfilaria prevalence in all districts.
- Kala-azar elimination by 2015, <1 case per 10000 population in all blocks.

## Anaemia in Women

According to **National Family Health Survey (NFHS)–IV (2015-16)**, the prevalence of anaemia among women aged **15 to 49 years is 53%** and among adolescent girls aged **15-19 years is 54%**.

### Anaemia

- It is a condition in which the number of red blood cells or their oxygen-carrying capacity is insufficient to meet physiologic needs, which vary by age, sex, altitude, smoking, and pregnancy status.
- Iron deficiency is the most common cause of anaemia, although other conditions, such as folate, vitamin B12 and vitamin A deficiencies, chronic inflammation, parasitic infections, and inherited disorders can also cause anaemia.
- In its severe form, it is associated with fatigue, weakness, dizziness and drowsiness. Pregnant women and children are particularly vulnerable.

Under the National Health Mission (NHM), the steps taken to tackle anaemia are:

- **Anaemia Mukh Bharat (AMB)**: It has been launched in the year 2018 as part of Intensified National Iron

Plus Initiative (NIPI) Program for accelerating the annual rate of decline of anaemia from one to three percentage points.

- The target groups for AMB are children aged 6-59 months, 5-9 years, adolescent girls & boys of 10-19 years, women of reproductive age (15-49 years), pregnant women and lactating mothers.
- **Weekly Iron and Folic Acid Supplementation (WIFS)**: This Programme is being implemented to meet the challenge of high prevalence and incidence of anaemia amongst adolescent girls and boys.
  - The intervention under WIFS includes supervised weekly ingestion of **Iron Folic Acid (IFA)** tablet.
  - To control worm infestation, biannual deworming with **Albendazole** is provided.
- **Health Management Information System & Mother Child Tracking System** is being implemented for reporting and tracking the cases of anaemic and severely anaemic pregnant women.
- **Universal screening** of pregnant women for anaemia is a part of ante-natal care and all pregnant women are provided iron and folic acid tablets during their ante-natal visits through the existing network of sub-centres and primary health centres and other health facilities as well as through outreach activities at Village Health & Nutrition Days (VHNDs).
- **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)**: It has been launched to focus on conducting special Antenatal Care (ANC) check up on the 9<sup>th</sup> of every month with the help of medical officers/OBGYN to detect and treat cases of anaemia.
- **Operationalization of Blood Bank**: In District Hospitals and Blood Storage Unit in sub district facilities such as Sub-Divisional Hospital/Community Health Centers is being undertaken to tackle complications due to severe anaemia.

### National Family Health Survey (NFHS-4)

- The National Family Health Survey (NFHS) is a large-scale, multi-round survey conducted in a representative sample of households throughout India.
- All National Family Health Surveys have been conducted under the stewardship of the Ministry of Health and Family Welfare, Government of India, with the International Institute for Population Sciences, Mumbai, serving as the nodal agency.

Note:

- **ICF International** (formerly Macro International), Maryland, USA, provided technical assistance for all four surveys conducted as on date.

## Trafficking in Persons Report

The U.S. State Department has released the **Trafficking In Persons (TIP) report** for 2019. India continued to be placed in **Tier-2** on the country trafficking scale.

- The U.S. State Department report has used the **International Labour Organisation (ILO)** data.

### Finding of the Report

- There are 25 million adults and children suffering from labour and sex trafficking all over the world. In 77% of the cases, victims are trafficked within their own countries of residence, rather than across borders.
- The number of victims trafficked domestically was high compared to foreign victims being trafficked in all regions of the world except Western and Central Europe, the Middle East, and certain East Asian countries.
  - Victims of sex trafficking were more likely to be trafficked across borders while victims of forced labour were typically exploited within their own countries.
- The report stresses on the implementation of the **Palermo Protocol**. The countries need building **legal frameworks** to prosecute traffickers and provide care for survivors.

### Palermo protocols

The Palermo protocols are three protocols that were adopted by the United Nations to supplement the 2000 Convention against Transnational Organized Crime (the Palermo Convention). These protocols and convention fall within the jurisdiction of the United Nations Office on Drugs and Crime. They are:

- The Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children.
- The Protocol against the Smuggling of Migrants by Land, Sea and Air.
- The Protocol against the Illicit Manufacturing and Trafficking in Firearms, their Parts and Components and Ammunition.

### Categorisation of Countries

- The categorisation is based not on the magnitude of a country's trafficking problem but on efforts to meet minimum standards for the elimination of human trafficking.
- The report contains country narratives and category designations for all countries, including the U.S.
- The countries are designated on the three-tier system:
  - **Tier-1 countries** are those countries whose governments fully comply with the Trafficking Victims Protection Act (TVPA) minimum standards.
  - **Tier-2 countries** are those countries whose governments do not fully comply with a TVPA's minimum standards but are making significant efforts to bring themselves into compliance with those standards.
  - **Tier-3 countries** whose governments do not fully comply with the minimum standards and are not making significant efforts to do so.
  - There are also a few "**Special Cases**" such as Yemen, where the civil conflict and humanitarian crisis make gaining information difficult, and Sint Maarten where the devastation caused by Hurricane Irma has made reporting difficult.

### India's Position

- **India is placed in Tier-2:** The government demonstrated overall increasing efforts compared to the previous reporting period. The report highlights efforts by the government to crack down on trafficking and convicting traffickers.
  - The government took some action following reports of government complicity in forced labour and sex trafficking, although the **systemic failure to address forced labour and sex trafficking** in government-run and government-funded shelter homes remained a serious problem. The report also highlighted the government's failures in this regard.
  - **Recommendations for India:** It includes amending the definition of trafficking in Section-370 of the Indian Penal Code to **include forced labour trafficking and ensure that force, fraud, or coercion are not required to prove a child sex trafficking offence**.
  - To establish **Anti-Human Trafficking Units** in all districts with dedicated funding and clear mandates.

Note:

## New Injection for Type-2 Diabetes

The U.S. Food and Drug Administration approved **Victoza (liraglutide) injection** for treatment of pediatric patients of 10 years or older with type-2 diabetes.

- Victoza is the **first non-insulin drug approved to treat type-2 diabetes** in pediatric patients since **metformin** was approved for pediatric use in 2000.
- **Victoza** has been approved to treat **adult patients with type-2 diabetes since 2010**.
- It has now been shown to improve blood sugar control in pediatric patients with type-2 diabetes.
  - **The expanded indication** provides an additional treatment option at a time **when an increasing number of children are being diagnosed with this disease**.
- Although type-2 diabetes primarily occurs in patients over the age of 45, the prevalence rate among younger patients has been rising dramatically over the past couple of decades.
- Victoza improves blood sugar levels by creating the same effects in the body as the Glucagon-Like Peptide (GLP-1) receptor protein in the pancreas.
  - GLP-1 is often found in insufficient levels in type 2 diabetes patients.
  - Like GLP-1, Victoza slows digestion, prevents the liver from making too much glucose (a simple sugar), and helps the pancreas produce more insulin when needed.
- **Victoza is not a substitute for insulin and is not indicated for patients with type-1 diabetes** or those with **diabetic ketoacidosis**, a condition associated with diabetes where the body breaks down fat too quickly because there is inadequate insulin or none at all.
- The patients who have had, or have family members who have ever had **Medullary Thyroid Carcinoma (MTC)** should not use Victoza.
  - Medullary carcinoma of the thyroid (MTC) is a distinct thyroid carcinoma that originates in the parafollicular C cells of the thyroid gland.

### Diabetes

Diabetes is a condition that impairs the body's ability to process blood glucose, otherwise known as blood sugar.

#### ➤ Types

- **Type-1 diabetes:** Also known as juvenile diabetes, this type occurs when the body fails to produce insulin. People with type I diabetes are insulin-dependent, which means they must take artificial insulin daily to stay alive.
- **Type-2 diabetes:** It affects the way the body uses insulin. While the body still makes insulin, unlike in type I, the cells in the body do not respond to it as effectively as they once did.
  - This is the most common type of diabetes and it has strong links with obesity.
- **Gestational diabetes:** This type occurs in women during pregnancy when the body can become less sensitive to insulin. Gestational diabetes does not occur in all women and usually resolves after giving birth.

## National Food and Nutrition Security Analysis

According to the **National Food and Nutrition Security Analysis report**, malnutrition amongst children in India is projected to remain high, despite all the progress made in food security.

- **National Food and Nutrition Security Analysis report**, was developed in partnership between the **World Food Programme (WFP)** and the **Ministry of Statistics and Programme Implementation**, Government of India.

### Findings of the Report

- **The Slow Decline of Child Stunting:** Over the last decade, child stunting has reduced at a rate of about 1% per year, the slowest decline among emerging economies. At this rate, 31.4% of children would be stunted by the 2022 deadline.
  - **Almost one in three Indian children under five years would be stunted by 2022** going by current trends.
- **Access to Nutritious Food has not Increased:** Foodgrain yields have risen 33% over the last two decades, but are still only half of 2030 target yields.

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- The consumer's access to rice, wheat and other cereals has not increased at the same rate, due to **population growth, inequality, food wastage and losses, and exports**.
- As a result, the average per capita consumption of energy among the poorest 30% of the population is 1811 kilocalories, much lower than the norm of 2155 kilocalories per day.
- **Under and Overnutrition:** For several decades India was dealing with only one form of malnutrition- undernutrition. However, in the last decade, the double burden which includes both over- and undernutrition, is becoming more prominent and poses a new challenge for India.
- Despite positive trends and patterns in improving food security, the prevalence of malnutrition in India remains high, with many people, especially **women and children, suffering from micronutrient deficiency**.
- **Performance of States:** In Bihar and Uttar Pradesh, the stunting rate is around 48% and 46% respectively. It shows that in these states almost every 2<sup>nd</sup> child is stunted whereas in Kerala and Goa, it is only one in five children.
- **Most Vulnerable:** There are high rates of stunting among children in the poorest wealth quintile (51.4%), Scheduled Tribes (43.6%) and Scheduled Castes (42.5%), and children born to mothers with no education (51%).
- Innovative and low-cost farming technologies, increase in the irrigation coverage and enhancing knowledge of farmers in areas such as appropriate use of land and water should be encouraged to **improve the sustainability of food productivity**.
- The government should improve policy support for **improving agricultural produce of traditional crops** in the country.
- **Storage capacity should be improved** to prevent post-harvest losses.
- The **targeting efficiency of all food safety nets should be improved**, especially that of the Targeted Public Distribution System (TPDS), to ensure that the poorest are included.
  - In addition, **fortification of government-approved commodities** within the social safety net programmes can improve nutritional outcomes.
- **Child feeding practices should be improved** in the country, especially at the critical ages when solid foods are introduced to the diet.
  - **Fortification, diversification and supplementation** may be used as simultaneous strategies to address micro and macronutrient deficiencies.
- There is a need for more robust measures that can take cognizance of all aspects of SDG 2.
- All the major welfare programmes need to be gender sensitive.

- **Stunting:** It is the impaired growth and development that children experience from poor nutrition, repeated infection, and inadequate psychosocial stimulation. Children are defined as stunted if their **height-for-age** is more than two standard deviations below the WHO Child Growth Standards median.
- According to **UNICEF, 38% of children younger than five years of age in India** are stunted, a manifestation of chronic undernutrition. Stunting and other forms of under-nutrition are thought to be responsible for nearly half of all child deaths globally.

### Key Recommendations

Recommendations are grouped by the three pillars of food security: **availability, access and utilisation**.

- Farmers should be encouraged and incentivised for **agricultural diversification**.

### Sustainable Development Goal-2

- **Goal-2** of the 2030 Sustainable Development agenda seeks to **end hunger and all forms of malnutrition** and double agricultural productivity in the next 15 years.
  - Ensuring sustainable access to nutritious food universally will require sustainable food production and agricultural practices.
- **Target 2.1:** By 2030, end hunger and ensure access by all people, in particular, the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.
- **Target 2.2:** By 2030, end-all forms of malnutrition, including achieving the internationally agreed targets on stunting and wasting in children under 5 years of age by 2025, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

Note:



### World Food Programme

- WFP is the food assistance branch of the United Nations and the world's largest humanitarian organization addressing hunger and promoting food security.
- Its **headquarters are in Rome** and it works to help people who cannot produce or obtain enough food for themselves and their families.
- The WFP was **formally established in 1963 by the FAO and the United Nations General Assembly** on a three-year experimental basis. In 1965, the programme was extended to a continuing basis.
- It is a member of the United Nations Development Group and part of its executive committee.

## NITI Aayog's Health Index

**NITI Aayog** in its **annual health index** has named **Kerala** as the top performer among larger states for **overall performance** on health indicators.

### Health Index

- The **second edition** of NITI Aayog's report focuses on measuring the overall **performance** and **incremental improvement** in the states and union territories (UTs) over a two **year** period (2016-17 and 2017-18 with **2015-16** as the **base year** and **2017-18** as the **reference year**).
- The health index has been developed by **NITI Aayog**, with technical assistance from the **World Bank**, in consultation with the **Ministry of Health and Family Welfare**.
- Health index is based on 23 health indicators with major weightage given to **mortality rate, total fertility rate** and **sex ratio**.
- The ranking was done under three categories **larger states, smaller states** and **union territories (UTs)** to ensure comparison among similar entities.

### Key Findings

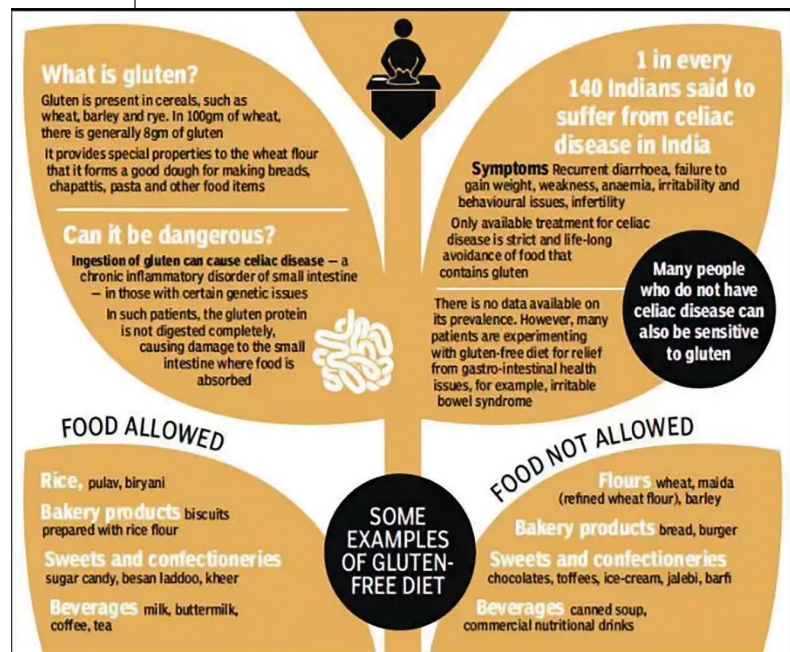
- In **overall performance**, **Kerala** followed by Andhra Pradesh and Maharashtra, are top performers.
- Madhya Pradesh, Odisha, Uttarakhand, Uttar Pradesh and Bihar have shown no improvement in health status.

- In **incremental performance**, Haryana, Rajasthan, and Jharkhand are at the top while Uttar Pradesh, Bihar, Odisha, Madhya Pradesh, and Uttarakhand have been shown as the worst performers.
- The report highlighted a **decline** in the **overall health index score** of the five Empowered Action Group (EAG) states of Bihar, Uttar Pradesh, Uttarakhand, Madhya Pradesh, and Odisha.
- Among the **Union Territories (UTs)**, Chandigarh ranked first in overall performance, while Dadra and Nagar Haveli have shown significant improvement.
- Among the **smaller states**, Mizoram ranked first in **overall performance**, while Tripura and Manipur were the top two states in terms of **incremental performance**.
  - Overall health index scores have decreased the most for Sikkim and Arunachal Pradesh.

## Celiac Disease

According to Celiac Society of India, **one of every 140 persons in India** is estimated to **have celiac disease**.

- Celiac disease, also called as **Wheat Allergy**, is a chronic inflammation of the small intestine caused by an **intolerance to gluten** and usually present in genetically predisposed individuals.
  - **Gluten** is a general name for the **proteins** found in **wheat, rye, barley and triticale** – a cross between wheat and rye.



Note:

- Gluten helps food maintain its shape, acting as the glue that holds food together.
- **Effect of the Disease on the Body:** When people with celiac disease eat gluten, their body mounts an immune response that attacks the small intestine, indicating the disease being an **autoimmune disease**.
  - These attacks lead to **damage of the villi**, small fingerlike projections that line the small intestine and promote nutrient absorption.
  - When the villi get damaged, **nutrients cannot be absorbed properly into the body**.
  - Also, the **modern wheat** which is hexaploid rather than diploid, is **more antigenic**, meaning it **stimulates the production of antibodies when introduced into the body**.
- People with celiac disease have a two times greater risk of developing **coronary artery disease**, and a four times greater risk of developing **small bowel cancers**.
- Currently, **the only treatment** for celiac disease is **lifelong adherence to a strict gluten-free diet**. People living gluten-free must avoid foods with wheat, rye and barley, such as bread and beer.
- Many people **who do not have celiac disease can also be sensitive to gluten**, known as **non celiac gluten sensitivity**.

### Issues with Gluten Free Diet

- People not diagnosed with celiac disease are giving up cereal grains for perceived benefits such as weight loss and better digestion.
- Cereal grains such as wheat are a **source of dietary fibre** and is needed for the bowels to work properly.
- Food containing gluten also are an important **source of protein** that most Indians lack.
- Going gluten-free might also increase the **risk of heart disease**.

### Autoimmune Disease

- A body has an immune system, which is a complex network of special cells and organs that defends the body from germs and other foreign invaders.
- In a body suffering from autoimmune disease, **the immune system attacks the body's own tissues and organs**.
- The body parts that are affected depend on the type of autoimmune disease. There are more than 80 known types. **Some of them are Multiple Sclerosis, Leucoderma etc.**

## Triclosan and Osteoporosis

A study has found that **women exposed to triclosan**, a chemical widely used as an antibacterial in soaps, toothpastes and other personal care products, **are more likely to develop osteoporosis**.

### Triclosan (TCS)

- Triclosan is a broad-spectrum of **antimicrobial agent** that is frequently used in pharmaceuticals and personal care products.
- When one uses a product containing triclosan, one can absorb a small amount through one's skin or mouth.
- Triclosan added to toothpaste has been shown to **help prevent gingivitis**.
  - **Gingivitis** is a common and mild form of **gum disease** that causes irritation, redness and swelling (inflammation) of gingiva, the part of gum around the base of teeth.
- **Concerns**
  - Some short-term animal studies have shown that exposure to high doses of triclosan is associated with **a decrease in the levels of some thyroid hormones**, thus making triclosan an **endocrine disruptor**.
    - **Endocrine disruptors** are chemicals that may interfere with the body's endocrine system and produce adverse developmental, reproductive, neurological, and immune effects in both humans and wildlife.
  - Some other studies have raised the possibility that exposure to triclosan contributes to **making bacteria resistant to antibiotics**.
  - Laboratory studies have demonstrated that triclosan may have potential to adversely **affect bone mineral density** in cell lines or in animals.
  - Also, there is no evidence that triclosan in consumer antibacterial soaps and body washes provides any benefit over washing with regular soap and water.

### Osteoporosis

- Osteoporosis, which literally means porous bone, is **a disease in which the density and quality of bone are reduced**.
- **Occurrence:** Bone is a living tissue that is constantly being broken down and replaced. Osteoporosis occurs when the creation of new bone doesn't keep up with the loss of old bone.

Note:



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- **Impact:** As bones become more porous and fragile, the risk of fracture greatly increases.
- **Symptoms:** Often there are no symptoms until the first fracture occurs as the loss of bone usually occurs silently and progressively.
- **Diagnosis:** A **bone mineral density (BMD) test** measures how much calcium and other types of minerals are in an area of a bone. This test helps health care provider detect osteoporosis and predict the risk for bone fractures.
- **Prevention:** Good nutrition with adequate calcium, protein, and Vitamin D as well as regular exercise can help in keeping bone healthy throughout the life.

### ***Why women are more likely to get osteoporosis than men?***

- Women tend to have **smaller, thinner bones than men**.
- **Estrogen**, a hormone in women that protects bones, **decreases sharply** when women reach **menopause**.

## **Married Women Out of Labour Force**

The United Nations report on “**Progress of The World’s Women, 2019-2020**”, has stated that more than half the married women (aged 25-54) didn’t participate in the global labour force. The report has cited data from the **International Labour Organization**.

### ***Findings of the Report***

- While families assume a central role in care provision, other institutions and actors like paid domestic workers, a care home for older people run by a municipality or a community childcare centre also play a part in financing and delivering care.
  - When these care services are inaccessible or of poor quality, much of the work falls back on women and girls when needs are not met.
- **Global Performance:** The **labour force participation rate** for women who are married or in a union is particularly low in the Central and Southern Asia region (29.1%), compared to the much higher rates in Sub-Saharan Africa (73.8%), Europe and Northern America (78.2%) and Latin America and the Caribbean (60.3%).
  - **Sub-Saharan Africa** stands out as the only region where women who are married or in a union have

a higher labour force participation rate than single/never married women.

- **Gender Division:** For women having young children (under age 6), the labour force participation **reduces by 5.9%** worldwide, while among men it **increased by 3.4%**.
  - The disparate outcomes are the product of traditional gender norms that classify childcare and domestic work (cooking, cleaning, etc) as maternal responsibilities and breadwinning as a paternal duty.
- **In low-income countries**, motherhood did not shrink women’s labour force participation as compared to middle-and high-income countries.
  - It could be because of poverty status which compels women to join or remain in the labour force to support their families even when young children are present.
- **In Developing Economies:** Despite witnessing an increase in economic growth, India and China have seen a significant decline in women’s labour force participation.
  - Women’s labour force fell by **6.9%** in India, during the period 1997–2018, which is one of the largest globally.

### ***In the context of India***

- **Temporal Variation:** **Women’s Labour Force Participation** has stagnated in urban areas since the late 1980s and has seen a concentrated decline among younger (aged 25-40) married women in rural areas.
- **Quality of Work:** The poor quality of the paid work is available to women, often on top of long hours of arduous unpaid domestic chores.
- According to the **Demographic and Health Survey** 26% of women and 17% according to the **National Sample Survey Organisation**, aged between 15 -49, receives a wage or income on their own. The majority of women are financially dependent on their spouses, fathers, in-laws and other extended kin.

### ***Recommendations to Bring Equality at Home***

- **National Care System:** In developing countries, in particular, the existing care infrastructure, including professional care providers, is insufficient to meet existing care needs. In recognition of care as a ‘public good’ and to more **equitably redistribute care responsibilities** between women and men, and

Note:



between families and other institutions, national care systems need to be built.

- **The policy components** that aim to provide families with time, money and services to support care work.
  - Time can be provided in the form of **paid maternity and parental leave** for parents with young children and **cash benefits** that enable self-employed workers in the informal economy to take time off.
  - Time and money should also be provided to those caring for **older family members** or those living with a disability.
- **Greater Public Investment:** It is needed in professional care-related services including early childhood education and care, long-term care for people living with disabilities and older persons.
- **Basic infrastructure** to reduce the drudgery of care work. These investments have significant pay-offs:
  - They build children's human capabilities.
  - Safeguard the dignity and human rights of people living with disabilities and older persons.
  - Create decent employment opportunities for women and men in the care sector.

## Agreement with the World Bank to Eliminate TB

The Government of India and the **World Bank** have signed a loan agreement of **\$400 million** for the **Program Towards Elimination of Tuberculosis (TB)**.

### Program Towards Elimination of Tuberculosis

- The program aims to **improve the coverage and quality of TB** control interventions in nine states: **Uttar Pradesh, Maharashtra, Bihar, Rajasthan, Madhya Pradesh, Karnataka, West Bengal, Assam and Tamil Nadu**.
- It will **support the Government of India's (GoI) National Strategic Plan to end TB in India by 2025**. It will help to improve and strengthen diagnostics and management of drug-resistant tuberculosis and increase the capacity of public institutions engaged in monitoring and treating TB in the country.
- The program will **provide financial incentives to private sector care providers** for reporting cases of TB and ensuring that their patients complete the treatment regimen.

### Tuberculosis (TB)

- TB is caused by **bacteria (Mycobacterium tuberculosis)** that most often **affect the lungs**.
- **Transmission:** TB is spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air.
- **Symptoms:** Cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.
- **Treatment:** TB is treatable and curable disease. It is treated with a standard 6 month course of 4 antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer.
- Anti-TB medicines have been used for decades and strains that are resistant to 1 or more of the medicines have been documented in every country surveyed.
  - **Multidrug-resistant tuberculosis (MDR-TB)** is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most powerful first-line anti-TB drugs. MDR-TB is treatable and curable by using second-line drugs.
  - **Extensively drug-resistant TB (XDR-TB)** is a more serious form of MDR-TB caused by bacteria that do not respond to the most effective second-line anti-TB drugs, often leaving patients without any further treatment options.

### Global Burden

- In the year 2017, the largest number of new TB cases occurred in the South-East Asia and Western Pacific regions, with 62% of new cases, followed by the African region with 25% of new cases.
- Also, eight countries accounted for **two thirds of the new TB cases: India, China, Indonesia, the Philippines, Pakistan, Nigeria, Bangladesh and South Africa**.
- According to the **WHO's 2018 Global TB Report**, nearly half of the world's MDR-TB cases are in India (24 %), China (13 %), and Russia (10 %).

### Global Actions Against TB

- **Ending the TB epidemic by 2030** is among the health targets of the newly adopted **Sustainable Development Goals**.
- **The WHO End TB Strategy** outlines global impact targets to reduce TB deaths by 90%, to cut new cases by 80% between the years 2015 and 2030, and to ensure that no family is burdened with catastrophic costs due to TB.

Note:



- It will also provide **Direct Benefit Transfers to patients** for acquiring the critical nutrition needed during treatment.
- The program will even help the GoI **strengthen** the monitoring and implementation of **Nikshay** – a web-based TB case monitoring system introduced by the government.

### ***Underlying Need***

- TB kills approximately half a million people in India every year.
- Drug resistant TB is a major public health threat in the country.
- Despite a growing number of TB cases being notified, India has more than a million **missing cases** every year with most of them being either undiagnosed or inadequately diagnosed and treated in the private sector.
- Other **challenges** that India face while eliminating TB in its region are: **delayed care-seeking by suspected TB patients**, low adherence to treatment, and

fragmented health care service providers, including **an unregulated private sector** which is treating more than half of TB cases in India.

### ***National Strategic Plan to end TB***

- It encapsulates the bold and innovative steps required to **eliminate TB in India** by the **year 2025**.
- **Objective** (Detect-Treat-Prevent-Build)
  - **Detect:** Find all Drug Sensitive TB and Drug Resistant TB cases with an emphasis on reaching TB patients seek care from private providers and undiagnosed TB in high-risk populations.
  - **Treat:** Initiate and sustain all patients on appropriate anti-TB treatment wherever they seek care, with patient friendly systems and social support.
  - **Prevent** the emergence of TB in susceptible populations.
  - **Build** and strengthen enabling policies, empowered institutions, additional human resources with enhanced capacities, and provide adequate financial resources.



Note:

# Security

## Highlights

- Anti Hijacking Act, 2016
- ReCAAP ISC Capacity Building Workshop
- Storage of Payment System Data

## Anti Hijacking Act, 2016

A special court in Ahmedabad has sentenced a man to life and fined him Rs. 5 crores for creating a hijack scare aboard a Jet Airways Mumbai-Delhi flight and forcing it to land in Ahmedabad in October 2017. **This is the first conviction under the Anti Hijacking Act, 2016.**

### Anti Hijacking Act, 2016

- It replaced the Anti Hijacking Act, 1982.
- It aims to enforce the **Hague Hijacking Convention** and the 2010 Beijing Protocol Supplementary to the Convention.
  - **The Hague Convention (Convention for the Suppression of Unlawful Seizure of Aircraft)** sets out the principle of *"aut dedere aut judicare"* — a state that is a party to the Convention must prosecute an aircraft hijacker if no other state requests his or her extradition for prosecution.
  - **The 2010 Protocol Supplementary**, which made amendments and additions, came into effect on 1st January 2018 and had **27 signatories as of September 2018**.
- The **new Act applies even if the offence is committed outside India**. If the aircraft is registered in India or leased to Indians, or the offender is Indian, or the offender is stateless but lives in India (such as an illegal Bangladeshi migrant), or the offence is committed against Indians.
- The key new introductions are the death penalty, life sentence for hoax calls, and a wider definition for aircraft "in service".
  - **Under the old Act**, an aircraft was considered "in service" between the time the doors shut and the time every passenger had disembarked.

- **Under the new Act**, "an aircraft shall be considered to be 'in service' from the beginning of the pre-flight preparation of the aircraft by ground personnel or by the crew for a specific flight until twenty-four hours after any landing".

### Offence of Hijacking

- **Section 3(1) of the Anti Hijacking Act, 2016 defines the offence of hijacking as:** "Whoever unlawfully and intentionally seizes or exercises control of an aircraft in service by force or threat thereof, or by coercion, or by any other form of intimidation, or by any technological means, commits the offence of hijacking".
- The act aims to **punish** not only an actual act of hijacking but **even a false threat** that may appear genuine.
- It takes into account that armed possession of an aircraft may not be necessary for hijacking and that it may be hijacked remotely through a **technological threat**.
- Hijacking attempts, directing others to commit hijacking, being an accomplice and assisting another person to evade investigation are punishable as hijacking and so is the **preparation for hijacking**.
- Punishment: If hijacking leads to **death of a passenger** or a crew member, it is **punishable with death**. If not, the hijacking is punishable with life imprisonment.

## ReCAAP ISC Capacity Building Workshop

The Indian Coast Guard (ICG) has co-hosted the **12<sup>th</sup> Capacity Building Workshop with Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) Information Sharing Centre (ISC)** in New Delhi.

Note:

**ReCAAP**

- The ReCAAP is the **first regional Government-to-Government agreement** to deal with **piracy and armed robbery at sea in Asia**.
- The ReCAAP Agreement was launched in **November, 2006** with 14 Asian contracting parties including North, Southeast, and South Asian countries.
- It has 20 contracting parties as of now, including countries from Europe (Norway, the Netherlands, Denmark, and the United Kingdom), Australia, and the United States.
- **Information sharing, Capacity building and Mutual legal assistance** are the three pillars of co-operation under the ReCAAP agreement.
- The ReCAAP **Information Sharing Centre** (ReCAAP ISC) was established in **Singapore** on November 29, 2006.
- The Union Government has designated **ICG as the focal point** within India for ReCAAP.

**Capacity Building Workshop**

- Capacity building workshop is **organised annually by the ISC** and is co-hosted by one of the contracting parties.
- The main **objective** of this workshop is to share **updated situation of piracy** and armed robbery against ships in Asia and best practices of Asian countries.
- The workshop also aims to deepen the knowledge of participants on various issues related to piracy and armed robbery such as international laws, prosecution process, forensics and emerging threats.
- India also hosted the workshop earlier in November 2011 at Goa and December 2017 at New Delhi.

**Indian Coast Guard**

- The ICG was **formally inaugurated on 19<sup>th</sup> August, 1978**. It operates under the **Ministry of Defence**.
- It has a wide range of task capabilities for both surface and air operations.
- The organization is headed by the **Director General Indian Coast Guard (DGICG)** exercising his overall command and superintendence from the Coast Guard **Headquarters (CGHQ) located at New Delhi**.
- Some of the important duties of the Coast Guard include:

- Ensuring the **safety and protection** of artificial Islands, offshore terminals, installations and other structures and devices in any maritime zones of India.
- Providing protection and **assistance to fishermen** in distress while at sea.
- **Preservation and protection** of maritime environment including prevention and control of marine pollution.
- Assisting the Customs and other authorities in anti-smuggling operations.
- Enforcement of the **Maritime Zones of India Act, 1981**.
- Precautionary measures for the safety of life and property at sea and collection of scientific data.

## Storage of Payment System Data

The Reserve Bank of India in its directive on 'Storage of Payment System Data' has made it clear that entire payment data shall be stored in systems **located only in India**.

- All system providers need to ensure that within a period of **six months**, the entire data relating to payment systems operated by them is stored in a system only in India.
- Data stored in India should include **end-to-end transaction** details and info about **payment transactions**. The data could be pertaining to:
  - **Customer data** like name, mobile number, Aadhaar number, PAN.
  - **Payment-sensitive data** like customer and beneficiary account details.
  - **Payment credentials** like OTP, PIN.
  - **Transaction data** such as originating and destination system information amount.
- All data related to payments must be stored only in India and data processed (in case the processing is done abroad) will have to be brought back to the country within 24 hours.
  - There is no bar on the **processing of payment transactions** outside India if so desired by the Payment System Operators (PSO).

Note:



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- Data stored in India can be accessed or fetched whenever required for handling **customer disputes** as well as for any other related processing activity, such as **chargeback**.
  - The data may be shared with the **overseas regulator**, if so required, depending upon the nature/**origin of a transaction** with prior approval of the RBI.
- For **cross border transaction data**, (consisting of a foreign component and a domestic component) a copy of the domestic component may also be stored abroad.



Note:



# Miscellaneous

## Highlights

- National Testing Agency
- Traffic Index 2018
- Milk Fortification Project
- World Population Prospects
- AWaRe
- UNCCD Drought Tool Box
- Richer Nations have Lower Trust in Vaccinations
- QS World University Ranking

## National Testing Agency

The National Testing Agency (NTA) has announced the results of the National Eligibility Cum Entrance Test (NEET) (undergraduate medical entrance exam).

- National Testing Agency is responsible for **conducting competitive entrance exams** like NEET, JEE, CTET, GATE, GPAT, GMAT, CAT, UGC NET, etc.

### National Testing Agency

- NTA was established as a **Society** registered under the **Indian Societies Registration Act, 1860**.
- It is an **autonomous** and **self-sustained testing organization** to conduct entrance examinations for admission/fellowship in **higher educational institutions**.
- NTA is chaired by an **eminent educationist** appointed by the **Ministry of Human Resource Development**.
- The **Chief Executive Officer (CEO)** will be the Director-General to be appointed by the Government.

### Functions

- To provide **training and advisory services** to the institutions in India.
- To **collaborate with international organizations** like Educational Testing Services (ETS).
- To **undertake the reforms** and training of school boards as well as other bodies where the testing standards should be comparable with the entrance examinations.
- To establish a **strong R&D culture** as well as a pool of experts in different aspects of testing.
- To undertake **any other examination** that is **entrusted to it by the Ministries/Departments** of Government of India/State Governments.

### Significance

- Establishment of a specialized testing body like NTA has **relieved the agencies such as CBSE, AICTE** of their responsibilities of conducting entrance examinations.
- Examinations are conducted by NTA in the **online mode at least twice a year**, in order to give enough opportunities to candidates and to bring out the best in them.
- In order to **increase the accessibility** and meet the requirements of the rural students, it will locate centres at **sub-district and district level**.
- NTA has launched a '**mobile app**' and **Test Practice Centres (TPCs)** through which students can practice or take mock tests on their own computers or smartphones.

## Traffic Index 2018

As per the GPS-based study on traffic congestion, **Mumbai** has been ranked as the **most traffic-congested city in the world** for the second consecutive year.

- Traffic Index 2018 is published by **TomTom**, an **Amsterdam** based company that offers traffic solutions, by using location technology to collect traffic information.
- **Delhi** is the **fourth** most traffic congested city in the world.
- **Congestion** has been defined in terms of the **additional time taken** to reach a destination as opposed to when the road would have been clear of traffic.
- Mumbai's extra travel time is **65%** more than an average trip time during uncongested conditions and **Delhi's** extra travel time is **58% more**.

Note:

### Effects of Traffic Congestion

- **Environmental concerns** like increasing air and noise pollution.
  - In 2016, a World Health Organisation (WHO) study found that fourteen of the twenty world's most polluted cities belonged to India.
- **Road accidents:** India experiences 1,20,000 deaths per year due to traffic fatalities, more than any other country.
  - Delhi has the highest accident rate in India and third-highest in the world.
- **Economic loss** is concerned with the monetary value of the time spent sitting in traffic.
  - Congestion in Delhi, Mumbai, Bangalore, and Kolkata costs the economy Rs 1.47 lakh crores annually, according to a study conducted by a global consultancy firm.
- **On a positive side, traffic congestion indicates a strong global economy.**

### Way Forward

- Improvement in **public transport** and additional schemes like the **Bus Rapid Transport (BRT)**. The BRT is implemented in some cities like Pune, and it can be very helpful if implemented correctly.
- Proper **road network planning** and **Traffic engineering and management**.
- Provision of **commuter subsidies** for public transport, carpooling or **ridesharing**.
  - In Delhi alone 22,369 acres can be freed up by ridesharing.
  - There is a need for a shift from **car-centric policy** to a restriction imposed over the purchase of cars or four wheelers.
- **Last mile connectivity** through public transport.
- A **commuter guidebook** for all employees containing comprehensive information about alternative transport options.

## Milk Fortification Project

The Milk Fortification Project of National Dairy Development Board (NDDB) which intends to address vitamin deficiency in consumers, has seen significant progress in the past two years.

- The fortification is being carried out as per Standard Operating Procedures (SOP) developed by NDDB and Food Safety and Standards Authority of India (FSSAI).

### About the Project

- It was launched by the **NDDB** in collaboration with the **World Bank** and **Tata Trusts**, as a pilot project on 5th September 2017.
- The project **aims to process about two million tonnes of fortified milk**, reaching around 30 million consumers.
- The **duration of the project is 23 months**. It is **financed by the South Asia Food And Nutrition Security Initiative (SAFANSI)** and, administered by the World Bank.
  - **SAFANSI** seeks to address chronic malnutrition by fostering cross-cutting actions to achieve measurable improvements in food and nutrition security in the South Asian countries.
- The **NDDB** provides **consultancy services** to the **World Bank** for implementation of the project. It also provides **technical** and **financial support** to milk federations, producer companies and unions for project implementation, including development of SOPs for milk fortification and testing; quality assurance and quality control; trials, training, capacity building and for developing promotional materials.

### Micronutrient Malnutrition

- It refers to diseases caused by a dietary deficiency of vitamins or minerals.
- **Vitamin A deficiency, Anaemia (iron deficiency) and Iodine deficiency** disorders are the most common forms of micronutrient malnutrition.
- Poverty, lack of access to a variety of foods, lack of knowledge of optimal dietary practices and high incidence of infectious diseases are some of the factors which lead to micronutrient malnutrition.
- Micronutrient malnutrition leads to high social and public costs, **reduced work capacity in populations** due to high rates of illness and disability, and tragic loss of human potential.
- **Food Fortification or Food Enrichment is one of the solutions** to overcome micronutrient malnutrition. Fortification is the addition of key vitamins and minerals such as iron, iodine, zinc, Vitamin A & D to staple foods such as rice, milk and salt to improve their nutritional content.

Note:

- India is the world's largest milk producing country with its per capita milk availability increased to 375 g per day (2017-18). Milk, with its high volume of production, widespread distribution network, affordability and all-around acceptability in the daily food habit has emerged as the best vehicle for fortification.

### **Micronutrient Malnutrition in India**

- India bears the burden of more than a quarter of the world's vitamin A deficient preschool children and more than 13 million susceptible infants to iodine deficiency.
- According to **National Family Health Survey-4 data**, among children under the age of five years in India, **38.4% are stunted, 21% are wasted and 35.7% are underweight**.

#### **The National Dairy Development Board**

- NDDDB was **founded in 1965** to replace exploitation with empowerment, tradition with modernity, stagnation with growth, transforming dairying into an instrument for the development of India's rural people.
- The **NDDDB**, initially registered as a society under the Societies Act 1860, was **merged with the erstwhile Indian Dairy Corporation** by the NDDDB Act 1987. The new body corporate was also declared **an institution of national importance** by the Act.

## **World Population Prospects**

According to '**The World Population Prospects 2019**' published by the Population Division of the **UN Department of Economic and Social Affairs**, India is projected to surpass China as the world's most populous country by 2027.

- During the period **2019 to 2050**, India (with an estimated population of 1.37 billion) is expected to remain the world's most populous country, followed by **China, Nigeria, United States of America and Pakistan**.
- The global population is projected to increase by another **2 billion** people by 2050.
- **Aging** of the world's population will also spike due to increasing **life expectancy** and **falling fertility levels**.
  - By 2050, one in six people in the world will be over **age 65** (16%), up from 1 in 11 in 2019 (9%).

- Aging will result in a decline in the proportion of the **working age population** that in turn will exert pressure on **social security systems**.
- **Europe and North America** will have a much higher number of aging population.
- Many countries are experiencing a reduction in population size (between 2019 and 2050) and many countries will experience **population shrink** by at least 1%.
  - **Population Shrink** can be attributed to sustained **low levels of fertility** and, in some cases, high rates of **emigration**.
- In countries like Bangladesh, Nepal and the Philippines out-migration plays a key in **population change** (outflow of migrant workers).
  - In some instances, out-migration could also be caused by violence, war or lack of **security** as in Myanmar, Syria and Venezuela.
- Many of the **fastest growing populations** are in category of the **poorest countries**, where population growth brings additional challenges in the effort to eradicate poverty, achieve greater equality, combat hunger and malnutrition, strengthen the coverage and quality of health and education systems to ensure that no one is left behind.

## **AWaRe**

**The World Health Organization (WHO)** in its global campaign against **antibiotics** has launched a new online tool called **AWaRe**.

- The campaign aims to achieve a 60% increase in the use of antibiotics under the access group — cheap, 'narrow-spectrum' drugs (that target a specific microorganism rather than several) and also to **lower the risk of resistance**.

### **AWaRe**

- The AWaRe tool was developed by the **WHO Essential Medicines List** to contain **rising resistance** and make antibiotic use safer and more effective by providing guidelines (over the effective use of antibiotics) to the **policy-makers and health workers**.
- It classifies antibiotics into three groups:
  - **Access** — antibiotics used to treat the most common and serious infections.

Note:

- **Watch** – antibiotics available at all times in the healthcare system.
- **Reserve** – antibiotics to be used sparingly or preserved and used only as a last resort.

### Significance

- By classifying antibiotics into three distinct groups, and advising on when to use them, AWARe makes it easier for **policy-makers, prescribers and health workers** to select the right antibiotic at the right time, and to protect endangered antibiotics.

### Antimicrobial Resistance

- With the emergence of infections that are untreatable by all classes of antibiotics, **antimicrobial resistance** is turning into an invisible pandemic and is estimated to kill **50 million** people worldwide and **10 million in India (by 2050)**.
- According to a report by the **International Coordination Group on Antimicrobial Resistance**, antimicrobial resistance is a **global health and development threat** that continues to escalate globally and threatens to undo a century of medical progress.
- It is estimated that more than 50% of antibiotics in many countries are used inappropriately, such as for **treatment of viruses** (when they only treat bacterial infections) or **use of the wrong** (broader spectrum) antibiotic, thus contributing to the spread of antimicrobial resistance.

### Concerns

- One of the most pressing concerns is the spread of resistant **gram-negative bacteria**, including **Acinetobacter, Escherichia coli and Klebsiella pneumoniae**.
  - These bacteria, which are commonly seen in hospitalized patients, cause infections like **pneumonia, bloodstream infections, wound or surgical site infections and meningitis**.
- Although over 100 countries have put in place national plans to tackle antimicrobial resistance, only about **one-fifth** of those plans are funded and implemented.
- Antibiotic resistance (when antibiotics stop working effectively) increases health expenditure and makes **accessibility and affordability** of medicines an expensive affair.

### Gram-Negative Bacteria

- Bacteria are classified into two groups – Gram-positive or Gram-negative – depending on whether they retain a specific stain color.
- Gram-positive bacteria retain a purple-colored stain, while Gram-negative bacteria appear pinkish or red.
- Several species of gram negative bacteria including *Escherichia coli*, are common causes of foodborne disease and *Vibrio cholerae* – the bacteria responsible for cholera – is a waterborne pathogen.
- Gram-negative bacteria can also cause respiratory infections, such as certain types of pneumonia, and sexually transmitted diseases, including gonorrhea.

## UNCCD Drought Tool Box

- The **United Nations Convention to Combat Desertification (UNCCD)** is currently testing a drought toolbox which uses a total of 15 to 30 different parameters to assess drought risk and vulnerability of a geographical region.
- UN convention was given this task during the previous Conference of Parties (CoP) meeting at Ordos in China in 2017.
- The UNCCD has been working with other UN organisations including World **Meteorological Organisation (WMO)** and **Food and Agriculture Organisation (FAO)** and experts to design the toolbox.
- Drought toolbox is an online web platform, a one-stop shop for all drought-preparedness measures with a link to the various relevant tools in other organisations.
- The tools are categorised in line with **three pillars of drought preparedness**:
  - Monitoring, early warning and forecasting tools used by decision makers.
  - Vulnerability assessment tools for identifying hotspots.
  - Risk mitigation tools with key “policy” and “technical” measures.
- The current procedure for declaring drought is very complex in most countries. This tool can be used by countries to assess and evaluate drought vulnerability in their regions. This can help countries improve their preparedness for dealing with drought.

Note:



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### Drought Declaration in India

- Drought is generally considered as a deficiency in rainfall /precipitation over an extended period, usually a season or more, resulting in water shortage causing adverse impacts on vegetation, animals and/or people.
- There is no single, legally accepted definition of drought in India. Some states resort to their own definitions of drought. **State Government is the final authority** when it comes to declaring a region as drought affected. Government of India has published two important documents with respect to managing a drought.

### Richer Nations have Lower Trust in Vaccinations

- According to the **Wellcome Trust**, a UK-based biomedical research charity, richer and more developed nations appear to have a lower trust in immunisation than those in the developing world.
- As per survey, the people in Europe have the lowest levels of trust in vaccines.
- The people living in high-income countries have the lowest confidence in vaccines, a result that ties in to the rise of the anti-vaccination movement, in which people refuse to believe in the benefits of vaccination or claim that the treatment is dangerous.
  - France has the lowest levels of confidence, as one third (33%) of people do not agree that immunisation is safe.
- Globally, 79% of people agreed that vaccines are safe and 84% said they were effective.
- Bangladesh and Rwanda had the highest levels of confidence in vaccines, with almost 100% people in both countries agreeing, that vaccinations are safe, effective and important for children.
- The spread of Measles in the US, Philippines and Ukraine, is one of the health risks associated with low confidence in vaccines.

- An estimated 169 million children missed out on the vital first dose of the measles vaccine between 2010 and 2017, according to a UN report issued in April, 2019.

### QS World University Rankings

**IIT-Bombay** has been ranked **India's best university** for the second year in a row, gaining a global ranking of **152** in the **QS World University Rankings for 2020**.

- **Massachusetts Institute of Technology topped the QS World University Rankings for the eighth consecutive year.**
- Two other Indian universities — IIT Delhi (182) and the Indian Institute of Science, Bengaluru (184) — are now under 200.
- Other Indian universities included in the top 500 list are IIT-Madras (271), IIT-Kharagpur (281), IIT- Kanpur (291), IIT-Roorkee (383), University of Delhi (474) and IIT-Guwahati (491).
- There are a total of 23 Indian institutions in the top 1,000. While most are government-funded universities, **five are privately funded.**
- The **Manipal Academy of Higher Education**, which falls within the 701-750 ranking band, is the **top private university** in the country.
- **For private institutions**, it was the indicators such as **teacher-student ratio** and **international faculty and student populations** that propelled them to the top.

#### QS World University Rankings

- **QS is a leading global career and education network** for ambitious professionals looking to further their personal and professional development.
- QS develops and successfully implements **methods of comparative data collection and analysis** used to highlight institutions' strengths.
- **The QS World University Rankings is an annual publication of university rankings** which comprises the global overall and subject rankings.



Note:

**Key Points**

**Details**


**Summary**

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**Summary**



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# Current Affairs (CONSOLIDATION)

**JULY 2019**

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# Polity and Governance

## Highlights

- Quality of Free Legal Aid
- Japanese Encephalitis
- Puducherry Water Rich Model
- Register of Indigenous Inhabitants of Nagaland
- One Nation One Ration Card Scheme
- Jal Shakti Abhiyan
- Adarsh Station Scheme
- National Mission on Libraries
- Privilege Motion
- National Youth Corp Scheme
- Aadhaar and its Voluntary Use
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- Paramarsh Scheme
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- Companies (Amendment) Act, 2019
- Ambedkar Hastshilp Vikas Yojana
- Banning of Unregulated Deposit Schemes Act, 2019
- The Code on Wages
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## Quality of Free Legal Aid

The National Law University, Delhi (NLUD) in a report titled '**Quality of Legal Representation: An Empirical Analysis of Free Legal Aid Services in India**' has revealed that people do not have faith over the services of **legal aid counsel (LAC)** under the free legal aid services.

- A majority of the people who are entitled to the free legal aid system see the service as an option only when they cannot afford a private lawyer.

### Legal Services Authorities (LSA) Act, 1987

- It was enacted to provide free and competent legal services to the poor and paved the way for the constitution of **National Legal Service Authority (NALSA)** and other legal service institutions at the State, district and taluka level.
- Free legal services under LSA Act are available to a person belonging to Schedule Tribe and Schedule Caste, woman, child, victim of human trafficking, differently-abled person, industrial workman, and person in custody in a protective home and the poor.
- According to NALSA, about 8.22 lakh people across India benefited through legal aid services from April 2017 to June 2018.

## Key Findings

- About 75% of beneficiaries responded that they opted for free legal aid because they had no means and resources to hire a paid private practitioner.
- 22.6% of the beneficiaries responded that they won't opt for free legal aid services for the second time.
- 60% of women, who were aware of the free legal aid services, chose to opt for the private legal practitioner because they could have better control over their lawyer and they lack faith and confidence over the quality of services offered under the legal aid system.
- **Majority of judicial officers** (52%) rated the overall skill set of a private legal practitioner as of fairly good quality and that of LAC as of moderately low quality.

### Constitutional Provision

- **Article 39A** of the Constitution of India directs the State to promote equal justice and provide free legal aid to the poor.
- Articles 14 and 22 (1) make it obligatory for the State to ensure equality before the law and a legal system which promotes justice on a basis of equal opportunity to all.

Note:

## NALSA Efforts

Front offices at the district level are being upgraded to make them one-stop centres for legal aid seekers.

- Updating the record of legal aided cases.
  - This way, the legal aid seekers are kept updated about the progress of their cases and better monitoring of cases takes place.
- NALSA outreach programmes (like a door to door campaigns) have made people aware of the legal advice and other forms of legal services such as drafting of applications etc.

## Way Forward

- **Full-time Empanelment:** Currently, the engagement of LAC is usually on an ad-hoc basis.
- **Honorarium:** Study recommended that making honorarium (a payment given for professional services that are rendered nominally without charge) for a legally aided case at par with private cases, will compel LAC to not withdraw or deny aided cases in middle.
- **Remuneration:** Remuneration provided to the empanelled lawyers should be increased every year.
  - This is important for those who are serving in juvenile courts as they are not allowed to have their own private practice.

### Facts

- According to the **Commonwealth Human Rights Initiative's (CHRI)** report:
  - There are about 1.8 million lawyers in India which means there is one lawyer for every 736 people.
  - There are 61,593-panel lawyers in the country, which translates to just one legal aid lawyer per 18,609 population or five legal aid lawyers per 1,00,000 population.

## Japanese Encephalitis

The Central government has sent a team to Assam to review the situation after Japanese Encephalitis (JE) cases were reported from the state.

### Japanese Encephalitis

- It is a disease caused by a **flavivirus** that affects the membranes around the brain. **Japanese encephalitis virus (JEV)** is also a major cause of **Acute Encephalitis Syndrome (AES)** in India.

- **Transmission:** The disease is transmitted to humans through bites from infected mosquitoes of the **Culex species**. These mosquitoes breed mainly in rice fields and large water bodies rich in aquatic vegetations. Migratory birds and pigs also play an important role in the transmission of JE from one area to other areas.
- **Treatment:** There is no antiviral treatment for patients with JE. Treatment available is supportive to relieve symptoms and stabilize the patient.
- **Prevention:** Safe and effective JE vaccines are available to prevent the disease. JE vaccination is also included under **Universal Immunization Program**.

### Universal Immunization Program

- Immunization is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine.
- Immunization Programme in India was introduced in the year 1978 as '**Expanded Programme of Immunization (EPI)**' by the Ministry of Health and Family Welfare, Government of India.
- In the year 1985, the programme was modified as '**Universal Immunization Programme (UIP)**'.
- **Ministry of Health and Family Welfare** provides several vaccines to infants, children and pregnant women through the Universal Immunisation Programme.
  - Vaccines included in the programme are for diseases including **Tuberculosis, Diphtheria, Pertussis, Tetanus, Polio, Hepatitis B, Pneumonia and Meningitis due to Haemophilus Influenzae type b (Hib), Measles, Rubella, Japanese Encephalitis (JE) and Rotavirus diarrhoea.**

## Puducherry Water Rich Model

Puducherry Water Rich Model is a **model for desilting the urban drains and rural canals** with the cooperation of the general public and Puducherry administration.

### General facts

- This model is fulfilling the need for water in rural areas for irrigation and preventing the overflowing of drains in urban areas.
- The practice of community involvement in desilting of canals and maintaining them goes back centuries in Puducherry, to the reign of the **Pallavas**.
- All contributors under this model were awarded "**Swachhta Hi Sewa Award**" by the administration.

Note:

### ***Puducherry Water Rich Model***

- It ensures mapping and brings under watch all water bodies and drains by using technology.
- It empowers people and provides a livelihood.
- It links the local community for shramdaan and monitoring water bodies. It encourages community participation.
- It lets the supporter and the service provider decide on the contractual cost. Government officials should only be facilitators, will not in any way negotiate or deal with their money.
- It allows farmers to take the silt away, as it is their soil which got washed away. It is rich in nutrients. The farmers are not charged for it.
- Accountability lies with the collectors and municipal commissioners.

## **Register of Indigenous Inhabitants of Nagaland**

**Nagaland's Home Commissioner** has issued a notification for setting up of the **Register of Indigenous Inhabitants of Nagaland (RIIN)**.

- The aim is to prepare a master list of all indigenous peoples and check the issuance of **fake indigenous inhabitant certificates**.
- The exercise to prepare the RIIN will be completed within 60 days.
- The RIIN will be prepared after an extensive survey with the help of a village-wise and ward-wise list of indigenous inhabitants based on official records. Also, It will be prepared under the supervision of district administration.
- No fresh indigenous inhabitant certificate will be issued after the RIIN is completed except for children born to the State's indigenous inhabitants, indigenous certificates will be issued to newborn along with birth certificates. The RIIN database will be updated accordingly.
- The RIIN will also be integrated with the online system for **Inner-Line Permit**, a temporary document required for non-inhabitants for entry and travel in Nagaland.
- RIIN has been called as a variant of the **National Register of Citizens (NRC)** that the state of Assam is updating to identify the illegal immigrants in the state.

## **One Nation One Ration Card Scheme**

Recently the **government has announced One Nation One Ration Card Scheme**, which all states need to implement by July 2020.

- One Nation One Ration Card scheme seeks to provide portability of food security benefits all across the nation.

### **Features**

- The migrant workers will be able to buy **subsidised rice and wheat from any ration shop in the country**. However, their ration cards must be linked to Aadhaar to avail the benefits of the scheme.
- Migrants would only be eligible for the subsidies supported by the Centre, which include rice sold at Rs. 3/kg and wheat at Rs. 2/kg. It would not include subsidies given by their respective state government in some other state.
- This scheme will ensure that no poor person is deprived of subsidised grains.
- The scheme can be implemented as already 77% of the ration shops across the country have point of sale (PoS) machines and more than 85% of people covered under the **National Food Security Act (NFSA)** have their cards linked to Aadhaar.
- For remaining beneficiaries, all the States have been given one more year to use PoS machines in the ration shops and implement the scheme.

### **National Food Security Act, 2013**

- The Act legally entitles up to 75% of the rural population and 50% of the urban population to receive subsidized foodgrains under the Targeted Public Distribution System.
- The basic concept of food security globally is to ensure that all people, at all times, should get access to the basic food for living an active and healthy life and is characterized by availability, access, utilization and stability of food.
- Food security can also be derived from the fundamental right to life enshrined in Article 21 of the Constitution, as it may be interpreted to include right to live with human dignity, which may include the right to food and other basic necessities.

Note:



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- In pursuance of this, the enactment of the National Food Security Act, (NFSA) 2013 marks a paradigm shift in the approach to food security from welfare to the rights-based approach.

#### Integrated Management of Public Distribution System

- The IMPDS system is already operational in Andhra Pradesh, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Maharashtra, Rajasthan, Telangana and Tripura, wherein a beneficiary can avail his share of foodgrain from any district in the state.

#### Key Objectives

- Implementation of nation-wide portability of ration cards to lift foodgrains from any fair price shops (FPS) across the country, moving towards 'one nation one ration card'.
- Creation of national-level data repository – for deduplication of beneficiary data (Aadhaar based).
- Use of advanced data analytics techniques to bring about continuous improvements.

#### Significance

- It will bring more transparency and efficiency in the distribution of foodgrains.
- It will improve the mechanism to identify fake/duplicate ration cards and provide the option to PDS beneficiaries to demand their entitled foodgrains from the Fair Price Shops of their choice at the national level.
- The scheme will ensure food security of migrant labourers who move to other states to seek better job opportunities.

### Jal Shakti Abhiyan

The **Jal Shakti Abhiyan** has begun from 1<sup>st</sup> July 2019.

- The Jal Shakti Abhiyan is a campaign for **water conservation and water security** in the country.
- The campaign will run through citizen participation in two phases, initially, during the **monsoon** season, from 1<sup>st</sup> July 2019 to 15<sup>th</sup> September 2019 and then from 1<sup>st</sup> October 2019 to 30<sup>th</sup> November 2019 for states receiving the North East retreating monsoon.
- It is a collaborative effort of various ministries of the Government of India and state governments, being coordinated by the **Department of Drinking Water**

and Sanitation (DDWS) that comes under the **Jal Shakti Ministry**.

- The focus of the campaign is on **water-stressed** districts and blocks. The teams of officers from the central government will visit and work with district administration in 1592 water-stressed blocks of 256 districts, to ensure five important water conservation interventions.
- The five important water conservation interventions are :
  - Water conservation and rainwater harvesting,
  - Renovation of traditional and other water bodies/tanks,
  - Reuse of water and recharging of structures,
  - Watershed development and
  - Intensive afforestation.
- The water conservation interventions will also be supplemented with special interventions including the development of **block and district water conservation plans**, promotion of **efficient water use for irrigation** and a **better choice of crops** through Krishi Vigyan Kendras.

### Adarsh Station Scheme

The **Adarsh Station Scheme** of **Ministry of Railways** aims to upgrade the suburban stations of India to Adarsh stations.

- Selection of railway stations under Adarsh Station scheme is based on the identified need for up-gradation of amenities.

#### Key features

- Adarsh stations will be beautified and upgraded with modern facilities like:
  - Improvement of the facade of the station building
  - Duly streamlining traffic flow
  - Improvement of the platform surface
  - Improvement of existing waiting halls and retiring rooms
  - Toilet facilities
  - Provision of foot overbridges
  - Provision of lifts and escalators etc.
- The up-gradation process will be monitored by the Indian Government and Indian Railways.

Note:



### Station Redevelopment Program

Apart from **Adarsh Station scheme** of the **Ministry of Railways**, a separate policy has been made for the development of stations under Station Redevelopment Programme.

- Under station redevelopment program of Indian railways, IRSDC (**Indian Railway Stations Development Corporation Limited**) and other Government agencies are entrusted for undertaking the **techno-economic feasibility** based on which stations are planned to be taken up for redevelopment in phases especially the stations located in major cities, pilgrimage centres and important tourist destinations.

### National Mission on Libraries

The **Union Ministry of Culture** has declared financial assistance under **National Mission on Libraries (NML)** to develop libraries in each States/UT.

- As per the scheme, financial assistance will be provided for upgradation of infrastructure of one State Central Library and one District Library in each State/UT as **NML Model Library**.
- Public libraries as being a **State Subject**, function under the administrative control of the respective State/UT library authority.
- There are **six Public Libraries** under the **administrative control** of **Union Ministry of Culture** namely **National Library, Kolkata; Central Reference Library, Kolkata; Central Secretariat Library, New Delhi; Delhi Public Library, Delhi; Khuda Bakhsh Oriental Public Library, Patna and Rampur Raza Library, Rampur**.

#### National Mission on Libraries (NML)

- The **Union Ministry of Culture** in 2012 formulated the NML scheme in pursuance of **National Knowledge Commission** recommendations for sustained attention for development of Libraries and Information Science Sector.
  - The National Knowledge Commission was constituted in 2005 to prepare a blueprint for reform of knowledge related institutions and infrastructure which would enable India to meet the challenges of the future.
- The scheme consists of four components:
  - Creation of National Virtual Library of India (NVLI)
  - Setting up of NML Model Libraries

- Quantitative & Qualitative Survey of Libraries
- Capacity Building
- This scheme would develop 6 Libraries under Ministry of Culture, 35 State Central Libraries and 35 District Libraries with particular emphasis on economically backward districts, as model Libraries.
  - In addition, 629 district libraries across the states would be provided network connectivity.
- The **Quantitative & Qualitative Survey** of Libraries would be undertaken to prepare a baseline data of libraries in India through a survey of 5000 Libraries.
- The capacity building would be undertaken to enhance the professional competence of library personnel.

#### National Virtual Library of India (NVLI)

- The objective of the NVLI is to **facilitate the creation of a comprehensive database on digital resources** of India on information about India in an open access environment.
- Salient features of NVLI are:
  - Federated searching through multilingual user interfaces
  - Virtual learning environment
  - E-Governance platform facilitating data analytics
  - Multilingual searching and retrieval on ontology/thesaurus based
- The **project of creation of NVLI** had been entrusted to IIT Bombay (in collaboration with **C-DAC**, Pune and **IGNOU**, Delhi).

### Privilege Motion

Recently, a member of the Indian parliament has **moved a privilege motion** against a TV channel.

- The breach of privilege motion is moved against a private Hindi news channel and its Editor for reporting that members' first speech in the Lok Sabha was **plagiarised**.

**Plagiarism** is the "**wrongful appropriation**" and "**stealing and publication**" of another author's "**language, thoughts, ideas, or expressions**" and the representation of them as one's own original work.

- **Parliamentary privileges** are certain rights and immunities enjoyed by members of Parliament,

Note:



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individually and collectively, so that they can effectively discharge their functions.

- The Constitution of India under **Article 105** mentions two privileges, i.e. **freedom of speech in Parliament and right of publication of its proceedings**.
- The Speaker of Lok Sabha and Rajya Sabha is the first level of scrutiny of a privilege motion.
  - The Speaker/Chairperson can decide on the privilege motion or refer it to the privileges committee of Parliament.
  - If the Speaker/Chairperson gives consent under respective rules, the member concerned is given an opportunity to make a short statement.

#### Privilege Committee

- **Lok Sabha:** The Speaker nominates a committee of privileges consisting of **15 members** as per respective party strengths.
- **Rajya Sabha:** The deputy chairperson heads the committee of privileges, that consists of **10 members**.

## National Youth Corp Scheme

**National Youth Corps (NYC)** is a scheme of the **Department of Youth Affairs, Ministry of Youth Affairs and Sports** implemented through **Nehru Yuva Kendra Sangathan (NYKS)**.

- **National Youth Corps scheme** was launched under the umbrella scheme **Rashtriya Yuva Sashaktikaran Karyakram Scheme** to tap the potential of the youth and channeling their energy towards nation-building.
- It is an amalgamation of the existing two volunteer schemes namely **National Service Volunteer (NSV)** and **Rashtriya Sadbhawana Yojana (RSY)**.

#### Objectives

- To set up a group of disciplined and dedicated youth who have the inclination and spirit to engage in the task of nation-building.
- To facilitate the realization of inclusive growth (both social and economic).
- To act as a point of dissemination of information, as well as basic knowledge to the community.
- To act as group modulators and peer group educator.
- To act as role models for the younger cohort especially towards enhancement of public ethics, probity and dignity of labour.

#### Features

- The NYC Scheme enables young men and women in the age group of **18-29 years to serve up to two years** (including the period of training which will be for 4 weeks) in the identified development activities on a full time basis for which they receive an honorarium of Rs 5000/-per month. Representation of the weaker sections of the society and gender balance is encouraged.
- The selection of NYC volunteers is done by a selection committee, headed by District Collector/Deputy Commissioner of the concerned District.
- The scheme guidelines also stipulate that the NYC volunteers shall have no claim or right for any regular employment to any post under the deploying agency/department.
- The scheme is fully funded by the Government of India.

#### Nehru Yuva Kendra Sangathan

- Nehru Yuva Kendra Sangathan (NYKS) was set up in the year **1987-88** as an **autonomous organization** under the **Government of India, Ministry of Youth Affairs and Sports**.
- NYKS is the largest **grassroots level youth organization**; one of its kind in the world.
- NYKS has targeted to identify areas of harnessing youth power for development by forming Youth Clubs, which are village level voluntary action groups of youth at the grassroots level to involve them in nation building activities.

## Aadhaar and its Voluntary Use

Recently the **Parliament has passed the Aadhaar and Other Laws (Amendment) Bill, 2019** which allows voluntary use of Aadhaar as proof of identity.

- The existing Aadhar Act provides for the use of Aadhaar number as proof of identity of a person, subject to authentication.
- The Bill replaces this provision to state that an individual may voluntarily use his Aadhaar number to establish his identity, by authentication or offline verification.
- The Bill states that authentication of an individual's identity via Aadhaar, for the provision of any service, may be made mandatory only by an act of Parliament.

Note:

**Salient Features of the Bill**

Provisions of the Existing Aadhaar Act	Provisions of the new Bill
The Act provides for the use of Aadhaar number as proof of identity of a person, subject to authentication.	As per the amended bill, an individual may voluntarily use his Aadhaar number to establish his identity, by authentication or offline verification.
The usage of Aadhaar number for establishing the identity of an individual, by the State or a body corporate under any law, is permitted.	Now an entity may be allowed to perform authentication through Aadhaar, only if the UIDAI is satisfied that it is: <ul style="list-style-type: none"> <li>➤ Complaint with certain standards of privacy and security, or</li> <li>➤ Permitted by law, or</li> <li>➤ Seeking authentication for a purpose specified by the central government in the interest of the State.</li> </ul>
The restrictions on security and confidentiality of Aadhaar related information do not apply in case the disclosure is pursuant to an order of a <b>District Court</b> (or above).	The Bill amends this to allow such disclosure only for orders by <b>High Courts (or above)</b> .
An officer not below the rank of a Joint Secretary may issue directions for disclosing information in the interest of national security.	Now such disclosure on directions of officers not below the <b>rank of a Secretary</b> .
All fees and revenue collected by the UIDAI will be credited to the <b>Consolidated Fund of India</b> .	The Bill removes this provisions, and creates <b>the Unique Identification Authority of India Fund</b> . All fees, grants and charges received by the UIDAI shall be credited to this fund.

The courts can take cognizance of an offence **only if the UIDAI registers a complaint**.

The amended bill **allows the individual** to register complaints in certain cases, including impersonation or disclosure of their identity.

- Also, under the Bill, the UIDAI may initiate a complaint against an entity in the Aadhaar ecosystem for failure to:
  - Comply with the Act or the UIDAI's directions, and
  - Furnish information required by the UIDAI.
  - Adjudicating officers appointed by the UIDAI shall decide such matters and may impose penalties up to one crore rupees on such entities.
  - The Telecom Disputes Settlement and Appellate Tribunal shall be the appellate authority against decisions of the adjudicating officer.

**Unique Identification Authority of India**

- The Unique Identification Authority of India (UIDAI) is a statutory authority established on 12 July 2016 by the Government of India under the jurisdiction of the **Ministry of Electronics and Information Technology**, following the provisions of the **Aadhaar Act 2016**.
- The UIDAI is mandated to assign a 12-digit unique identification (UID) number (Aadhaar) to all the residents of India.
- The UIDAI was initially set up by the Government of India in January 2009, as an attached office under the aegis of the Planning Commission.

**Whip in India**

The Supreme Court has recently said that the dissident legislators of Karnataka cannot be compelled to participate in the current Assembly session. It is against the previous orders of SC on the **anti-defection law**.

- Under the **Tenth Schedule (anti-defection law)** a political party has a constitutional right to issue a whip to its legislators.
- SC in **Kihoto Holohan vs Zachillhu case, 1992** held that the application of the **Tenth Schedule** is limited to a vote on "**motion of confidence**" or "**no-confidence**" in the government or where the motion under consideration relates to a matter which was an integral policy and programme of the political party.

Note:

- Paragraph 2(1)(b) provides for a lawmaker's disqualification "if he votes or abstains from voting in such House contrary to any direction issued by the political party to which he belongs".

### Whip

- The concept of the whip was inherited from colonial British rule. It is used in parliamentary parlance often for floor management by political parties in the legislature.
- A whip is a written order that political party issue to its members for being present for an important vote, or that they vote only in a particular way. The term is derived from the old British practice of "whipping in" lawmakers to follow the party line.
- They are vital in maintaining the links between the internal organisation of the party inside the Parliament. A whip is also an important office-bearer of the party in the Parliament.
- In India, all parties can issue a whip to their members. Parties appoint a senior member from among their House contingents to issue whips. This member is called a **Chief Whip**, and he/she is assisted by additional Whips.
- **Constitutional status:** The office of 'whip', is mentioned neither in the Constitution of India nor in the Rules of the House nor in a Parliamentary Statute. It is based on the conventions of the parliamentary government.
- **Non-applicability of Whip:** There are some cases such as Presidential elections where whips cannot direct a Member of Parliament (MP) or Member of Legislative Assembly (MLA) on whom to vote.

### Types of Whips

- The **One-line whip** to inform the members about a vote. It allows a member to abstain in case they decide not to follow the party line.
- The **Two-line whip** is issued to direct the members to be present in the House at the time of voting. No special instructions are given on the pattern of voting.
- The **Three-line whip** is issued to members directing them to vote as per the party line. It is the strictest of all the whip.

### Functions of Whip

- The whip plays a crucial role in ensuring the smooth and efficient conduct of business on the floor of the House.

- He is charged with the responsibility of ensuring the attendance of his party members in large numbers and securing their support in favour of or against a particular issue.
- He ensures discipline among party members in the House.
- He identifies the signs of discontent among MPs and informs the respective leaders of their party.
- He or she acts as a binding force in the party and is responsible for maintaining the internal party organisation in the Parliament and.
- **Violation of whip:** If an MP violates his party's whip, he faces expulsion from the House under the Anti Defection Act.
  - The only exception is when more than a third of legislators vote against a directive, effectively splitting the party.

## National Digital Health Blueprint

Ministry of Health and Family Welfare has released the **National Digital Health Blueprint (NDHB)** report in the public domain for inputs from various stakeholders.

- Citizen centricity, quality of care, better access, universal health coverage, and inclusiveness are some of the key principles of a robust healthcare system.
- All these aspirations can be realized principally by **leveraging the power of digital technologies**.
- In the context of India, with its size and diversity, this mammoth task requires that a holistic, comprehensive and interoperable digital architecture is crafted and adopted by all the stakeholders, and therefore the need of a blueprint.

### Recommendations

- A new entity, **National Digital Health Mission (NDHM)**, is recommended to be established as a pure government organization with complete functional autonomy on the lines of **Unique Identification Authority of India (UIDAI)** and **Goods and Services Network GSTN**.

### The Objectives of NDHB

- The Objectives of NDHB are aligned to the **Vision of National Health Policy 2017** and the **Sustainable Development Goals (SDGs)** relating to the health sector. These include:

Note:



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- Establishing and managing the **core digital health data** and the **infrastructure** required for its seamless exchange.
- Promoting the adoption of open standards by all the stakeholders in the **National Digital Health Ecosystem (NDHE)**.
- Developing several digital health systems that span across the sector from wellness to disease management.
- Creating a system of Personal Health Records, based on international standards, which would be easily accessible to the citizens and to the service providers.
- Following the best principles of **cooperative federalism** while working with the States and Union Territories for the realization of the vision.
- Promoting health data analytics and medical research.
- Enhancing the efficiency and effectiveness of governance at all levels.
- Ensuring quality of healthcare.
- Leveraging the information systems already existing in the health sector.
- Few of the critical capabilities of NDHE are:
  - **Identification:** The Blueprint handles the requirements of Unique identification of Persons, Facilities, Diseases and Devices.
    - This can be achieved through a combination of Aadhaar-based Identification/Authentication and through other specified types of identifiers.
  - **Citizen to be in Control:** The Blueprint achieves the complex and mandatory requirements of maintaining the confidentiality, security, and privacy of health records through Consent Manager, Anonymizer and Privacy Operations Centre.
  - **Service Access/Delivery:** Access and delivery to be implemented by a combination of Web (India Health Portal), Mobile (My Health App) and Call Centres besides Social Media Platforms.
    - The Command, Control and Communication Centre enable real-time monitoring and real-time interventions needed in the NDHE.
    - Given the significant spread of smartphones and the prospects of its further growth, the Blueprint emphasizes the 'Mobile First' principle for the majority of stakeholder-facing services.
  - **Interoperability:** The Health Information Exchange and the National Health Informatics Standards

enable and promote the interoperability of various building blocks.

- It can be noted that recently, as part of the high-level summit, the Delhi Declaration on digital health for sustainable development was adopted at the concluding session of the '**4<sup>th</sup> Global Digital Health Partnership Summit**'.

#### Global Digital Health Partnership Summit

- The '**4<sup>th</sup> Global Digital Health Partnership Summit**' was held in February 2019 in New Delhi.
- It was hosted by the Ministry of Health and Family Welfare in collaboration with the World Health Organization (WHO) and the Global Digital Health Partnership (GDHP).

#### Global Digital Health Partnership

- The **Global Digital Health Partnership (GDHP)** is an **international collaboration** of governments, government agencies and multinational organisations dedicated to improving the health and well-being of their citizens through the best use of evidence-based digital technologies.
- It was established in February 2018, to provide an opportunity for transformational engagement between its participants.
- **Australia was the host country** for the inaugural summit in 2018.

#### World Health Organisation

- The **World Health Organisation (WHO)** is a **specialized agency** of the **United Nations** that is concerned with international public health.
- It is headquartered in **Geneva, Switzerland**.
- The WHO's constitution came into force on **April 7, 1948** – a date now celebrated every year as **World Health Day**.
- The World Health Assembly is the supreme decision-making body in the WHO. The assembly meets annually and is attended by delegations from 194 member states.

## Meghalaya: First State With Water Policy

Recently **Meghalaya** became the first state to approve a draft water policy to address water usages, issues of conservation and protection of water sources in the State.

Note:



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- According to **schedule 7** of the constitution, Water is a **State subject (Entry 17 in the State List)**. It brings water including water supplies, irrigation and canals, drainage and embankments, water storage and water power under the state list.
- Recently, the state government has also launched its **Jal Shakti mission** to address the problems related to water.
- All issues related to the utilization of water and livelihood and how to preserve water bodies have been outlined in this policy including community participation in the implementation of this policy by constituting a **water sanitation village council** at the village level.
- Although, Meghalaya receives a lot of rainfall but the same water cannot be retained and all of the water reaches Bangladesh in no time.
- Also, it can be noted that **Meghalaya is the first state to pass a social audit law**.

## International Day against Drug Abuse and Illicit Trafficking

The Ministry of Social Justice & Empowerment observed International Day against Drug Abuse and Illicit Trafficking on 26<sup>th</sup> June 2019.

- The Ministry highlighted the following measures in order to deal **with the menace of drug abuse**:
  - Universal Accessibility of Treatment.
  - Focus on Prevention, Treatment and Rehabilitation under **National Action Plan for Drug Demand Reduction**.

### National Action Plan for Drug Demand Reduction

- This **Ministry of Social Justice & Empowerment** has begun implementation of a **National Action Plan for Drug Demand Reduction (NAPDDR)** for 2018-2025.
- The Plan aims at reduction of drug abuse through a multi-pronged strategy involving education, de-addiction and rehabilitation of affected individuals and their families.
- It focuses on preventive education, awareness generation, identification, counselling, treatment and rehabilitation of drug-dependent persons and training and capacity building of the service providers through collaborative efforts of the Central and State Governments and Non-Governmental Organizations.

- Targeted Intervention for High-Risk District & for Vulnerable Population in Closed Settings

### Government Intervention

- The **Ministry of Social Justice and Empowerment**, addresses the prevention and rehabilitation aspect of substance use through the establishment of “rehabilitation centres” run by non-governmental organizations.
- The **Drug De-addiction Programme (DDAP)** was initiated in 1988 under the **Ministry of Health and Family Welfare**, and was mandated with provision of treatment for **substance use disorder (SUDs)**.
- Globally, three broad approaches are followed to address the issue of drug use – “**supply reduction**”, “**demand reduction**” and “**harm reduction**”.
  - The “**supply reduction**” sector of the government works toward reducing the availability of illicit drugs by implementing the relevant drug laws and policies and is managed largely by the Narcotics Control Bureau, Ministry of Home Affairs, in India and a variety of other agencies in the central or state governments.
  - The “**demand reduction**” sector, on the other hand, deals with reducing the demand for drugs in the population through prevention, treatment, and rehabilitation.
    - The **Ministry of Social Justice and Empowerment** is the **nodal ministry** for demand reduction and has a “**Scheme for Prevention of Alcoholism and Substance (Drugs) Abuse**” in place since 1985-86.
  - “**Harm reduction**” in India is primarily seen as prevention of HIV among people who inject drugs and various strategies for this are implemented by the **National AIDS Control Organization, Ministry of Health and Family Welfare (MoHFW)**.

## Paramarsh Scheme

The **Union Minister for Human Resource Development** launched the **University Grants Commission (UGC)** scheme ‘**Paramarsh**’.

- **Objective:** To mentor institutions which aspire to achieve accreditation by **National Accreditation and Assessment Council (NAAC)** for promoting quality assurance in **higher education**.

Note:



### ➤ Implementation:

- The scheme will be operationalized through a **“Hub & Spoke” model** wherein the **Mentor Institution**, called the **“Hub”** is centralized and will have the responsibility of guiding the Mentee institution through the secondary branches the **“Spoke”** i.e. through the services provided to the mentee for self improvement.
- This will allow a centralized control over **operational efficiency, resource utilization** to attain overall development of the mentee institution.

### ➤ Target: The scheme will target 1000 **Higher Education Institutions (HEIs)** for mentoring with a specific focus on quality as enumerated in the UGC **“Quality Mandate”**.

### ➤ Expected Benefits:

- It will lead to the enhancement of **overall quality** of the mentee institutions and enhance its profile as a result of improved quality of research, teaching and learning methodologies.
- It will help the mentee institution in getting **NAAC accreditation**.
- It will also facilitate the sharing of knowledge, information and opportunities for research collaboration and faculty development in Mentee Institutions.
- It will help in providing quality education to the 3.6 crore students who are enrolling to Indian Higher Education system at present.

### **National Accreditation and Assessment Council**

- It was established in the year 1994 as an **autonomous institution** of the UGC with its Headquarter in Bengaluru.
- The mandate of NAAC is to make **quality assurance** an integral part of the functioning of HEIs.
- It makes arrangements for periodic assessment and accreditation of institutions of higher education or units thereof, or specific academic programmes or projects.

### **University Grants Commission**

- The UGC was formally established in November 1956 as a statutory body of the Government of India through an Act of Parliament, for the coordination, determination and maintenance of standards of teaching, examination and research in university education.

- The head office of the UGC is located in New Delhi.

## **One Stop Centre Scheme**

One stop centre is a **centrally sponsored scheme** of **Ministry of Women and Child Development (MWCD)**, for addressing the problem of **violence against women**.

- It is a subscheme under umbrella scheme **National Mission for Empowerment of Women** including **Indira Gandhi Matritav Sahyaog Yojana**.
- One stop centres will be established across the country to provide integrated support and assistance under one roof to women affected by violence, both in private and public spaces.
- **Funding:** The scheme is **funded through Nirbhaya Fund** and the central government provides 100% financial assistance to the state governments /Union Territories administrations.
- **Auditing:** Audit will be done as per **Comptroller & Auditor General of India** norms and social audit will also be undertaken by **civil society groups**.
- **Services:** One stop centres will be integrated with women helplines to provide following services:
  - Emergency response and rescue services
  - Medical assistance
  - Assistance to women in lodging the FIR
  - Psycho- social support and counselling
  - Legal aid and counselling
  - Shelter
  - Video conferencing facility

### **Background**

- **‘Nirbhaya Fund’** was established for women safety pertaining to the strategic areas of **prevention, protection and rehabilitation**.

#### **Nirbhaya Fund**

- The Nirbhaya Fund Framework provides for a **non-lapsable corpus fund for safety and security of women**.
- It is administered by the **Department of Economic Affairs (DEA) of the Ministry of Finance (MoF)** of the Government of India.
- It can be utilized for projects and initiatives related to women's safety.

Note:

- The **12<sup>th</sup> Plan Working Group** on Women's Agency and Empowerment had recommended setting up of one stop crisis centres.
- **Usha Mehra Commission** had recommended for the establishment of a "one-stop centre" to help victims of sexual assault and ensure speedy punishment to culprits.

### Need

- **Gender Based Violence (GBV)** is a global health, human rights and development issue that transcends geography, class, culture, age, race and religion to affect every community and country in every corner of the world.
- In India, gender based violence has many manifestations:
  - Like domestic and sexual violence including rape.
  - Harmful practices such as, dowry, honour killings, acid attacks, witch-hunting, sexual harassment, child sexual abuse, trafficking for commercial sexual exploitation, child marriage, sex selective abortion, sati etc.
- India is also grappling with violence due to inequities in social life more particularly in times of displacement and communal incidents.

## Unlawful Activities (Prevention) Amendment Act, 2019

The Lok Sabha has passed the **Unlawful Activities (Prevention) Amendment Bill, 2019**.

- The Bill amends the **Unlawful Activities (Prevention) Act, 1967**, providing special procedures to deal with terrorist activities, individuals and groups that foster terrorism in India.

### Key Features of the Act

- It empowers the government to **designate individuals as terrorists** if the person commits or participates in acts of terrorism, prepares for terrorism, promotes terrorism or is otherwise involved in terrorism.
  - This has been done as it is seen that when a terrorist organization is banned, its members form a new organization to spread terrorism.
- The Bill also empowers the Director-General, **National Investigation Agency (NIA)** to grant approval of seizure or attachment of property when the case is being investigated by the agency.

- Under the existing Act, the investigating officer is required to obtain the prior approval of the **Director General of Police (DGP)** to seize properties that bear any connection to terrorism.
- It has been seen that many times a terror accused own properties in different states. In such cases, seeking approval of DGPs of different states becomes very difficult, and the delay caused by the same may enable the accused to transfer properties.
- It **empowers the officers of the NIA** — of the rank of Inspector or above, to investigate cases.
  - The existing Act provides for investigation of cases to be conducted by officers of the rank of **Deputy Superintendent or Assistant Commissioner of Police or above**.
- No change is being made in arrest or bail provisions. Also, the provision that the burden of proof is on the investigating agency and not on the accused, has not been changed.
- The **International Convention for Suppression of Acts of Nuclear Terrorism (2005)** has also been added in the Second Schedule through the Amendment.

### The Unlawful Activities (Prevention) Act, 1967

- The UAPA, an upgrade on the **Terrorist and Disruptive Activities (Prevention) Act TADA** (lapsed in 1995) and the **Prevention of Terrorism Act - POTA (repealed in 2004)** was originally passed in the year 1967.
- Till the year 2004, "unlawful" activities referred to actions related to secession and cession of territory. Following the 2004 amendment, "**terrorist act**" was added to the list of offences.
- The Act assigns absolute power to the central government, by way of which if the Centre deems an activity as unlawful then it may, by way of an Official Gazette, declare it so.
- According to statistics published by the **National Crime Records Bureau (NCRB)**, 922 cases were reported under UAPA in 2016, which was 5% less than what was recorded in 2014, with 976 cases. At the same time, it was up by 3% from 2015 (897 cases).

### National Investigation Agency

- The **NIA Act was enacted on 31<sup>st</sup> December 2008** and thus the **NIA** was born.
- At present, **NIA functions as the Central Counter Terrorism Law Enforcement Agency** in India.

Note:



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## Protection of Human Right (Amendment) Act, 2019

Parliament passed the **Protection of Human Rights (Amendment) Act, 2019**, to make the **National Human Rights Commission (NHRC)** more inclusive and efficient. It amended the **Protection of Human Rights Act, 1993**.

### Proposed Amendment

- A person who has been a **Judge of the Supreme Court** or has held the position of chief justice of India is also eligible to be appointed as **Chairperson of the Commission**.
- Increasing the members of the commission who have knowledge of human rights issues, from two to three, out of which one must be a woman.
- The **members of the commission** include:
  - Chairperson of the **National Commission for Backward Classes**.
  - Chairperson of the **National Commission for the Protection of Child Rights**.
  - Chief Commissioner for **Persons with Disabilities**.
- **Term of Chairperson and Members:** It reduced the term of the **Chairperson and Members of the Commission and the State Commissions** from five to three years and they shall be eligible for re-appointment.
- A person who has been a **Judge of the High Court** is also made eligible to be **appointed as Chairperson of the State Commission** in addition to the person who has been the **Chief Justice of the High Court**.
  - It confers upon State Commissions, the functions relating to human rights being discharged by the Union territories, other than the Union territory of Delhi, which will be dealt with by the Commission.

### Protection of Human Right Act, 1993

- The **Protection of Human Rights Act, 1993** came into force with retrospective effect from Sept. 28, 1993.
- It applies to the whole of India.
- The Protection of Human Rights Act, 1993 was enacted to provide for the constitution of:
  - **National Human Rights Commission (NHRC)**,
  - **State Human Rights Commission (SHRC)** and
  - **Human Rights Courts** for the protection of human rights

- **Section 2 of the Act - "Human Rights"** means the rights relating to life, **liberty, equality and dignity of the individual** guaranteed by the Constitution or embodied in the **International covenants and enforceable by courts in India**.

## Companies (Amendment) Act, 2019

The Parliament has passed the **Companies (Amendment) Act, 2019**. The legislation is aimed at tightening the **Corporate Social Responsibility (CSR)** compliance and reducing the load of cases before the **National Company Law Tribunal (NCLT)**.

### Salient Features of the Act

The Act ensures **greater accountability and better enforcement** of the corporate governance norms.

- A key change in the Act is related to CSR spending, wherein **companies would have to mandatorily keep unspent money into a special account**.
  - The companies will have one year to firm up the CSR proposal and another three years to spend funds. In case money remains unspent for one plus three years, the money will have to be moved to an escrow account, could be added to the Prime Minister's Relief Fund.

### Corporate Social Responsibility

- Corporate Social Responsibility is a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders.
- CSR is generally understood as being the way through which a company achieves a balance of **economic, environmental and social imperatives (Triple-Bottom-Line- Approach)**, while at the same time addressing the expectations of shareholders and stakeholders.
- India has become the first country to make **CSR spending mandatory** through a law, i.e. through **Section 135 of the Companies Act, 2013**. The salient features of CSR provision are as follows:
  - Companies earning a profit of more than Rs 5 crore, with turnover of Rs 1000 crore or networth of more than Rs. 500 crore are required to shell out at least 2% of their three-year annual average net profit towards CSR activities.

Note:



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- Each company fulfilling these conditions is required to constitute a CSR committee of the Board.
- The Board of each such company is required to have the company's CSR policy formulated and monitor its implementation.
- Companies may implement their **CSR Policy** through trusts or societies or **Section 8 of the Companies Act** etc.
- The Act empowers the **Registrar of Companies** to initiate action for the removal of a company from the Register of Companies if it is not carrying on any business or operation in accordance with the Company Law.
- The legislation envisages a **re-categorisation** of 16 minor offences as purely **civil defaults**.
- It also provides for transferring of functions with regard to dealing with applications for change of financial year to Central government and shifting of powers for **conversion from public to private companies** from NCLT to the central government.
- It provides more clarity with respect to certain powers of the **National Financial Reporting Authority (NFRA)**.

## Ambedkar Hastshilp Vikas Yojana

The Government launched the **Ambedkar Hastshilp Vikas Yojana (AHVY)** in 2001-2002.

- The scheme was launched with a view to mobilize the artisans into **Self Help Groups** and training the groups on various aspects of forming and running the community business enterprises for self sustainability of artisans.
- The **salient features of the Yojana** are as follows:
  - Baseline Survey & Mobilization of Artisans
  - Design & Technology Upgradation
  - Human Resource Development
  - Direct Benefit to Artisans
  - Infrastructure and Technology Support
  - Research and Development
  - Marketing Support & Services

### Steps Taken by the Government

- The Government organized **Hastkala Sahyog Shivirs** at more than 300 places all over the country for providing **Aadhaar linked identity card, marketing**

**facilities, facilitating the artisans through Mudra loan** and enrolment of artisans under **Pradhan Mantri Jeevan Jyoti Bima Yojana, Pradhan Mantri Suraksha Bima Yojana and Aam Aadmi Bima Yojana**.

- The Government has identified and adopted **90 clusters** across the country which will also cover aspirational districts, women clusters, weaker section and export potential clusters.
  - The objective is to **transform these clusters in a time period of 3 years by ensuring self-sustainment of the Self Help Groups/artisans** of these clusters.
- During the current financial year, 2019-20, the Government has taken initiative to organize campaign to educate cluster artisans about the scope of handicraft producer company, its importance for long term sustainable business development for the cluster and motivate prospective artisans/Self Help Groups members to form producer companies in various cluster areas across the country.

## Banning of Unregulated Deposit Schemes Act, 2019

Parliament has passed the **Banning of Unregulated Deposit Schemes Act, 2019**, which seeks to put in place a mechanism by which poor depositors will get back their hard-earned money.

### Provisions of the Bill

- **Deposit:** The Act defines a deposit as an amount of money received through an advance, a loan, or in any other form, with a promise to be returned with or without interest.
  - It also defines certain amounts which shall not be included in the definition of deposits such as amounts received in the form of loans from relatives and contributions towards capital by partners in any partnership firm.
- **Unregulated Deposit Scheme:** The Act bans unregulated deposit schemes. A deposit-taking scheme is defined as unregulated if it is taken for a business purpose and is not registered with the regulators.
- **Designated Courts:** The Act provides for the establishment and setting up of one or more Designated Courts in specified areas. This Court will be headed by a judge not below the rank of a district and sessions judge, or additional district and sessions judge.

Note:



- **Central Database:** The Act provides for the central government to designate an authority to create an online central database for information on deposit takers. All deposit takers will be required to inform the database authority about their business.
- **Competent Authority:** The Act provides for the appointment of one or more government officers, not below the rank of Secretary to the state or central government, as the Competent Authority. The Competent Authority will have powers similar to those vested in a civil court. The Competent Authority may:
  - provisionally attach the property of the deposit taker, as well as all deposits received
  - summon and examine any person it considers necessary, for the purpose of obtaining evidence
  - orders the production of records and evidence
- **Offences and penalties:** The Act defines three types of offences, and penalties which are as follows:
  - Running (advertising, promoting, operating or accepting money for) unregulated deposit schemes. It will be punishable with imprisonment between two and seven years, along with a fine ranging from Rs 3 to 10 lakh.
  - Fraudulently defaulting on regulated deposit schemes. It will be punishable with imprisonment between 3 and 10 years, and a fine ranging from Rs 5 lakh to twice the amount collected from depositors.
  - Wrongfully inducing depositors to invest in unregulated deposit schemes by willingly falsifying facts.
  - The repeated offenders under the Act will be punishable with imprisonment between five to 10 years, along with a fine ranging from Rs 10 lakh to Rs 5 crores.

## The Code on Wages

The parliament has passed the Code on Wages Act, 2019.

### **Constitutional Provisions**

- The **Article 43 of the Constitution of India** directs the state to secure to all workers a **living wage, conditions of work ensuring a decent standard of life**.
- Under the Constitution of India, **Labour is a subject in the Concurrent List of the Seventh Schedule** where both the Central & State Governments are competent to enact legislation.

### **Need**

- To streamline the definition of wages as present labour laws consist of 12 different definitions of wages which is the major cause of litigation and inefficiency in the implementation of labour laws.
- The definition has been simplified and is expected to reduce litigation and will entail at a lesser cost of compliance for an employer.
- An establishment will also be benefited as the number of registers, returns, forms, etc., not only can be electronically filed and maintained, but it is envisaged that through rules, not more than one template will be prescribed.

### **Highlights of the Code**

- It aims to transform the old and obsolete labour laws into more accountable and transparent ones and seeks to pave the way for the introduction of minimum wages and [labour reforms in the country](#).
- It regulates the wages and bonus payments in all employments where any industry, trade, business, or manufacturing is being carried out.
- It subsumes the following four labour laws:
  - **The Payment of Wages Act, 1936**
  - **The Minimum Wages Act, 1948**
  - **The Payment of Bonus Act, 1965**
  - **The Equal Remuneration Act, 1976**
- It universalizes the provisions of minimum wages and timely payment of wages to all employees irrespective of the sector and wage ceiling and seeks to ensure "**Right to Sustenance**" for every worker and intends to increase the **legislative protection of minimum wage**.
- It has been ensured that employees getting monthly salary shall get the salary by 7th of next month, those working on a weekly basis shall get the salary on the last day of the week and daily wagers should get it on the same day.
- The provisions will apply to all the employees.
  - At present, the provisions of both the Minimum Wages Act and Payment of Wages Act apply on workers below a particular wage ceiling working in Scheduled Employments only.
  - Many unorganized sector workers like agricultural workers, painters, persons working in restaurants and dhabas, chowkidars, etc. who were out of the ambit of minimum wages will get legislative protection of minimum wages.

Note:



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- The Central Government is empowered to fix the floor wages by taking into account the living standards of workers. It may set different floor wages for different geographical areas.
  - The minimum wages decided by the central or state governments must be higher than the floor wage.

### Wages

- According to the codes, wages include salary, allowance, or any other component expressed in monetary terms. This does not include bonus payable to employees or any traveling allowance, among others.
- **Minimum Wage:** The [International Labour Organisation](#) defines it as “**the minimum amount of remuneration that an employer is required to pay wage earners for the work performed during a given period, which cannot be reduced by collective agreement or an individual contract**”. Or, the minimum wage includes the survival needs of life like food, shelter, and clothing.
- **Living Wage:** It is the wage needed to provide the **minimum income necessary to pay for basic needs based on the cost of living in a specific community**. In addition to survival needs, a ‘living wage’ includes education, health, insurance, etc.
- **Fair Wage:** A ‘fair wage’ is a **mean between ‘living wage’ and ‘minimum wage’**.
- It simplifies the methodology to fix minimum wage by doing away with the “**type of employment**” as one criterion. The minimum wage fixation would primarily be based on geography and skills.
- In order to ensure **transparency and accountability**, the code seeks to reform the inspection regime by introducing web based random computerised inspection scheme, jurisdiction-free inspections, calling of information electronically, the composition of fines, etc.
- To streamline the claims of workers, the limitation period for filing claims for minimum wages, bonus, equal remuneration has been raised to 3 years.
- It prohibits gender discrimination in matters related to wages and recruitment of employees belonging to both the sexes for the same work or work of similar nature.

### Impact

- It seeks to reduce compliance costs for employers.
- It is expected to reduce litigation charges as it streamlines the definition of wages.
- It will substantially reduce the number of minimum wages in the country from the existing more than 2000 rates of minimum wages.
- This would ensure that every worker gets a minimum wage which will also be accompanied by an increase in the purchasing power of the worker thereby giving a fillip to growth in the economy.

## Consumer Protection Act, 2019

Parliament has passed the **Consumer Protection Bill, 2019**, which seeks to strengthen the consumer rights and provides a mechanism for redressal of complaints regarding defects in goods and deficiency in services.

### Provisions of the Act

- Apart from setting up of authorities for timely and effective administration and settlement of consumer disputes, the act also seeks to bring in e-commerce under their jurisdiction and hold celebrities accountable for false and misleading advertisements of products that they endorse.
- Apart from the consumer courts at the district, state and national level, the act proposes a **Central Consumer Protection Authority (CCPA)** to promote, protect and enforce consumer rights and protect the consumers from unfair trade practices.
  - CCPA, envisaged as a regulator, can file a class action suit if required and would take immediate action on any consumer complaint.
- The Act proposes strict action against the advertiser in case of misleading advertisements but not against the media through which the advertisement is being publicised.
  - Celebrities can be fined up to ₹10 lakh. For repeat offences, this may rise to ₹50 lakh, along with a jail term of up to five years
- It also provides for product liability action on account of harm caused to consumers due to defective products or deficient services.
- The Act will replace the earlier [Consumer Protection Act, 1986](#).



Note:

# Economic Scenario

## Highlights

- Inheritance Tax
- India International Cooperatives Trade Fair
- Kisan Credit Card for Fisherman
- Anti Locust Fight
- US Drags India to WTO
- Miyawaki Method
- Budget Widens RBI's Autonomy
- Utkarsh 2022
- Women Startup Summit 2019
- Mission Raksha Gyan Shakti
- Silk Samagra
- International Cooperation Scheme
- 'Blue Flag' Certification
- White Label ATM
- Mauritius Leaks
- Global Innovation Index-2019
- Sahamati
- Seed Bankers for Conserving Native Crops
- Microdots Technology

## Inheritance Tax

The **Union government** may re-introduce the **Inheritance Tax (Estate Duty)** in the budget-2019. Inheritance tax is concerned with the **taxation on the value of property** passed on death.

- India had Estate Duty from 1953 till it was **abolished** in 1985.
- The **objective** behind the reintroduction of an inheritance tax:
  - To address the problem of **economic inequality**.
  - To generate higher revenue, leading to higher public spending by the government.

According to a survey conducted by **Oxfam**, 58% of India's total wealth is concentrated within 1% of its population – higher than the global average of about 50%.

### History of Inheritance Tax in India

- It was introduced in 1953 under the **Estate Duty Act, 1953** as an attempt to reduce economic disparity.
  - Estate duty rates were progressive and rose as far as 85 percent on estates exceeding Rs 20 lakh.
- Estate duty was levied on the market value of all immovable properties in India, as well as on all movable property (whether in India or outside) passed on to successors upon the death of an individual.

- The erstwhile law also had an anti-avoidance mechanism in place to curb certain transactions such as gifts made in contemplation of death or gifts given within two years prior to death.
- Despite its noble objectives, the estate duty law was met with significant disapproval throughout its existence due to a number of factors:
  - The law was complex and led to higher litigation and higher administration costs.
  - Perceived double taxation on the same assets in the form of estate duty and wealth tax (abolished w.e.f. from FY16).
  - Lower estate duty collections as a result of illegal concealment and the practice of holding Benami properties.

### Prospects

- Today, many developed countries such as the US, UK, France, Japan and the Netherlands have inheritance tax laws in place.
- The US imposes Gift Tax and Estate Tax (both taxes levied on the donor) at 40% with a combined lifetime exemption threshold for both taxes amounting to approximately \$11 million per person.
- Likewise, inheritance tax in the UK is levied at 40%, but with a far lower exemption threshold.
- The growing concern surrounding India's increasing economic disparity, the imposition of estate duty seems to be a desirable alternative.

Note:

### Concerns

- The inheritance tax is payable by the legal representative to whom the property may pass on death.
- The recipient of the property may not have the money available to pay tax that could lead to situations of distress sale.
- Arguments against the levy of inheritance tax mainly revolve around fears regarding the outflow of entrepreneurial human capital and financial resources going abroad.
  - With India being a developing country, keeping capital intact in the hands of entrepreneurs may represent a more efficient investment for economic development.
- India needs to review the case for re-introducing an inheritance/estate tax with, ideally, relatively high thresholds, so it's targeted at the very rich.

## India International Cooperatives Trade Fair

First ever **India International Cooperatives Trade Fair (IICTF)** to be held at Pragati Maidan, New Delhi.

- IICTF is a unique initiative for taking farmers, artisans & other members of cooperatives directly to the global trade platform.
- Trade Fair is being conducted by the **National Cooperative Development Corporation (NCDC)** with the support of Network for the Development of Agricultural Cooperatives (NEDAC), Ministries, State Governments and several apex level Indian cooperative organizations.
- Focus sectors of India International Cooperatives Trade Fair are:
  - **Textile:** ginning spinning, power loom, textile processing.
  - **Agribusiness and food processing:** cold chain, packaging, climate-smart agriculture.
  - **Fast Moving Consumer Goods (FMCG),** Health and hospitality
  - **Trade and marketing:** agriculture produce marketing, transport and marketing infrastructure.
  - **Credit service and finance:** insurance, cooperative banking.

### Significance

- The Cooperative sector has a big role to play in doubling agriculture exports (from present US \$ 30 billion to US\$ 60 billion) by 2022 as envisaged in the **Agriculture Export Policy 2018**.
  - 94% of the Indian farmers are members of at least one cooperative institution.
- IICTF would be a major platform to promote exports by cooperatives with direct benefits to their members who are mainly farmers, artisans, women, SC/ST etc.
- Promotion of exports of key commodities/value chain products that have high potential, and are backed by specific promotional initiatives (including the involvement of stakeholder entities) would definitely actualize the target of **Doubling the Farmers Income** and will achieve the goals set under the **Agri-Exports Policy 2018**.

#### NEDAC

- The **Network for the Development of Agricultural Cooperatives in Asia and the Pacific** is a unique regional forum linking 21 apex cooperative organizations in 12 countries.
- It was set up in 1991 by the United Nations **Food and Agriculture Organization (FAO)**'s Regional Office for Asia and the Pacific, the International Cooperative Alliance (ICA) and the International Labour Organization (ILO).
- The NEDAC member organizations in Bangladesh, China, India, Indonesia, Japan, Malaysia, Mongolia, Nepal, Philippines, Republic of Korea, Sri Lanka and Thailand represent three million agricultural cooperatives which play a crucial role in improving the livelihoods of 150 million rural households.
- NEDAC sensitizes governments in the region to the need for a key role for agricultural cooperatives in promoting agricultural and rural development to ensure rural food and livelihood security for hundreds of millions of people in Asia and the Pacific.

## Kisan Credit Card for Fisherman

Recently the **Minister of State for Fisheries, Animal Husbandry and Dairying** announced the extension of the facility of **Kisan Credit Card (KCC) to fisheries and animal husbandry farmers** to help them meet their working capital needs.

Note:

- This will help fisheries and animal husbandry farmers to meet their short term credit requirements of rearing of animals, poultry birds, fish, shrimp, other aquatic organisms and capture of fish.
- Fish, Poultry & Dairy Farmers (individual & groups/ partners/sharecroppers/tenant farmers), Self Help Groups, Joint Liability Groups and Woman group are eligible under extended KCC scheme.
- Under KCC facility, interest subvention is available for animal husbandry and fisheries farmers @ 2% per annum at the time of disbursal of loan and additional interest subvention @ 3% per annum in case of prompt repayment as Prompt Repayment Incentive (repayment of the loan within a period of one year from the date of advance).

#### Kisan Credit Card

- The **Kisan Credit Card (KCC)** scheme was introduced in **1998** for providing adequate and timely credit support from the banking system under a single window with flexible and simplified procedure to the farmers for their cultivation and other needs like purchase of agriculture inputs such as seeds, fertilizers, pesticides etc. and draw cash for their production needs.
- The scheme was further extended for the investment credit requirement of farmers viz. Allied and non-farm activities in the year 2004.
- KCC covers **Post-harvest expenses**; Produce marketing loan; Consumption requirements of farmer household; Working capital for maintenance of farm assets and activities allied to agriculture; Investment credit requirement for agriculture and allied activities.
- The Kisan Credit Card Scheme is implemented by Commercial Banks, RRBs, Small Finance Banks and Cooperatives.

#### Interest Subvention Scheme

- The interest subvention scheme for farmers aims at providing **short term credit** to farmers at the subsidised interest rate.
- The policy came into force with effect from 2006-07
- The **Interest Subvention Scheme** is being implemented by **NABARD** and **RBI**.
- In case farmers do not repay the short term crop loan in time they would be eligible for interest subvention of 2% as against 5% available.

## Anti Locust Fight

The officials from **India and Pakistan** are closely working together to prevent the movement of locusts and save crops in bordering districts.

- Both the countries are also consistently sharing inputs, including satellite data, via **Food and Agricultural Organization (FAO)** to counter and restrict the movement of locusts.

#### Food and Agricultural Organization

- In 1945, Food and Agriculture Organization (FAO) was created In Quebec City, Canada, by the first session of the newly created United Nations.
- FAO is a specialized agency of the United Nations that leads international efforts to defeat hunger.
- FAO is also a source of knowledge and information, and helps developing countries in transition modernize and improve agriculture, forestry and fisheries practices, ensuring good nutrition and food security for all.

#### Locust

- A locust is a large, mainly **tropical grasshopper** with strong powers of flight. They differ from ordinary grasshoppers in their ability to change behaviour (gregarize) and form swarms that can migrate over large distances.
- The **most devastating** of all locust species is the **Desert Locust** (*Schistocerca gregaria*).
- Locusts are generally seen during the months of June and July as the insects are active from summer to the rainy season.
- Locusts have a high capacity to multiply, form groups, migrate over relatively large distances (they can fly up to 150 km per day) and, if good rains fall and ecological conditions become favourable, rapidly reproduce and increase some 20-fold in three months.
- **Threat to Vegetation:** Locust adults can eat their own weight every day, i.e. about two grams of fresh vegetation per day. A very small swarm eats as much in one day as about 35,000 people, posing a devastating threat to crops and food security.
- If infestations are not detected and controlled, devastating plagues can develop that often take several years and hundreds of millions of dollars to bring under control with severe consequences on food security and livelihoods.

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- Locust Control measures include destroying egg masses laid by invading swarms, digging trenches to trap nymphs, using hopperdozers (wheeled screens that cause locusts to fall into troughs containing water and kerosene), using insecticidal baits, and applying insecticides to both swarms and breeding grounds from aircraft.
- FAO provides information on the general locust situation to the global community and gives timely warnings and forecasts to those countries in danger of invasion.
  - The FAO raised alarm over the locust outbreak in northeast Africa and Saudi Arabia in February, 2019.

### Locusts in India

- Four species viz. **Desert locust** (*Schistocerca gregaria*), **Migratory locust** (*Locusta migratoria*), **Bombay Locust** (*Nomadacris succincta*) and **Tree locust** (*Anacridium* sp.) are found in India.
- The existing series of locust swarms that have entered India via Pakistan had originated in Iran. Movement of locusts is facilitated by summer dusty winds, which flow from the Arabian Sea, taking along these creatures from Sindh in Pakistan to western Rajasthan.
- These creatures have wreaked havoc in Pakistan but have not caused any damage on the Indian side.
- **Locust Warning Organisation (LWO)**, Jodhpur is currently handling 13-16 swarms of locusts in Jaisalmer and Barmer districts of Rajasthan. It is currently using a pesticide 'malathion'.
  - The last major locust outbreak that was reported in Rajasthan was in the year 1993.

#### Locust Warning Organization (LWO)

- **Locust Warning Organisation (LWO), Directorate of Plant Protection Quarantine and Storage, Ministry of Agriculture & Farmers Welfare** is responsible for monitoring, survey and control of desert locust in scheduled desert areas mainly in the States of **Rajasthan and Gujarat**.
- Incursion of exotic locust swarms into India is prevented through organization of suitable control operation. LWO keeps itself abreast with the prevailing locust situation at national and international level through monthly Desert Locust Bulletins of FAO.
- Its objectives include:

- To monitor, forewarn and control locust in **Scheduled Desert Area (SDA)** being international obligation and commitment.
- To conduct research on locust and grasshoppers.
- Liaison and coordination with national and international organizations.
- Human resource development through training and demonstration for staff of Locust Warning Organization (LWO), State officials, BSF personnel and Farmers.
- To maintain control potential to combat locust emergency by organizing locust control campaign.

## US Drags India to WTO

The United States has dragged India to the **World Trade Organisation**, requesting dispute consultations on the '**retaliatory duties**' imposed by India on 28 US goods in June, 2019.

- India has imposed the duties as a tit-for-tat move against the US decision to impose unilateral additional tariffs on steel and aluminium imported to India. This **mini-tariff war between the US and India** sparked from USA's decision to withdraw **GSP** status from India and other economic issues.
- The US claims that the additional duties are unreasonable with the provisions of the **WTO's General Agreement on Tariffs and Trade**.
- India's argument in support of its duties is that retaliation is permitted under the WTO's agreement on safeguards.
- To this, the US maintains that its tariffs are not a safeguard measure but were taken under Section 232 of the **US Trade Expansion Act of 1962** on grounds of national security.
- If the dispute consultations between the two countries fail to resolve the matter then the US can ask the WTO to set up a panel to decide on the matter.
- Also, it is not the first time the **USA and India had their trade issues** settled at WTO.
  - Recently India has won a major trade dispute against the US at the World Trade Organization (WTO) regarding **domestic content requirements and subsidies**.

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## Miyawaki Method

Telangana government has introduced the Japanese “Miyawaki” method of afforestation to grow urban forests and expand the green cover as well as to meet the stipulated plantation target under the Telanganaku Haritha Haaram (TKHH).

- Miyawaki is a technique pioneered by Japanese botanist Akira Miyawaki, that helps build dense, native forests in a short time.
- It has revolutionised the **concept of urban afforestation** by turning backyards into mini-forests.
  - This method includes planting trees (only native species) as close as possible in the same area which not only saves space, but the planted saplings also support each other in growth and block sunlight reaching the ground, thereby preventing the growth of weeds.
  - The saplings become maintenance-free (self sustainable) after the first three years.
- The approach is supposed to ensure that plant growth is 10 times faster and the resulting plantation is 30 times denser than usual.
- Miyawaki method helps to create a forest in just 20 to 30 years, while through conventional methods it takes anywhere between 200 to 300 years.

### Concerns

- Such forests lack some qualities of natural forests, such as medicinal properties and the ability to bring rain.
- Such fast-growing plantations are actually wood lots (a parcel of a woodland or forest capable of small-scale production of forest products (such as wood fuel, sap for maple syrup, sawlogs, and pulpwood) as well as recreational uses like bird watching, bushwalking, and wildflower appreciation) and cannot be termed as forests.
- Several environmentalists have questioned the efficacy of the method that accelerates the growth of trees and claims to match a forest's complex ecosystem (as it is not a good idea to force plants to photosynthesize fast).

## Budget Widens RBI's Autonomy

The Union budget 2019-20 has expanded the Reserve Bank of India's powers by bringing Housing Finance

Companies (HFCs) under its ambit and deepening its governance over **Non-Banking Finance Companies (NBFCs)**.

- Increase in RBI's autonomy can be attributed to the crisis at **Infrastructure Leasing and Financial Services Ltd (IL&FS)**, which led to a **liquidity crisis in NBFC sector**.
  - With reference to IL&FS crisis, **Serious Fraud Investigation Office (SFIO)** had also noted that timely RBI intervention could have averted the crisis.
- **Wider Regulatory Powers:** The Union budget 2019-20 has proposed to amend the **RBI Act 1934**, in order to strengthen the central bank's autonomy and **regulatory powers** in following domains:
  - It can supersede the board of NBFCs (other than those owned by the government) in the public interest or to prevent the affairs of NBFC being conducted in a manner detrimental to the interests of the depositor or creditor.
  - It can remove and can further appoint the director of a board of NBFC.
  - The proposed amendment to the RBI act will allow it to frame schemes for amalgamating, splitting and reconstructing an NBFC.
  - This will enable resolution of financially troubled NBFCs through a merger or by splitting them into viable and non-viable units called bridge institutions.
  - RBI can also remove auditors, call for audit of any group company of an NBFC, and have control over the compensation of senior management.

## Utkarsh 2022

The **Reserve Bank of India (RBI)** has finalised a three-year roadmap, named **Utkarsh 2022** to improve regulation and supervision, among other functions of the central bank.

- **Utkarsh 2022** is a **medium term strategy** in line with the global central banks' plans to strengthen the regulatory and supervisory mechanism.
  - This specifically includes central bank's proactive role to avoid **any other IL&FS debt default** issue in future.
- Earlier, an internal committee of RBI was formed under former Deputy Governor Viral Acharya, to identify issues that needed to be addressed over the next three years.

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## Women Startup Summit 2019

The **Kerala Startup Mission (KSUM)** is to host the **Women Startup Summit** in association with the Indian Women Network of **Confederation of Indian Industry (CII)**.

- The 'Women Startup Summit 2019', a one-day event aims at encouraging aspiring women professionals to take up their entrepreneurial journey and developing an inclusive entrepreneurship ecosystem in the State.
- Theme of the Summit is **"Developing an Inclusive Entrepreneurship Ecosystem"**.
- About 20 women startups shortlisted from the "She Loves Tech" national grand challenge will be showcased in the summit.

- She Loves Tech is a global competition which was launched in 2015 to provide a platform for women entrepreneurs and startups dedicated to improving the lives of women globally.
  - 2019 Global Startup Competition is the world's largest startup competition focused on women and technology.
  - For the first time She Loves Tech competition will be held in India in association with Kerala Startup Mission, the nodal government organization for promoting the startups in Kerala.

- **Kerala has 13% of women participation** in the technology startup ecosystem and the state government has taken proactive steps for increasing the participation of women in the sector.

### Confederation of Indian Industry (CII)

- Confederation of Indian Industry is a **non-government, not-for-profit, industry-led and industry-managed organization**, playing a proactive role in India's development process.
- **Founded in 1895**, it has around 9000 members, from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 300,000 enterprises from around 276 national and regional sectoral industry bodies.
- It works to **create and sustain an environment conducive** to the development of India, partnering industry, Government, and civil society, through advisory and consultative processes.

## Mission Raksha Gyan Shakti

In a major boost to **Mission Raksha Gyan Shakti**, a Memorandum of Understanding (MoU) has been signed between the **Intellectual Property Facilitation Cell (IPFC)**, **Ministry of Defence (MoD)** and **National Research Development Corporation (NRDC)**, **Ministry of Science and Technology (MoST)** to provide a major fillip to the ongoing efforts towards promoting a culture of Innovation and **Intellectual Property Rights (IPR)** in **Indian Defence industry**.

- Mission Raksha Gyan Shakti was launched in the year 2018 with the aim to inculcate Intellectual Property (IP) culture in Indian defence manufacturing ecosystem.
- Under this mission, an **Intellectual Property Facilitation Cell (IPFC)** was established under the aegis of **Directorate General Quality Assurance (DGQA)**.
- The centre, within a short span of a year, has achieved the challenging target of training more than 12,000 personnel on IPR and facilitating filing of more than 1000 new IPR applications.
- The Action Plan 2019-20 of MRGS includes training of additional 20,000 personnel from Public / Private Sector Industry and Armed Forces on relevance of IP Culture to Indian Defence manufacturing industry and to institute a framework which enables full utilization of new ideas and innovation towards achieving self-reliance in defence sector.

### National Research Development Corporation (NRDC)

- The **NRDC** was established in the year 1953 by the Government of India, with the primary objective to promote, develop and commercialise the technologies/know-how/inventions/patents/processes emanating from various national R&D institutions/Universities

### Directorate General Quality Assurance

- The **Directorate General of Quality Assurance (DGQA)** is under the **Department Of Defence Production, Ministry of Defence**. The organisation provides **Quality Assurance (QA)** cover for the entire range of Arms, Ammunitions, Equipments and Stores supplied to Armed Forces.

## Silk Samagra

The **"Silk Samagra"** is a **Central Sector Scheme** for the development of **sericulture** in the country.

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- The scheme is being implemented by the **Central Silk Board (CSB)**.
- It focuses on improving the **quality and productivity of domestic silk** thereby reducing the country's dependence on imported silk.
- It comprises the following **four components**:
  - Research & Development, Training, Transfer of Technology and I.T. Initiatives
  - Seed Organizations
  - Coordination and Market Development, and
  - Quality Certification Systems (QCS)/Export Brand Promotion and Technology Up-gradation.
- While the R&D units develop technology packages, impart training on improved technology programmes to stakeholders and transfer the technology to the field through front line demonstration, the seed production units produce basic and commercial seed of the improved Silkworm breeds developed by the Research Institutes.
- The units under the **Quality Certification System** maintain and certify the quality standards set by the R&D units for Silkworm seed, cocoon, raw Silk and Silk products covering the entire Silk value chain.
- Under the scheme, assistance is extended to sericulture stakeholders for the beneficiary oriented components like, raising of Kissan nursery, plantation with improved Mulberry varieties, Irrigation, chawki rearing centres with incubation facility and rearing equipments.

#### The Central Silk Board

- It is a **statutory body** established in the year 1948 by an Act of Parliament.
- It is working under the administrative control of **Ministry of Textiles, Government of India**.
- Its headquarter is located in **Bangalore**.
- It is mandated with:
  - Promoting the development of **Silk Industry** by such measures as it thinks fit.
  - Undertaking, assisting and encouraging scientific, technological and economic research.
  - Advising the Central Government on all matters relating to the development of silk industry including import and export of raw silk.
  - Preparing and furnishing such other reports relating to the silk industry as may be required by the Central Government from time to time.

- The scheme also provides assistance for door to door service agents for disinfection and input supply, support for improved reeling units like automatic reeling units, multi-end reeling machines, improved twisting machines and support for post yarn facilities for quality silk and fabric production.

#### Silk Production in India

- There are five major types of silk of commercial importance, obtained from different species of silkworms. These are **Mulberry, Oak Tasar & Tropical Tasar, Muga and Eri**.
- Except mulberry, other varieties of silks are wild silks, known as vanya silks.
- India has the unique distinction of producing all these commercial varieties of silk.
- South India is the leading silk producing area of the country and is also known for its famous silk weaving enclaves like **Kancheepuram, Dharmavaram, Arni**, etc.

### International Cooperation Scheme

The **Ministry of Micro, Small and Medium Enterprises (MSME)** is implementing **International Cooperation (IC) Scheme** with the objective of **enhancing the competency** of MSMEs, capturing new markets for their products, exploring new technologies for improving manufacturing capacity, etc.

- The Scheme was started during the **Ninth Five Year Plan** (under implementation since 1996).
- The latest guidelines related to the scheme were released in the year 2018.
- It is a demand driven scheme under which financial assistance is provided on a reimbursement basis to the eligible State/Central Government Organisations and Registered Industry Associations, societies/trusts associated with promotion and development of MSME sector.
- As per the existing guidelines, the eligible organizations are facilitating visit/participation of MSMEs in international exhibitions /trade fairs/buyer-seller meet etc. abroad and also holding International conferences/seminars/ workshops in India, for technology infusion, exploring business opportunities, joint ventures etc.

Note:

## 'Blue Flag' Certification

**Union Environment Ministry** has selected 12 beaches in India to contend for a '**Blue Flag**' certification.

- The **Blue Flag** is one of the world's most recognised voluntary **eco-labels awarded to beaches, marinas, and sustainable boating tourism operators**.
- In order to qualify for the Blue Flag, a series of stringent environmental, educational safety, and accessibility criteria must be met and maintained.
- There are nearly 33 criteria that must be met to qualify for a Blue Flag certification, such as the water meets certain quality standards, having waste disposal facilities, being disabled-friendly, have first aid equipment etc.
- Spain tops the list with 566 such beaches; Greece and France follow with 515 and 395, respectively.
- To help Indian beaches meet these criteria, the Ministry has allowed structures such as container toilet blocks, change rooms, shower panels, mini greywater treatment plants in an enclosed structure, mini solid waste recycling plants and off-grid solar photovoltaic panels, provided they are a minimum 10 metres from the high tide line.

- The **Blue Flag Programme** for beaches and marinas is run by the international, non-governmental, non-profit organisation FEE (the Foundation for Environmental Education).
- FEE (the Foundation for Environmental Education) was established in France in 1985 and got extended to areas outside Europe since 2001

## White Label ATM

In order to enhance the viability of **White Label ATMs (WLAs)**, the **RBI** has allowed White Label ATM Operators (WLAOs) to buy wholesale cash from the RBI and currency chests.

- This will provide the functionality to WLATMs, as they are cash-starved because the banks used to give preference to the ATMs deployed by them.
- Until now cash Management at the WLAs was the responsibility of the Sponsor Bank.
- By allowing WLAO to source cash directly from RBI, will encourage more WLATM to be opened across the country, thereby leading to deepening of financial inclusion.

## White Label ATMs

- Automated Teller Machines (ATMs) set up, owned and operated by non-bank entities are called "**White Label ATMs**" (WLAs).
- Non-bank entities incorporated in India under the Companies Act 1956 are allowed to operate WLAs.
- In September 2015, Government permitted Foreign Direct Investment (FDI), up to 100%, under the automatic route.
- Non-bank entities are permitted to set up WLAs in India, after obtaining authorisation from RBI under the **Payment and Settlement Systems (PSS) Act 2007**.
- Such non-bank entities should have a minimum net worth of Rs. 100 crore.
- **Tata Communications Payment Solutions Limited (TCPSP)** was the first company authorized by the Reserve Bank of India (RBI) to open White Label ATMs in the country. It got launched under the brand name '**Indicash**'.
- White Label ATMs are like normal ATM. However, cash deposit or cash acceptance facility is not permitted at the WLA. The difference is this ATM machine does not have any branding of Bank. These machines are usually deployed by **NBFC (Non-Banking Financial Institutions)**.
- The basic idea about White Label ATM is to increase the geographical spread of ATM to **enhance financial inclusion**.

## Brown Label ATM

- Brown Label ATM is based on the concept of **sharing the cost**.
- In Brown Label, ATM hardware is owned by the service provider, but cash management and network connectivity are provided by the **sponsor bank**. The ATM machine contains Logo of sponsor bank.
- Brown Label ATM is a cost-effective solution for banks.

White label ATM	Brown Label ATM
Whe ATMs are owned and operated by non-bank entities but they are not doing 'outsourcing-contract' from a particular bank.	When banks outsourced the ATM operations to a third party.

Note:



The private company owns & operates the ATM machine, pays office rent. They negotiate with the landlord, electricity company, telecom company and so on.	Same
Sponsor bank provides the cash.	The bank (Which has outsourced this work) provides cash for that ATM.
No. White label ATM doesn't have such logo. Not even of the sponsor bank.	ATM has logo of that bank (which has outsourced this work).
They've to compulsorily open a few ATMs in (tier 3 to tier 6) areas.	No such compulsion.
RBI directly involved because these white label Companies have to separately get license/permission from RBI to run business.	RBI not involved directly. These outsourcing companies have contractual obligation with their respective banks.

## Mauritius Leaks

According to the recently released data by the **International Consortium of Investigative Journalists (ICIJ)**, as many as 50 entities, or one-fourth of those disclosed in the Mauritius leaks, had India as their only country or one of the countries of activity.

- Although investment in India through Mauritius is declining but Mauritius has seen a sizeable amount of funds getting routed through by entities operating or investing in India.

### Mauritius Leaks

- In Mauritius Leaks, data of 200,000 leaked documents (in the form of emails, contracts and bank statements) reveals how one country's low tax rates (like Mauritius) were leveraged and misused by Multinational Companies for tax avoidance.
- After Swiss leaks, Panama papers and Paradise papers, Mauritius leaks show how the island nation was used by a long list of corporates to facilitate partnerships with multinationals and, **without paying any capital gains tax, remit profits as Foreign Direct Investment (FDI) to India.**

## Tax treaty between India and Mauritius

- The **Double Taxation Avoidance Agreement (DTAA)** was signed between India and Mauritius in 1982. Under this, any entity could apply for tax residency and pay **zero capital gains tax**. This became the principal reason why Mauritius emerged as a top channel for investments being routed into India.
- In 2016 India amended its **Double Taxation Avoidance Agreement (DTAA)** with Mauritius, and the new provisions related to **capital gains tax** were introduced.
- **GAAR (General Anti Avoidance Rule)**: It is an **anti-tax avoidance law** under **Income Tax Act, 1961** of India and is framed by the Department of Revenue under the Ministry of Finance.
- **Common Reporting Standard (CRS)**: It is an information standard for the **Automatic Exchange Of Information (AEOI)** regarding bank accounts on a global level, between tax authorities with the objective of combating tax evasion.

### Double Taxation

#### Avoidance Agreement (DTAA)

- A DTAA is a **tax treaty signed between two or more countries**. Its key objective is that tax-payers in these countries can avoid being taxed twice for the same income.
- A DTAA applies in cases where a **taxpayer resides in one country and earns income in another**.
- DTAA's can either be comprehensive to cover all sources of income or be limited to certain areas such as taxing of income from shipping, air transport, inheritance, etc.

### International Consortium of Investigative Journalists (ICIJ)

- ICIJ is a **United States based nonprofit organization** with a global network of reporters and media organizations who work together to investigate the most important issues in the world.
- ICIJ has released several important investigations – including the **Pulitzer Prize-winning Panama Papers**.
- ICIJ is fully funded by donations.
- ICIJ encourages tips, leaks and story ideas from the public, whistleblowers, as well as from investigative journalists.

Note:



## Global Innovation Index-2019

The Government of India, has launched the **Global Innovation Index (GII)** in New Delhi.

- This is the first time that the GI is being launched in an emerging economy.
- The **Department for Promotion of Industry and Internal Trade (DPIIT) of Ministry of Commerce and Industry**, Government of India, **World Intellectual Property Organization (WIPO)** and **Confederation of Indian Industry (CII)** are co hosting the event.

### India's Performance

- India's ranking in the **Global Innovation Index** is **52** which shows an improvement of 5 points from last year's ranking (57).
- India's ranking has been **consistently improving** over the last few years and is among the top in the world in innovation drivers such as **Information and Communication Technology (ICT)**, services exports, graduates in science and engineering, the quality of universities, gross capital formation (a measure of economy-wide investments) and creative goods exports.
- India stands out in the world's top science and technology clusters, with Bengaluru, Mumbai, and New Delhi featuring among the top 100 global clusters.
- India continues to be the most innovative economy in central and southern Asia (a distinction held since 2011).

### Global Performance

- **Switzerland tops** the GI index followed by Sweden, United States of America, Netherlands, United Kingdom, Finland, Denmark, Singapore, Germany and Israel.

### Global Innovation Index

- The **theme of GI- 2019 (12th edition)** is **"Creating Healthy Lives - The Future of Medical Innovation"** which aims to explore the role of medical innovation as it shapes the future of medical sector.
- It is published annually by **Cornell University, INSEAD and the UN World Intellectual Property Organization (WIPO)**.
- The GI relies on two sub-indices:
  - Innovation Input Sub-Index.

- Innovation Output Sub-Index.

- These sub indices are built around several key pillars namely, Input pillar and Output pillar:
  - Input pillars capture elements of the national economy that enable innovative activities
    - Institutions
    - Human capital and research
    - Infrastructure
    - Market sophistication
    - Business sophistication.
  - Output pillars capture actual evidence of innovation outputs:
    - Knowledge and technology outputs
    - Creative outputs

## Sahamati

**Sahamati is a new platform developed by Nandan Nilekani** which aims to make bank account operations paperless.

- Sahamati is a Collective of **Account Aggregator (AA)** ecosystem being set up as a non-government, private limited company. AA is a process by which information from all of an individual's or household's accounts is collected in one place.
- The architecture of AA is based on the **Data Empowerment and Protection Architecture (DEPA)** framework.

### Data Empowerment and Protection Architecture (DEPA) Framework

- **Data Empowerment and Protection Architecture (DEPA)** is a new approach, a paradigm shift in personal data management and processing that transforms the current organization-centric system to **individual-centric system**.
- By giving people the power to decide how their data can be used, DEPA **enables the collection and use of personal data** in ways that empower people to access better financial, healthcare, and other important services in real-time while preserving the safety, security and privacy of the user.

### Background

- The RBI in 2016 approved **Account Aggregator** as a new class of NBFC, whose primary responsibility is

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to facilitate the transfer of user's financial data with their explicit consent.

- However, currently, no such mechanism exists, even if the user wishes to share data.
- Therefore this AA ecosystem will allow for the seamless sharing of data between financial bodies of all kinds centred around user consent (i.e 'Sahamati').
- The **main responsibilities of the account aggregator** are to provide services based on the explicit consent of individual clients.
- Account Aggregator (AA) is the construct/framework that **provides a digital platform for easy sharing and consumption of data** from various entities with user consent. This primarily includes transfer, but not storing, of a client's data.
  - An AA is '**data-blind**' as the data that flows through an AA is encrypted. Also, an AA does not and cannot store any user's data – thus, the potential for leakage and misuse of user's data is prevented.
- RBI and other **Financial Services Regulators (FSRs)** are providing the required regulatory support and guidance for the roll-out of AA.
- The scope of Sahamati can be expanded to accommodate other domains such as healthcare and telecom in future.

### Need

- Currently, an individual's data is spread across silos and islands in banks, telcos, healthcare institutions with no framework in place for them to share with their benefactors. This data is essential to help build better products for the individual/entity.
- An individual/entity has to collect, collate and share data themselves either physically or electronically. This is slow, and an expensive exercise.
- There is no framework available to integrate and aggregate them that can provide a full view of an individual/entity's data.
- Also, there is no framework available that can let an entity access users' data even with users' permission.
- As a result, there is still friction in accessing data and a large amount of data is not effectively leveraged.

- Hence, the transition of 'data-rich society' to an 'economic rich society' is still not happening.

## Seed Bankers for Conserving Native Crops

A total of 1597 varieties have been registered with **Protection of Plant Varieties and Farmers' Rights Authority** and certificates of registration have been issued.

### India's Seed Bank

- India has established its own seed storage facility at **Chang La in Ladakh, Jammu and Kashmir**.
- It was built jointly by the **Defence Institute of High Altitude Research (DIHAR)** and the **National Bureau of Plant Genetic Resources (NBPGR)** in 2010 under the aegis of **Defence Research and Development Organisation (DRDO)**.
- It stores over 5,000 seed accessions (one accession consists of a set of seeds of a particular species collected from different geographical and demographic locations).

**Note:** **Svalbard Global Seed Vault** is the world's largest seed storage facility situated at Norway.

### ICAR-National Bureau of Plant Genetic Resources (NBPGR)

- It is a **nodal organisation for the management of plant genetic resources in India** and functions under the control of **Indian Council of Agricultural Research (ICAR)**.
- It is conserving seed germplasm for long-term conservation (at -20°C) in its **National Gene Bank (NGB)**.
- It plans, organizes, conducts and coordinates exploration and collection of indigenous and exotic plant genetic resources.

### Protection of Plant Varieties and Farmers' Rights Authority

- It is a **statutory body** created under the **Protection of Plant Varieties and Farmers Rights Act, 2001 (PPV&FR Act)**.
- Plant Genome Saviour Reward is also given by it to the farmers engaged in the conservation of genetic resources of landraces and wild relatives of economic plants and their improvement.

Note:



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### Objectives

- Establishment of an effective system for the protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants.
- Recognition and protection of the rights of farmers with respect to their contribution in conserving, improving and making available plant genetic resources for the development of new plant varieties.
- Accelerate agricultural development in the country by stimulation of investment for research and development both in the public and private sector.
- Facilitate the growth of seed industry to ensure the availability of quality seeds and planting material to the farmers.

### Protection of Plant Varieties and Farmers' Rights Act, 2001 (PPV&FR Act)

- It has been enacted to fulfill India's obligation under the Agreement on **Trade Related aspects of Intellectual Property Rights (TRIPs)** of the **World Trade Organization** as also to stimulate investment in Research and Development for the development of new plant varieties which will facilitate the growth of the seed industry and ensure the availability of high quality seeds to the farmers.
- The Protection of Plant Varieties & Farmers' Rights Act, 2001 provides for the establishment of an effective system for the protection of plant breeders' rights.
- According to section 39 of the Act, farmers are allowed to save, use, sow, re-sow, exchange, share and even sell farm produce including seed of a protected variety. But when it is sold, it cannot be packaged and branded as such.

### Microdots Technology

The **Ministry of Road Transport and Highways** has issued a draft notification to make microdots mandatory in vehicles.

- The draft rules amend the **Central Motor Vehicles Rules, 1989** and allow motor vehicles and their parts to be affixed with permanent and nearly invisible microdots that can be read physically with a microscope and identified with ultraviolet light.
- The microdots would have to comply with the **Automotive Industry Standard – 155 (AIS 155) requirements**.
  - The Standards are developed by the **Automotive Industry Standards Committee (AISC)** set up under **Central Motor Vehicles Rules - Technical Standing Committee (CMVR-TSC)** by the **Ministry of Road Transport & Highways**.
- Microdots are a **globally proven technology** to ensure originality in spare parts of machines and components, including in the **automobile sector**.
  - The microdot technology involves spraying thousands of microscopic dots onto vehicles or other assets to form a unique identification.
  - Each microdot carries this identification which is registered to the owner but is not visible to the naked eye.
  - **South Africa** has made it a **legal requirement** to have microdots fitted to all new vehicles sold since September 2012.
- The move is aimed at making India free from **vehicle thefts and spurious spare parts**.
  - The government has envisaged that with microdots becoming a permanent feature on vehicles, identifying them would become easier in case they are stolen.
  - Annually about 2.14 lakh vehicles are stolen across the country, with Delhi topping the list at 38,644 in 2016 followed by UP (34,480) and Maharashtra (22,435).
  - The move will ensure that consumers have a way of identifying original parts from fake ones and that contributes to overall safety as well.



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# International Relations

## Highlights

- India Ratifies Convention to Prevent BEPS
- Eastern Economic Forum
- Rakhine State Development Programme
- India Connects Bangladesh and Bhutan
- Next Dalai Lama
- SAGAR MAITRI
- Palau Joins ISA

## India Ratifies Convention to Prevent BEPS

Recently India has ratified the **Multilateral Convention to Implement Tax Treaty Related Measures (MLI)** to prevent **Base Erosion and Profit Shifting (BEPS)**.

- The MLI is aimed to prevent firms from moving profit out of the country.
  - It ensures that profits are taxed where substantive economic activities generating the profits are carried out.
- Out of 93 tax treaties notified by India, 22 countries have already ratified the MLI so far and the **Double Taxation Avoidance Agreement (DTAA)** with these countries will be modified by MLI.
  - For the remaining countries which have tax treaties with India, the MLI will come into force when they ratify it.
- The MLI will come into force for India from Oct 1, 2019.

### The Multilateral Convention to Implement Tax Treaty Related Measures (MLI)

- The multilateral convention is an outcome of the **OECD/G20 Project** to tackle base erosion and profit shifting.
- This project was designed to work on anti-evasion measures that could curb tax planning strategies which exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations.
  - Such geographies have little economic activity, resulting in little or no overall corporate tax being paid.
- The MLI will be applied alongside existing tax treaties, modifying their application, in order to implement the BEPS measures.

- It will lead to amendments to **DTAA** with the countries signatories to the convention to plug revenue leakages.

## Eastern Economic Forum

The **Eastern Economic Forum** will be held from 4<sup>th</sup>-6<sup>th</sup> Sept 2019 in **Vladivostok, Russia**. The Indian Prime Minister has been invited as the chief guest to the Forum.

- In a build-up to the **Prime Minister's Vladivostok visit**, India and Russia held a **Strategic Economic Dialogue** in New Delhi on 10<sup>th</sup> July 2019.

### Eastern Economic Forum

- The **Eastern Economic Forum** was established by the decree of the President of the Russian Federation in the year 2015.
- It takes place each year in **Vladivostok**.
- It serves as a platform for the discussion of key issues faced by the world economy like regional integration, and the development of new industrial and technological sectors, as well as of the global challenges faced by Russia and other nations.
- The Forum Business programme includes a number of business dialogues with leading partner countries in the **Asia-Pacific region**, and with the **Association of Southeast Asian Nations (ASEAN)** – a key integration organization of dynamically developing nations in Southeast Asia.
- Over the years, it has emerged as an international platform for discussing the strategy for developing political, economic and **cultural ties between Russia and the Asia Pacific**.

### India-Russia Strategic Economic Dialogue

- The **India-Russia Strategic Economic Dialogue (IRSED)**

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was established following a bilateral **Memorandum of Understanding (MoU)** signed between the **NITI Aayog** and the **Ministry of Economic Development of the Russian Federation** during the **19<sup>th</sup> edition** of the annual India-Russia Bilateral Summit in the year 2018.

- The **first India-Russia Strategic Economic Dialogue** was held in **St. Petersburg** in the year 2018.
- The recent one is the second such dialogue and focuses on **six core areas** of cooperation, namely,
  - Development of transport infrastructure and technologies;
  - Development of Agriculture and Agro-Processing sector;
  - Small and medium business support;
  - Digital transformation and frontier technologies;
  - Cooperation in trade, banking, finance, and industry;
  - Tourism & Connectivity.

### **India-Russia Relations**

- **India-Russia cooperation** is based on the solid foundations of the:
  - **1971 Treaty of Peace, Friendship and Cooperation** between the **Republic of India and the USSR**,
  - **1993 Treaty of Friendship and Cooperation** between the Republic of India and the Russian Federation,
  - **2000 Declaration on Strategic Partnership** between the Republic of India and the Russian Federation, and
  - **2010 Joint Statement elevating the Partnership to a Special and Privileged Strategic Partnership.**
- Cooperation between India and Russia spans across varied sectors and rests on the fundamental pillars of political and strategic cooperation, military and security cooperation, cooperation in the spheres of economy, energy, industry, science and technology, and cultural and humanitarian cooperation.

## **Rakhine State Development Programme**

Recently, India has handed over 250 pre-fabricated houses to **Myanmar** that could be used by the displaced returnees from Bangladesh.

- The Indian government had taken up the project under its **Rakhine State Development Programme (RSDP)**.
- India signed a development programme for **Rakhine State with Myanmar** in late 2017. The agreement

was designed to assist the Myanmar government to build housing infrastructure for displaced **Rohingyas** in Rakhine State.

- The program includes the creation of an infrastructure in the areas of education, health, agriculture and allied activities, agro-processing, community development sectors and related training in these areas.

### **Historical context**

- More than 700,000 minority Rohingya Muslims fled from Myanmar's Rakhine state to neighbouring Bangladesh since August 2017, **triggering a massive refugee crisis**.

## **India Connects Bangladesh and Bhutan**

The **Minister of State for Shipping**, digitally flagged off a ship of the **Inland Waterways Authority of India (IWAI)**, carrying a stone from **Bhutan to be delivered in Bangladesh**.

- This is the **first time** an Indian waterway is being used as a channel for transport of cargo between the two countries, using India for transit.
- This is beneficial to India as well as Bhutan and Bangladesh. It will strengthen relations between the neighbouring countries. Also, waterways are more friendly mode of transport.
- The ship '**MV AAI**' has set sail over **river Brahmaputra** from **Dhubri in Assam** to **Narayanganj in Bangladesh**. It follows the **Indo Bangladesh Protocol Route**.
- The transport of cargo through this route will cut short the travel time by 8-10 days, and reduce transportation cost by 30%, consequently, bringing down the logistics costs.
- It also opens up an alternate route to the North-Eastern states, making it easier and cheaper to transfer goods to these places from other parts of the country.
- Till now, Bhutan has been exporting significant quantity of stone aggregates to Bangladesh through the land route.

### **The Indo Bangladesh Protocol Route**

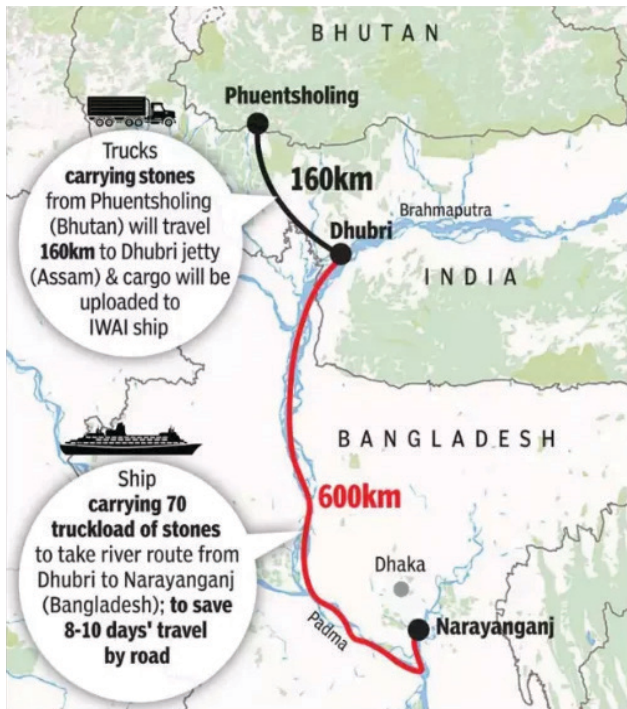
- It is an inland water transit and trade protocol that exists between India and Bangladesh. Under this, inland vessels of one country can transit through the specified routes of the other country.

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- The existing protocol routes include Kolkata-Pandu-Kolkata, **Kolkata-Karimganj - Kolkata, Rajshahi-Dhulian-Rajshahi, and Pandu-Karimganj-Pandu**. The other routes can be prescribed by the **Competent Authorities** from time to time.
- For inter-country trade, an equal number of ports of call have been designated in each country that includes **Haldia, Kolkata, Pandu, and Karimganj in India, and Narayanganj, Khulna, Mongla, and Sirajganj in Bangladesh**.
  - A port of call is an intermediate port where ships customarily stop for supplies, repairs, or transshipment of cargo.
- Under the Protocol, 50:50 cargo sharing by **Indian and Bangladeshi vessels is permitted** both for transit and inter-country trade.
- **Inland Waterways Authority of India (IWAI) is the Competent Authority of India.**
  - The **IWAI** came into existence on 27th October 1986 for development and regulation of inland waterways for shipping and navigation.
  - The Authority primarily undertakes projects for development and maintenance of **Inland Water Transport (IWT)** infrastructure on **national waterways** through grant received from the Ministry of Shipping.
  - The head office of the Authority is located in **Noida**.

### Initiatives to Increase the Use of Inland Waterways

- The Government is taking various initiatives to increase the use of inland waterways and coastal shipping for greater cargo shipment. These include providing the assured depth of water in the channels, navigation aids like Global Positioning System (GPS) and River Information System, terminals at regular intervals, facilities for mechanized handling of cargo, etc.
- A minimum 40% discount and priority in berthing is being given to coastal vessels at major ports.
- Licensing relaxations have been made under section 406 and 407 of the Merchant Shipping Act 1958 for fertilizers, agricultural products, fisheries, horticultural, and animal husbandry products, empty containers and containers being transhipped from another Indian port.

### Next Dalai Lama

Recently, China has urged India not to recognize a successor to the Tibetan spiritual leader that it doesn't endorse.

- China has held that it will reject any reincarnation of the Dalai Lama born among Tibetan exiles in India or elsewhere.
- The reincarnation of the Dalai Lama is a historical and controversial issue.
- Following the Buddhist belief in the **principle of reincarnation**, the current Dalai Lama is believed by Buddhists to be able to choose the body into which he is reincarnated.
  - That person, when found, will become the next Dalai Lama.

#### Dalai Lama

- Dalai Lama is a title given by the **Tibetan people** for the foremost spiritual leader of the **Gelug or "Yellow Hat"** school of Tibetan Buddhism- the newest of the classical schools of **Tibetan Buddhism**.
- The 14<sup>th</sup> and current Dalai Lama is **Tenzin Gyatso**.
- The Dalai Lamas are believed to be manifestations of **Avalokiteshvara or Chenrezig**, the **Bodhisattva of Compassion** and the **patron saint of Tibet**.
  - **Bodhisattvas** are enlightened beings inspired by a wish to attain **Buddhahood** for the benefit of all sentient beings, who have vowed to be reborn in the world to help humanity.

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- According to Buddhist scholars, it is the responsibility of the High Lamas of the Gelugpa tradition and the Tibetan government to seek out and find the next Dalai Lama following the death of the incumbent one.
- If more than one candidate is identified, the true successor is found by officials and monks drawing lots in a public ceremony.
- Once identified, the successful candidate and his family are taken to **Lhasa (or Dharamsala)** where the candidate studies about Buddhist scriptures in order to prepare for spiritual leadership.
- But, according to China, there was a well-established procedure for recognizing the reincarnation of the Dalai Lama,
  - One of the conditions was that the name of the successor was pulled out of golden urns found in the **Jokhang Temple** (one of the most sacred monasteries of Tibetan Buddhism situated in Lhasa) and the **Potala Palace**, which was the residence of the Dalai Lama till he fled to India in 1959.
  - The second was the reincarnation getting the approval of the Chinese government.

## SAGAR MAITRI

- Oceanographic research vessel of **Defence Research and Development Organisation (DRDO)**, **INS Sagardhwani**, embarked on a two-month-long **SAGAR MAITRI Mission-2**.
- SAGAR MAITRI is a unique initiative of DRDO with the broad objective of “**Safety And Growth for All in the Region (SAGAR)**”. It promotes closer co-operation in socio-economic aspects as well as greater scientific interaction especially in ocean research among **Indian Ocean Rim Association (IORA)** countries.
- “**MAITRI (Marine & Allied Interdisciplinary Training and Research Initiative)**” is the specific scientific component of DRDO.

### Objectives of SAGAR MAITRI

- The prime objectives of the **SAGAR MAITRI Mission** are data collection from the entire **North Indian Ocean**, focusing on the **Andaman Sea and adjoining seas**, and establishing a long-term collaboration with eight **IOR countries** in the field of ocean research and development.

- The programme also aims at establishing long term scientific collaboration with these countries in the field of ‘**Ocean Research & Development**’ and data collection with a focus on the Andaman Sea.

## Palau Joins ISA

Palau became the **76<sup>th</sup> country** to sign the **International Solar Alliance** framework agreement.

- Palau will host the 2020 edition of the ‘**Our Oceans conference**’, (based on the concept of partnership - “**big brothers working with small brothers to address sustainable development issues**”) which will focus on issues such as climate change, sustainable fisheries and marine pollution.
- The ISA was jointly launched by India and France at the **UN Climate Change Conference** in Paris on November 2015.
- The **First Assembly of the ISA was held in New Delhi in 2018**.

### Palau

- **Palau** is a country in the western Pacific Ocean that consists of **coral and volcanic islands** surrounded by a single barrier reef.
- Palau lies in the **southwest corner of Micronesia** (country spread across the western Pacific Ocean comprising more than 600 islands), with New Guinea to the south, and the Philippines to the west.



- Its major populated islands are **Babelthup (Babeldaob), Koror, Malakal, Arakabesan, and Peleliu**.
- There is a concern that the **low-lying islands** could be badly affected by rising sea levels possibly due to climate change.



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# Science and Technology

## Highlights

- NASA's PUNCH Mission
- National Centre for Polar and Ocean Research (NCPOR)
- Total Solar Eclipse 2019
- Ascent Abort Test-2
- Schizophrenia
- Project Manav
- A New Way of Predicting Monsoon
- Agent Smith Malware
- Central Equipment Identity Register
- Spektr-RG
- Cape Verde Turtles and Climate Change
- Apollo 11: 50 Years
- Spent Pot Lining
- Ramanujan Machine
- Ploonet
- Rocket Fuel
- Chandrayaan-2: Launched Successfully
- Milky Way's Violent Birth Decoded
- China's First Commercial Rocket
- TOI 270 System

## NASA's PUNCH Mission

**Dipankar Banerjee**, a solar physicist from **Indian Institute of Astrophysics** is a co-investigator of NASA's PUNCH mission.

- PUNCH, which stands for “**Polarimeter to Unify the Corona and Heliosphere**”, will study the transition of particles from the Sun's outer corona to the solar wind that fills interplanetary space.
- **PUNCH** will consist of a constellation of four suitcase-sized microsats that will orbit the Earth and study how the **corona**, which is the atmosphere of the Sun, connects with the interplanetary medium.
- The mission will also image and track the **solar wind and coronal mass ejections**. The coronal mass ejections can affect and drive space weather events near the Earth.
- There is also a plan to observe the Sun using joint observations from PUNCH and Indian **mission Aditya**, which is underway. India is planning to send up its own satellite **Aditya-L1** with an aim to study the Sun's corona.
- The mission is expected to be launched in the year 2022.

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- **Corona:** It is the outermost region of the Sun's atmosphere, consisting of plasma (hot ionized gas).

- **Solar Wind:** It is the constant stream of solar coronal material that flows off the sun.
- **Interplanetary Medium:** It refers to thinly scattered matter that exists between the planets and other bodies of the solar system, as well as the forces (e.g., magnetic and electric) that pervade this region of space. The material components of the interplanetary medium consist of **neutral hydrogen, plasma gas** comprising electrically charged particles from the Sun, cosmic rays, and dust particles.

## National Centre for Polar and Ocean Research (NCPOR)

The six **Himalayan glaciers**, monitored by the **National Centre for Polar and Ocean Research (NCPOR)**, have been retreating in the range of 13 to 33 millimetres per year.

- Six glaciers i.e. **Sutri Dhaka, Batal, Bara Shigri, Samudra Tapu, Gepang Gath and Kunzum** are monitored for mass, energy and hydrological balance.
  - Debris of thickness above two centimetres has reduced the melting rates up to 70%, whereas the debris cover of below two centimetres thickness has accelerated melting up to 10% of the total melting.
- The NCPOR has undertaken studies in the Western Himalaya in Chandra basin in **Lahaul-Spiti (Himachal Pradesh)** since 2013.

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- The NCPOR has also established a high altitude research station named '**Himansh**' in Himalaya at 4,000 metres altitude at Sutri Dhaka.

### **National Centre for Polar and Ocean Research**

- It was established as an **autonomous Research and Development Institution** of the Ministry of Earth Sciences in 1998.
- Earlier known as **National Centre for Antarctic and Ocean Research (NCAOR)**, NCPOR is India's premier R&D institution responsible for the country's research activities in the Polar and Southern Ocean realms.
- It is the nodal agency for **planning, promotion, coordination and execution** of the entire gamut of polar and southern ocean scientific research in the country as well as for the associated logistics activities.
- Its responsibilities include:
  - Management and upkeep of the Indian Antarctic Research Bases "**Maitri**" and "**Bharati**", and the Indian Arctic base "**Himadri**".
  - Management of the Ministry's ocean research vessel (ORV) **Sagar Kanya** as well as the other research vessels chartered by the Ministry.

**Note:** The **ORV Sagar Kanya** is an ocean observing platform equipped with technologically advanced scientific equipment and related facilities.

- It plays a facilitatory role in the scientific research activities being undertaken by several national institutions and organizations in Antarctica, the Arctic and in the Indian Ocean sector of the Southern Ocean.
- It plays a lead role in the **geoscientific surveys** of the country's **Exclusive Economic Zone (EEZ)** and it has extended continental shelf beyond 200m, deep-sea drilling in the Arabian Sea basin through the **International Ocean Discovery Program (IODP)**, exploration for ocean non-living resources such as **gas hydrates** and multi-metal sulphides in mid-ocean ridges.
- It's headquarters is located in Goa.

### **International Ocean Discovery Program (IODP)**

- It is an international marine research collaboration that explores Earth's history and dynamics using ocean-going research platforms to recover data recorded in seafloor sediments and rocks and to monitor subseafloor environments.

- It is in Phase II (tenured 2013-2023) of what was formerly known as the **Integrated Ocean Drilling Program – Phase I**.
  - Phase I which was envisioned in the year 2003, ceased in October 2013, after which its 26 participating nations have continued collaboration through the International Ocean Discovery Program: Exploring the Earth under the sea. India joined the Phase I in the year 2009 as an Associate Member.
- India's continued participation in Phase II as a member of the International Ocean Discovery Program is a result of an agreement signed in September 2014.
- **NCPOR** is the **nodal agency** for all the IODP related activities in India.

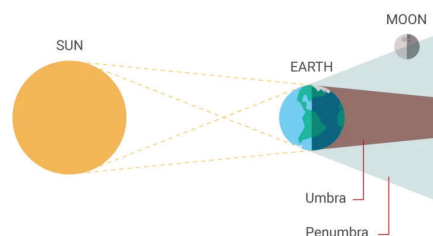
## **Total Solar Eclipse 2019**

A total Solar Eclipse was witnessed in the region of the South Pacific and parts of **South America (Mainly Chile and Argentina)**.

- This was the only total solar eclipse observed in 2019.
- It was viewed from the world's clearest skies (**Atacama desert**).
- The Total Solar Eclipse was not visible in India.

### **Solar and Lunar Eclipse**

- **Solar eclipses** occur when the **Sun, Moon and earth** all fall in the same line so that the Moon passes between Earth and the Sun, leaving a moving region of shadow on Earth's surface.
- **Lunar eclipses** occur when the Sun, Moon and earth all fall in the same line and Earth passes between the Sun and the Moon, **casting a shadow on the Moon**.
- Eclipses may be classified into 4 types i.e. Annular, Total, Partial and Hybrid.
- The type of eclipse we experience depends on the type of shadow that is involved.
  - Both the Moon and Earth cast 3 shadows: **umbra, penumbra, and an antumbra**.



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- The umbra is a **shadow's dark core**. The light source is not visible and the object blocks all direct light rays.
- The penumbra is a **half-shadow** that occurs when a light source is only partly covered by an object
- **Antumbra** – the **lighter part of the shadow** that begins where the umbra ends.

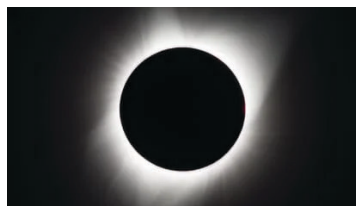
### Total or Annular Solar Eclipse

- The Moon completely covers the Sun but whether an eclipse is total or annular depends on the distance between these three objects (Sun, Moon and Earth).
  - Earth travels in an elliptical orbit around the Sun, and the Moon travels in an elliptical orbit around Earth, so the distance between these celestial bodies changes.
- **Annular solar eclipse:**
  - When the Sun is nearest to Earth and the Moon is at or near its greatest distance, the Moon appears smaller than the Sun in the sky. When an eclipse of the Sun happens in this situation, the Moon will not appear large enough to cover the disk of the Sun completely, and a rim or ring of light will remain visible in the sky.



### Total Solar Eclipse

- Total solar eclipses occur when the New Moon comes between the Sun and Earth and casts the darkest part of its shadow, the umbra, on Earth. A full solar eclipse, known as a totality, is almost as dark as night.
- During a total eclipse of the Sun, the Moon covers the entire disk of the Sun. In partial and annular solar eclipses, the Moon blocks only part of the Sun.
- When the Moon completely covers the disk of the Sun, only the Sun's corona is visible.



- It is called Total eclipse because at the maximum point of the eclipse (midpoint of time of totality), the sky goes dark and temperatures can fall.
- The reason why solar eclipses are so rare is that the Moon's umbra rarely hits the Earth's surface. Even during a total solar eclipse, the umbra only covers a small area on earth(path of totality).
- That's why viewing a solar eclipse often depends upon where the viewer observes the event. A partial eclipse may be seen by viewers who stand outside of the region of shadow created by the umbra—the path of totality—but for those who remain within the large region of shadow covered by the penumbra, a region of lesser shadow where some light still penetrates.

### Hybrid Eclipse

- A hybrid eclipse is a rare type of solar eclipse that changes its appearance as the Moon's shadow moves across the Earth's surface.
- A hybrid eclipse is a type of solar eclipse that looks like an annular solar eclipse or a total solar eclipse, depending on the observer's location along the central eclipse path.
- During a hybrid solar eclipse, the Earth's curvature brings some sections of the eclipse path into the Moon's umbra, the darkest part of its shadow that creates total solar eclipses, while other areas remain outside the umbra's reach, causing an annular eclipse.

### Partial Eclipse

- Both solar and lunar eclipses may also occur as Partial Eclipses.
  - A partial eclipse of the Sun also results when the Moon's penumbra falls on Earth but its umbra does not.
  - A partial eclipse of the Moon occurs when the Moon passes through only part of Earth's umbra or only its penumbra.
- The Moon does experience total eclipses. If the eclipse is a total lunar eclipse, the Moon will pass through the umbra (area of total shadow) created by Earth over the course of about two hours.
- There are no Annular lunar eclipse because the Earth is much bigger than the Moon, and its shadow will never be small enough to leave a ring.
- Since the Moon is much smaller than Earth, there is no path of totality in a lunar eclipse. The eclipse will

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be visible to any observer on the night side of Earth when the eclipse occurs.

- During a lunar eclipse, Moon does not typically go completely dark; it often takes on a red colour, because the redder parts of sunlight that penetrates the Earth's atmosphere are refracted into the umbra, and this light reaches the Moon.

## Ascent Abort Test-2

NASA has carried out a successful test of a **Launch-Abort System (LAS)** for the **Orion capsule** designed to take U.S. astronauts to the Moon.

- The test of the Orion's LAS is also called the **Ascent Abort Test-2 (AA-2)**.
- The aim was to test in almost real-life conditions the evacuation of astronauts from the capsule in the event of an explosion or rocket booster failure.
- The test is a milestone in NASA's preparation for **Artemis missions** to the Moon that will ultimately lead to astronaut missions to Mars.

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The Artemis program will send the first woman and the next man to the Moon by the year 2024 and develop a sustainable human presence on the Moon by the year 2028.

### Orion Capsule

- The safest spacecraft ever built, Orion, will execute the **Artemis program**.
- An integral part of ensuring safe spaceflight is **Orion's Launch Abort System** or LAS. This state-of-the-art crew escape system is attached to the top of the spacecraft and can propel the crew escape from the rocket within milliseconds should a life-threatening event arise during the launch.

### Demonstration by the Test

- In the test, an unmanned Orion capsule was launched by a mini-rocket.
- Fifty-five seconds after the launch, at an altitude of 9,500 m, a rocket-powered tower on top of the crew module ignited its engines to quickly pull the Orion away from a hypothetical rocket experiencing problems.
- In just 15 seconds, the capsule gained two miles of altitude. Then the tower reoriented the capsule to

prepare it for descent and disengagement from the tower, finally, the crew module fell into the Atlantic Ocean.

- In real-life conditions, parachutes would also open to ease the manned capsule's fall toward the Atlantic Ocean.

## Schizophrenia

Indian and Australian scientists have identified a new gene directly linked to **Schizophrenia**.

- Their study found a gene called **NAPRT1**, that encodes an enzyme involved in **vitamin B3 metabolism**, in a large genomic dataset of schizophrenia patients.
- The study has predominantly been done in populations with European ancestry.

### Schizophrenia

- **A mental disorder:** It is a severe **mental disorder**, characterized by profound disruptions in thinking, affecting language, perception, and the sense of self. It affects more than 21 million people worldwide.
- **Cause:** Researchers believe that genetic, as well as environmental factors such as exposure to viruses, are the major causes, and also life stressors may play a role in the disorder's onset and course.
- **Onset:** It typically begins in late adolescence or early adulthood.
- **Impact:** Hallucinations, delusions, reduced speaking, reduced ability to understand information and decision making, trouble in focusing or paying attention etc.
- **Schizophrenia treatment:** Therapy and support can help people learn social skills, cope with stress, identify early warning signs of relapse and prolong periods of remission.

## Project Manav

A human atlas initiative named **Manav** has been launched by the **Department of Biotechnology (DBT)** and **Persistent Systems**, a biotechnology company.

- The aim is to create a unified database of the molecular network of all the tissues in the human body and to derive a holistic picture of working of the human body.
- There is already a similar **Human Cell Atlas project** (launched in the year 2016), which is a collaborative

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effort between the world-leading scientists, to generate data pertaining to cellular and molecular activities of various cell types in the body in both its normal and disease state using techniques such as single-cell genomics.

- The Indian project, on the other hand, depends on the knowledge already available in scientific literature to derive information on the cellular network.

### About the Project

- This mega project will **collate and integrate molecular information** on human tissues and organs that currently remain in research articles in an unstructured and disorganised form.
- The project would utilise large biological community, both students and scientists, for extracting and adding the information from scientific literature at the level of cells and organs.
- The database, that would get created, would eventually help researchers identify gaps in current knowledge and help in future projects in diagnostics and disease biology.
- Also, the information gathered in the project will help scientists to understand the differential molecular factors which vary between diseased states vis-a-vis a healthy state of an organ.
- The project will be executed by the **Indian Institute of Science Education and Research (IISER)** and the **National Center for Cell Sciences (NCCS)** based in Pune.
  - While the institutes will train students, the technology platform and data management will be provided by the private partner.
  - **IISER** is an autonomous institution established by the **Ministry of Human Resource Development**.
  - **NCCS** is an autonomous organisation aided by the **Department of Biotechnology, Ministry of Science and Technology**.
- This initiative will also help in creating a trained population of biologists, with the data curation and analytical **skills imparted during this project**, students will have better opportunities for jobs in the life science sector.
- The data methodology and technical platform developed during this project can also be extrapolated to do other science projects on biodiversity, ecology, environment etc. which may be relevant nationally or globally.

## A New Way of Predicting Monsoon

A researcher at a science and technology conference organised in Vienna by the **Comprehensive Nuclear-Test-Ban Treaty Organisation** has come up with a new way of predicting the monsoon,

- The method measures how much **Beryllium-7**, an isotope of the element Beryllium, is present in the air.
- Be-7 is chosen because it is created only in the stratosphere when cosmic rays hit and **break** the nuclei of **nitrogen and oxygen**.
- During monsoons the air flows down from the stratosphere (upwards of 33,000 feet from the earth's surface), bringing some Be-7. Thereby making the prediction of monsoon more reliable.
- Research proposes that there is a strong connection between the amount of Be-7 and the timing of monsoons, which is yet to be proven.

### Comprehensive Nuclear-Test-Ban Treaty Organization

- The Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) is an international organization, established upon the entry into force of the **Comprehensive Nuclear-Test-Ban Treaty in 1996**.
- Its headquarter is in **Vienna, Austria**.
- The organization is tasked with verifying the ban on nuclear tests and therefore operates a worldwide monitoring system and may conduct on-site inspections.
- The CTBTO runs the **International Monitoring System (IMS)** of 300-odd stations, which can sense vibrations, hear sounds or smell noble gases (such as Xenon, Krypton) 'radionuclides' (such as Beryllium-7).
- IMS can detect any **nuclear explosion globally**.

## Agent Smith Malware

A study by Checkpoint research (a [cybersecurity services provider](#)) has revealed that "**Agent Smith**", a new variant of **smartphone malware**, has infected around 25 million Android devices globally, including 15 million mobile devices in India.

- Agent smith malware exploits known **android vulnerabilities** and automatically replaces installed

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apps with malicious versions without the user's knowledge or interaction.

- **Malware** currently uses its broad access to the resources of the mobile device to show fraudulent ads for financial gain, and could easily be used for far more intrusive and harmful **cyberattacks** such as banking credential theft and eavesdropping.
- **Check Point Research** notes that the activity of Agent Smith resembles how other malware like **CopyCat**, **Gooligan**, and **HummingBad** have operated in the past.
  - All three malware campaigns have generated huge revenue through fraudulent ads on virus-infected Android devices.
- "Agent Smith" was originally downloaded from the widely used third-party app store, 9Apps and targeted mostly Hindi, Arabic, Russian and Indonesian-speaking users.
- Primary victims of malware are based in India though other Asian countries such as Pakistan, Bangladesh, the United Kingdom, Australia and the United States have also been impacted by the malware.

## Central Equipment Identity Register (CEIR)

**Department of Telecommunications (DoT)** under the **Ministry of Communications** has initiated a **CEIR** for mobile service providers.

- The **National Telecom Policy of 2012** calls for the establishment of a **National Mobile Property Registry** to address the issue of security, theft, and other concerns including reprogramming of mobile handsets.

### Central Equipment Identity Register

- It will be a central repository or database of all mobile phones connected to networks across India.
  - Every mobile network provider in India has an **Equipment Identity Register (EIR)**, or a database of the phones connected to its network.
  - These EIRs will now share information with a single central database, i.e CEIR.
- CEIR will have information on the Device's:
  - International **Mobile Equipment Identity (IMEI) number**.
  - Model
  - Version

### International Mobile Equipment Identity

- Every phone or mobile broadband device has this unique 15 digit code that precisely identifies the device.
- Mobile phone manufacturers assign IMEI numbers to each device based on ranges allotted to them by the **Global System for Mobile Communications Association**.
- Dual-SIM phones will have two IMEI numbers.

### Objective of CEIR

- Such centralized databases are meant to identify and **block stolen or illegal mobile phones** across networks.
  - Presently, when a customer reports a mobile phone as missing or stolen, mobile service providers have the ability to blacklist the phone's IMEI in their EIRs and block it from accessing their network.
  - But if the SIM is changed to a new network, it can continue to be in use whereas in case of CEIR all network operators will be aware that the phone is blacklisted.
- The CEIR will also access the GSMA's database of IMEI numbers to check whether the phone is authentic.
  - There are cases of phones being in use with duplicate IMEI numbers or with all zeros instead of an authentic IMEI number.
- CEIR will be able to block services to subscribers, unlike the present system that allows only individual networks to block services in case of theft and or stolen mobiles.

### Concerns

- The major issue with CEIR is to identify the authority that should maintain such a high-value database (whether the service provider or a neutral third party).
- Another major issue is cloning or reprogramming stolen or unauthorized mobile phones to attach existing genuine IMEI numbers.
  - As blocking cloned IMEI numbers could result in the authentic ones also being blocked.

## Spektr-RG

**Russia** has launched a space telescope, named **Spektr-RG**, in a joint project with Germany.

Note:



- It is intended to replace Spektr-R, known as the Russian **Hubble**. The **Russian Space Agency, Roscosmos**, lost control of the Spektr-R in January 2019.
- Spektr-R was launched in the year 2011 to observe **black holes**, neutron stars and magnetic fields, aiding understanding of cosmic expansion.
- Spektr-RG will take up similar duties but will also work on mapping X-Rays across the sky.

## Cape Verde Turtles and Climate Change

A recent study has warned that **Loggerhead turtles** born at a key breeding ground in **Cape Verde (an island country in the central Atlantic Ocean)** will all be turned female because of climate change.

- The sex of turtles is determined by the temperatures at which they are incubated and warm temperatures favour females.
- If high emissions continue, over 90% of turtles could be incubated at lethally high temperatures, killing youngsters before they hatch.
  - Even under a low emissions scenario, 99.86% of hatchlings would be female by 2100.
  - Currently, 84% of hatchlings at Cape Verde are female.
- Cape Verde has the **third-largest population** of nesting loggerhead turtles.
- The **International Union for Conservation of Nature (IUCN)** status of Loggerheads turtle is vulnerable

### Loggerhead Turtles

- Loggerhead sea turtles are named for their large heads that support **powerful jaw muscles**, allowing them to crush hard-shelled prey like clams and sea urchins.
- Unlike other sea turtles, they are less likely to be hunted for their meat or shell.
- The accidental capture of marine animals in fishing gear is a serious problem for loggerhead turtles because they frequently come in contact with fisheries.
  - Many of their nesting beaches are under threat from tourism development.
- Loggerheads are the most common turtle in the **Mediterranean**, nesting on beaches from **Greece and Turkey to Israel and Libya**.

- Sea turtles are not only living representatives of a group of reptiles that have existed on Earth for the last 100 million years but are also a fundamental link in marine ecosystems and help maintain the health of coral reefs and seagrass beds.

## Apollo 11: 50 Years

The year 2019 marked the **50<sup>th</sup> anniversary of Apollo 11**. It was the first manned mission to land on the Moon.

- On July 20, 1969, American astronauts **Neil Armstrong** and **Edwin "Buzz" Aldrin** became the first humans ever to land on the moon.
- As Neil Armstrong set took his first step on the moon, he famously said, "That's one small step for man, one giant leap for mankind."
- The Apollo program was designed to land humans on the Moon and bring them safely back to Earth.
- There were five more successful lunar landing missions, and one unplanned lunar swing-by, Apollo 13 (whose lunar landing was aborted due to technical difficulties) under Apollo missions.
- The last men to walk on the moon were astronauts Eugene Cernan and Harrison Schmitt of the Apollo 17 mission.
- Apollo mission was announced at the time (during the Cold War-era) when the United States was still trailing the Soviet Union in space developments).
  - The race was won by the United States when Apollo 11 from the US landed on the moon in 1969, until Apollo 11 landing on the moon, the Soviet Union had been ahead in every department of the space race.
  - Even the first animal put on the moon was a Russian (a **dog named Laika**).

## Spent Pot Lining

- Recently, the **National Green Tribunal (NGT)** held a hearing regarding scientific disposal of **spent pot lining (SPL)** from the **aluminium industries**.
- It has also been classified as a hazardous waste under the Hazardous Waste Management Rules, 2016.
- Most SPL is currently stored at the aluminium smelter sites or placed in landfills. Dissolved fluorides and cyanides from SPL **landfill leachate** may have environmental impacts.

Note:



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### Spent Pot Lining

- Spent Pot Lining is produced by the smelting plants and contains a **high level of cyanide and fluoride and is carcinogenic in nature** and must be scientifically utilised or detoxified. Spent Pot lining is also known as spent **pot liner and spent cell liner**.
- The process of **extracting aluminium metal** from aluminium oxide takes place in electrolytic cells that are known as pots. The pots are made up of steel shells with two linings, an outer insulating or refractory lining and an inner carbon lining that acts as the cathode of an electrolytic cell.
- During the operation of the cell, substances, including aluminium and fluorides, are absorbed into the cell lining. After some years of operation, the pot lining fails and is removed. The removed material is spent pot lining.
- **Hazardous properties** of SPL are:
  - Toxic fluoride and cyanide compounds that are leachable in water and are carcinogenic.
  - Corrosive - exhibiting high pH due to alkali metals and oxides.
  - Reactive with water - producing inflammable, toxic and explosive gases.
- The toxic, corrosive and reactive nature of SPL means that particular care must be taken in its handling, transportation and storage.

#### pH Scale

- The pH is a scale used to specify how acidic or basic a water-based solution is.
- Acidic solutions have a lower pH, while basic solutions have a higher pH.
- The neutral value of the pH depends on the temperature.
- The usual range of pH values runs from 0 to 14, At room temperature (25°C), pure water is neither acidic nor basic and has a pH of 7.

## Ramanujan Machine

Researchers from Technion – Israel Institute of Technology have developed a concept, which is described as a 'Ramanujan machine'.

- It is named after renowned **Indian Mathematician Srinivasa Ramanujan**.

### Srinivasa Ramanujan

- Ramanujan was born on **22<sup>nd</sup> December 1887** in a village some Erode (400 km from Chennai, then known as Madras). He was passionate about mathematics from a very young age.
- In India, **December 22<sup>nd</sup>** is celebrated as **National Mathematics Day** in the memory of Srinivasa Ramanujan.
- The famous **British mathematician Godfrey Harold Hardy** recognised his talent in 1913. It was a turning point in his life. Ramanujan went to Cambridge, on Godfrey Harold Hardy's invitation.
- Ramanujam made substantial contributions to the **analytical theory of numbers and worked on elliptic functions**. He also worked on the partition of the whole number, hypo-geometric series and Euler's constant.
- His papers were published in English and European journals, and in 1918 he was elected to the **Royal Society of London**.
- He died on April 26th, 1920, at the age of 32, just after returning to India after a long illness.

- The Ramanujan machine is more of a concept than an actual machine. It exists as a **network of computers running algorithms** dedicated to finding **conjectures** about fundamental constants in the form of continued fractions.
- The purpose of the machine is to come up with conjectures that humans can analyze and hopefully prove to be true mathematically.
  - Typically, people provide the input and the algorithm finds the solution. The **Ramanujan machine reverses the process**. So if a constant such as  $\pi$  is fed into the machine, it will generate a series whose value would lead towards  $\pi$ .
- **Conjectures:** These are mathematical statements that are, as yet, unproven. New conjectures in mathematics, however, have been scarce and sporadic.
  - The machine is created in the hope that their idea will inspire future generations of mathematicians.

## Ploonet

Astronomers have defined a **new class of celestial objects called "Ploonets,"** which are **orphaned moons** that have escaped the bonds of their planetary parents.

Note:



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**Planet + moon = Ploonet**

- The researchers explain that the angular momentum between the planet and its moon results in the moon escaping the gravitational pull of its parent.
- A new study suggests that the moons of gas-giant exoplanets may break away into their own orbits.
- As the **gas giants move inward** toward their suns, the orbits of their moons are often disrupted, according to new computer models.
- The scientists think these objects should exist in solitary orbits around their host stars and could even be discovered in observations from past and present exoplanet-hunting surveys, like [Kepler](#) and [TESS](#).

**Rocket Fuel**

The fuel that will power the core (or the middle unit of the lower part) of the [GSLV Mk-III](#), the rocket to be used in the [Chandrayaan-2 mission](#) is UDMH (Unsymmetrical Di-Methyl Hydrazine).

- The [Indian Space Research Organisation \(ISRO\)](#) is using the highly toxic and corrosive fuel UDMH (Unsymmetrical Di-Methyl Hydrazine), along with the oxidiser Nitrogen Tetroxide. This is called a “dirty combination”.
- Elsewhere in the world, space programmes have moved to a cleaner and greener fuel — liquid methane or kerosene.
- Shifting to liquid methane would mean bringing in cryogenic engine because any gas would need to be kept in extremely low temperatures to stay liquefied.

**Propellant Used in Rocket**

The propellant is the chemical mixture burned to produce thrust in rockets and consists of a fuel and an oxidizer.

- Fuel is a substance that burns when combined with oxidiser for propulsion.
- [GSLV Mk III](#) is a three-stage heavy-lift launch vehicle developed by ISRO. The vehicle has two solid strap-ons, a core liquid booster and a cryogenic upper stage.
- GSLV Mk III is designed to carry 4 ton class of satellites into [Geosynchronous Transfer Orbit \(GTO\)](#) or about 10 tons to [Low Earth Orbit \(LEO\)](#), which is about twice the capability of [GSLV Mk II](#).

- The oxidizer is an agent that releases oxygen for combination with a fuel. The ratio of oxidizer to fuel is called the mixture ratio.

Propellants are classified according to their state - **liquid, solid, or hybrid**.

- **Liquid Propellants:** In a liquid propellant rocket, the fuel and oxidizer are stored in separate tanks and are fed through a system of pipes, valves, and turbopumps to a combustion chamber where they are combined and burned to produce thrust.
  - **Advantages:** Liquid propellant engines are more complex than their solid propellant counterparts, however, they offer several advantages. By controlling the flow of propellant to the combustion chamber, the engine can be throttled, stopped, or restarted.
  - **Disadvantages:** The main difficulties with liquid propellants are with oxidizers. Storable oxidizers, such as nitric acid and nitrogen tetroxide are extremely toxic and highly reactive, while cryogenic propellants being stored at low temperature and can also have reactivity/toxicity issues.
  - Liquid propellants used in rocketry can be classified into three types: **petroleum, cryogenics, and hypergolic**.
    - Petroleum fuels are those refined from crude oil and are a mixture of complex hydrocarbons, i.e. organic compounds containing only carbon and hydrogen. The petroleum used as rocket fuel is a type of highly refined kerosene.
    - Cryogenic propellants are liquefied gases stored at very low temperatures, most frequently liquid hydrogen (LH2) as the fuel and liquid oxygen (LO2 or LOX) as the oxidizer. Hydrogen remains liquid at temperatures of  $-253^{\circ}\text{C}$  ( $-423^{\circ}\text{F}$ ) and oxygen remains in a liquid state at temperatures of  $-183^{\circ}\text{C}$  ( $-297^{\circ}\text{F}$ ).
    - Hypergolic propellants and oxidizers that ignite spontaneously on contact with each other and require no ignition source. The easy start and restart capability of hypergolic make them ideal for spacecraft manoeuvring systems.
    - Since hypergolic remain liquid at normal temperatures, they do not pose the storage problems like cryogenic propellants. Hypergolic are highly toxic and must be handled with extreme care. Hypergolic fuels

Note:

commonly include **hydrazine, monomethyl-hydrazine (MMH) and unsymmetrical dimethyl-hydrazine (UDMH)**.

- **Solid propellant:** These are the simplest of all rocket designs. They consist of a casing, usually steel, filled with a mixture of solid compounds (fuel and oxidizer) that burn at a rapid rate, expelling hot gases from a nozzle to produce thrust. When ignited, a solid propellant burns from the centre out towards the sides of the casing.
  - There are two families of solids propellants: **homogeneous and composite**. Both types are dense, stable at ordinary temperatures, and easily storable.
    - Composites are composed mostly of a **mixture of granules of solid oxidizers** such as **ammonium nitrate, ammonium dinitramide, ammonium perchlorate, or potassium nitrate** in a polymer binding agent.
    - Single-, double-, or triple-bases (depending on the number of primary ingredients) are homogeneous mixtures of one to three primary ingredients.
  - **Advantages:** Solid propellant rockets are much easier to store and handle than liquid propellant rockets. High propellant density makes for compact size as well.
  - **Disadvantages:** Unlike liquid-propellant engines, solid propellant motors cannot be shut down. Once ignited, they will burn until all the propellant is exhausted.
- **Hybrid propellant:** These engines represent an intermediate group between solid and liquid propellant engines. One of the substances is solid, usually the fuel, while the other, usually the oxidizer is liquid. The liquid is injected into the solid, whose fuel reservoir also serves as the combustion chamber.
  - The main advantage of such engines is that they have high performance, similar to that of solid propellants, but the combustion can be moderated, stopped, or even restarted. It is difficult to make use of this concept for very large thrusts, and thus, hybrid propellant engines are rarely built.

#### Cryogenic Rocket

- A cryogenic rocket engine is a rocket engine that uses a cryogenic fuel or oxidizer, that is, its fuel or oxidizer (or both) are gases **liquefied and stored at very low temperature**.

- A Cryogenic rocket stage is more efficient and provides more thrust for every kilogram of propellant it burns compared to solid and earth-storable liquid propellant rocket stages. **Specific impulse** is achievable with cryogenic propellants (liquid Hydrogen and liquid Oxygen) is much higher compared to earth storable liquid and solid propellants, giving it a substantial payload advantage.
- Oxygen liquefies at -183 deg C and Hydrogen at -253°C also entails complex ground support systems like propellant storage and filling systems, cryo engine and stage test facilities, transportation and handling of cryo fluids and related safety aspects.

#### Specific Impulse

- The gauge for **rating the efficiency of rocket propellants** is specific impulse, stated in seconds. Specific impulse indicates how many pounds (or kilograms) of thrust are obtained by the consumption of one pound (or kilogram) of propellant in one second.
- **Specific impulse** is characteristic of the type of propellant, however, its exact value will vary to some extent with the operating conditions and design of the rocket engine.

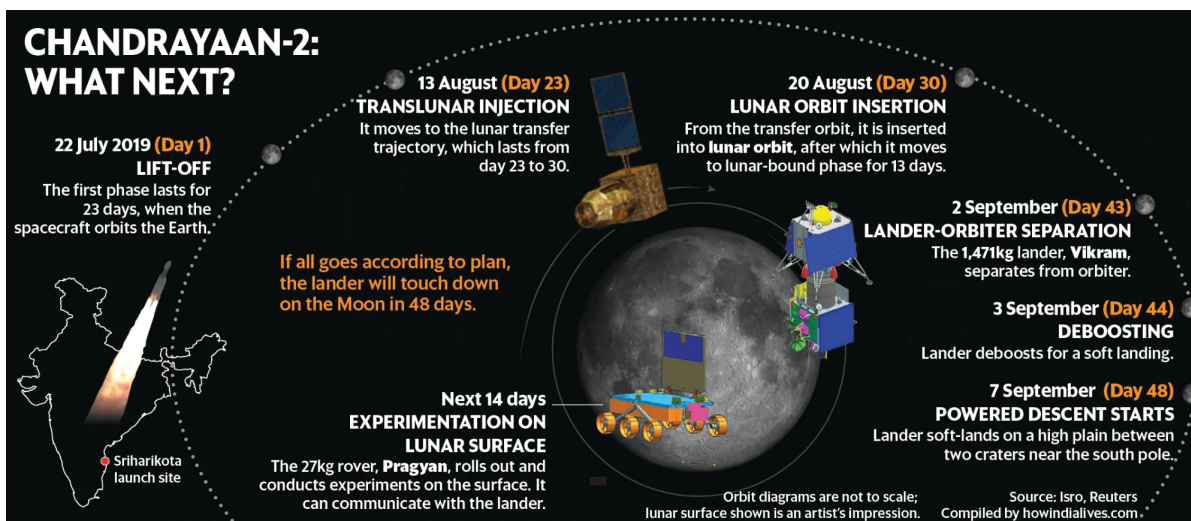
## Chandrayaan-2: Launched Successfully

**India's Geosynchronous Satellite Launch Vehicle (GSLVMkIII-M1)**, successfully launched the **Chandrayaan-2** spacecraft into the earth orbit.

- The Chandrayaan-2 is now revolving around the earth with a **perigee (nearest point to Earth)** of 169.7 km and an apogee (farthest point to Earth) of 45,475 km.
- Chandrayaan-2 is India's second mission (after Chandrayaan-1) to the moon and comprises a fully **indigenous Orbiter, Lander (Vikram) and Rover (Pragyan)**.
  - The Rover Pragyan is housed inside Vikram lander.
- The mission aims to expand our knowledge and understanding of the origin and evolution of the Moon through a detailed study of its topography, mineralogy, surface chemical composition, thermo-physical characteristics and atmosphere.
- After Chandrayaan-2, the **Indian Space Research Organisation (ISRO)** has **planned the launch** of its

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solar mission, Aditya-L1, in the first half of 2020 to study the Sun's corona.

#### Aditya-L1

- The satellite will be launched during 2019 – 2020 timeframe by PSLV-XL from Sriharikota.
- Aditya L-1 is a follow on mission to Aditya 1 (that was meant to observe only the solar corona). It will provide observations of the **sun's photosphere** (soft and hard X-ray), chromosphere (Ultra Violet) and corona (Visible and Near infrared rays).

## Milky Way's Violent Birth Decoded

Based on the **Gaia space observatory data**, Scientist has observed that the **Milky Way**, home to our sun and billions of other stars, merged with another smaller galaxy in a **cosmic collision** roughly 10 billion years ago.

#### Gaia Space Observatory

- Gaia is a mission to chart a **three-dimensional map of our Galaxy**, the Milky Way, in the process revealing the composition, formation and evolution of the Galaxy.
- Gaia will provide unprecedented positional and radial velocity measurements with the accuracy needed to produce a census of about one billion stars in our Galaxy.
- According to scientists, the union of the Milky Way and the so-called **dwarf galaxy Gaia-Enceladus** increased our galaxy's mass by about a quarter and triggered

a period of accelerated star formation lasting about 2 to 4 billion years.

- Galaxies of all types, including the Milky Way, began to form relatively soon after the **Big Bang** explosion that marked the beginning of the universe some 13.8 billion years ago, but were generally smaller than those seen today and were forming stars at a rapid rate. Subsequent galactic mergers were instrumental in configuring galaxies existing now.
- Certain stars with higher content of elements other than hydrogen or helium arose in the Milky Way and others with lower such content originated in Gaia-Enceladus, owing to its smaller mass

## China's First Commercial Rocket

Chinese startup **Interstellar Glory Space Technology** also known as **iSpace** has successfully launched the country's **first commercial rocket capable of carrying satellites into orbit**.

- The 20-metre (66-foot) rocket designed by iSpace named Hyperbola-1 reached an altitude of 300 kilometres (186 miles).
- Two other private Chinese rocket builders, **LandSpace** and **OneSpace**, have both failed to launch their rockets into orbit in 2018.
- Once dominated by state research agencies and the military, China allowed private companies to enter the space industry to build and launch satellites in 2014.
- Dozens of Chinese companies are competing for a share in the global space industry which according

Note:

to Morgan Stanley, is estimated to be worth about \$1 trillion by 2040.

- The sector is currently dominated by [SpaceX](#) and Blue Origin in the US.
- Chinese startups are mostly focused on building technology to launch microsatellites instead of space tourism like their US counterparts.

#### Microsatellites

- **Microsatellites** are typically no larger than a shoebox and are used to monitor crops, weather patterns or disaster sites or used by universities for research purposes.
- They are cheaper to build and easier to deploy than traditional **truck-sized versions** and their launch has become a lucrative market, currently dominated by the [Indian Space Research Organisation \(ISRO\)](#).

## TOI 270 System

The National Aeronautics and Space Administration's (NASA) **Transiting Exoplanet Survey Satellite (TESS)** has discovered a new planetary system called **TESS Object of Interest (TOI) 270**.

- TOI 270 is about **73 light-years away from Earth** and is located in the constellation Pictor (Pictor is a constellation in the southern celestial hemisphere).
- TOI 270 system comprises of the dwarf star (TOI 270), which is 40% smaller than the Sun in size and mass and three new exoplanets planets (planets outside the solar system):

- **TOI 270 b:** It is the innermost planet, and is likely a rocky planet about 25% larger than Earth.
  - It orbits the TOI 270 (dwarf star) every 3.4 days at a distance of about 13 times closer than that of Mercury orbiting the Sun.
  - TOI 270 b has a mass of around 1.9 times greater than Earth's mass.
  - Due to its proximity to the star, planet b is an oven-hot planet and is not habitable.
- **TOI 270 c:** It is 2.4 times larger than Earth, orbits the star every 5.7 days and weighs around 7 times Earth's mass.
- **TOI 270 d:** It is 2.1 times larger than Earth, orbits the star every 11.4 days and weighs around 5 times Earth's mass.
- TOI 270 c and TOI 270 d both may be similar to Neptune in our solar system, with compositions dominated by gases rather than rock.
  - They might best be described as mini-Neptunes, a type of planet not seen in our own solar system.
- All of the planets in the TOI 270 system are expected to be tidally locked to the star, which means the planet's period of rotation on its axis is the same as its period of revolution around the star and keep the same side facing the star at all times, just as the Moon does in its orbit around Earth.
- TOI 270 system will provide better understand the formation and evolution of planetary systems.
- The TOI 270 system is so compact that the **orbits of Jupiter and its moons** in our own solar system offer the closest reasonable comparison.



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# Environment and Ecology

## Highlights

- *Airplane Contrails and Global Warming*
- *Delhi Butterfly Corridors*
- *Hydrogen-Enriched Compressed Natural Gas*
- *Gangetic Dolphins Found in Mahananda River*
- *Immunocontraceptives for Wildlife Population Management*
- *Elephant Rehabilitation Centre*
- *Rhesus Macaque Declared 'Vermin'*
- *Declining Hangul Population*
- *Ratapani Wildlife Sanctuary*
- *Blood-oozing Tree*
- *Tiger Census Report*
- *Earth Overshoot Day*

## Airplane Contrails and Global Warming

According to a recent study, the **aeroplane contrails** contribute **more to global warming** than the CO<sub>2</sub> emitted by an aircraft.

- The contrail's impact on climate change will triple by 2050 than it was in 2006 because of the following reasons:
  - Modern planes flying slightly higher than their predecessors, which is likely to lead to more contrail cloud formation over the tropics.
  - Increase in air traffic.
  - Improvements in fuel efficiency.
- The study also suggested that the impact on the atmosphere due to contrail cirrus clouds will be stronger over **Northern America and Europe** which are the busiest air traffic areas on the globe.
  - However, the impact will also increase in Asia as air travel is also growing in the region.
- The warming effect of cirrus clouds is also short-lived, and because it occurs in the upper atmosphere, it's not clear how much of a difference it actually makes for temperatures at Earth's surface.

### Contrails

- The hot, humid exhaust from jet engines mixes with the atmosphere,

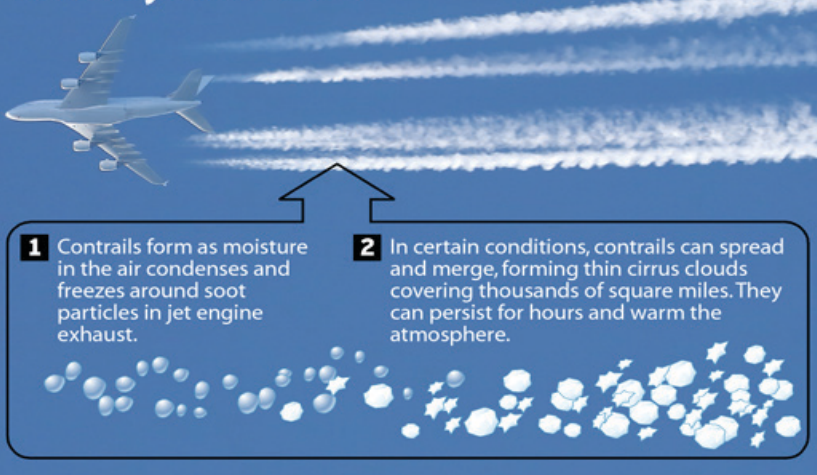
which at high altitude is of much lower vapour pressure and temperature than the exhaust gas.

- The water vapour contained in the jet exhaust condenses and may freeze, and this mixing process forms clouds.
- Most of these contrail cirrus clouds dissipate quickly, but under the right conditions they can remain for hours, and when that happens they warm the atmosphere by absorbing thermal radiation emitted by the Earth.

### Significance

- Aviation contributes to about 5 percent of humans' influence on climate change.
- Despite contrails being the aviation industry's biggest climate influencer, even more than CO<sub>2</sub> emissions from planes, the policies focus on CO<sub>2</sub> emissions only.

### Anatomy of a Contrail



Note:

- It is important to recognise the significant impact of non-CO<sub>2</sub> emissions, such as contrail cirrus, on climate and to take those effects into consideration when setting up emission trading systems or schemes like the [CORSIA Agreement](#).

## Delhi Butterfly Corridors

As per **Bombay Natural History Society (BNHS)** report, the creation of butterfly corridors in Delhi with close to 100 hotspots is underway.

- At present, there are 17 hotspots where butterfly parks or gardens have been created in the last few years.
- In September 2017, the **first butterfly month** was observed in Delhi by BNHS and Delhi forest department, culminating in a record species count.
- In 2018, 75 species were recorded in urban and forested locations.
- The survey over the past two years has shown that the diversity of butterfly species was very low at new parks that have ornamental and exotic plants.
- The diversity is higher at places like the Ridge, which has native species of plants and trees.

### The Bombay Natural History Society (BNHS)

- The BNHS, a **pan-India wildlife research organization**, has been promoting the cause of nature conservation since 1883.
- **BNHS Mission:** Conservation of nature, primarily biological diversity through action based on research, education and public awareness
- **BNHS Vision:** Premier independent scientific organization with a broad-based constituency, excelling in the conservation of threatened species and habitats.

### Tamil Yeoman

Tamil Nadu has declared the **Tamil Yeoman butterfly species** (endemic to western ghats) as the state butterfly.

- **Tamil Yeoman (*Cirrochroa thais*)** is uniformly orange in colour with a dark brown outer ring. It is also known as **Tamil maravan** which means warrior.
- Butterflies are significant for the environment as they play the main role in pollination and food chain.

- Tamil Nadu is the **fifth state** in the country to announce its **state butterfly** and **Maharashtra** was the first in the country to announce its state butterfly (Blue Mormon) followed by **Uttarakhand** (Common Peacock), **Karnataka** (the Southern Birdwing) and **Kerala** (Malabar banded peacock or [buddha butterfly](#)).

## Hydrogen-Enriched Compressed Natural Gas

Delhi will be the **first city** in the country to roll out hydrogen-enriched compressed natural gas (HCNG) buses for public transport from November 2020. This is a step towards combating air pollution.

- It will start as a pilot project with 50 CNG buses retrofitted with HCNG.
- Also, the Delhi government along with **Indian Oil Corporation Limited (IOCL)** and **Indraprastha Gas Limited (IGL)** began work to set up India's first semi-commercial HCNG station.
- Since hydrogen infrastructure and refuelling stations are not meeting the demand, the widespread introduction of hydrogen vehicles is not possible in the near future. One of the solutions for this hurdle is to blend hydrogen with methane
- However, **Hydrogen-Enriched Compressed Natural Gas (HCNG)** is still under research because even if it increases fuel efficiency and reduces carbon emission, it also leads to increased NOx emissions.

### What is HCNG

- The **blending of hydrogen with CNG** provides a blended gas termed as **HCNG**.
- HCNG stands for hydrogen-enriched compressed natural gas and it combines the advantages of both hydrogen and methane.
- Hydrogen has been regarded as a **future secondary fuel** for power system due to carbon-free operation.
- The rapid increase in the emission of **greenhouse gases** and very strict environmental legislation are major motivating factors for the usage of hydrogen in fuel cells and internal combustion engines.
- Hydrogen is an excellent additive to improve the combustion of hydrocarbon fuel due to its **low ignition energy, high reactivity, diffusivity and burning velocity**.

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## Gangetic Dolphins Found in Mahananda River

For the first time, a population of Gangetic River Dolphins has been found in the Mahananda river, in Bihar's Kishanganj district.

- The presence of dolphins is the sign of a healthy river ecosystem.

### Mahananda River

- Mahananda river is a tributary of the Ganga.
- It originates from the Himalayas in Darjeeling, West Bengal.
- The river flows through Bihar, West Bengal, and then continues south-eastward to join the Ganga at Godagari in Bangladesh.

### Gangetic Dolphins

- The Ganges river dolphin is found in parts of the Ganges, Meghna, and Brahmaputra river systems in India, Nepal and Bangladesh.
  - They are locally known as **Susu**, which refers to the noise the dolphin is said to make when it breathes.
- The Gangetic river dolphin is **India's national aquatic animal**.
- **Behaviour and Habitat:**
  - They are generally blind and can detect only the direction of light.
  - They emit an ultrasonic sound which reaches the prey. The dolphin then registers this image in its mind and subsequently catches hold of its prey.
  - In fact, these dolphins live by **echolocation**. They navigate, feed, escape danger, find mates, breed, and nurse babies by echolocation.
  - Dolphins prefer water that is at least five to eight feet deep.
  - Gangetic dolphins live in a zone where there is little or no current, helping them save energy. If they sense danger, they can dive into deep waters.
- **Threats to dolphins:**
  - **Water Level:** Declining water in the river, putting more pressure on the dolphins to manage their life cycle.
  - **Climate change**
  - The increasing pollution due to large scale discharge of industrial and municipal waste, siltation, and

mechanised boats pose one of the biggest threats to these freshwater dolphins.

- **Poaching:** They frequently fall prey to poachers. Their carcasses are found frequently on river banks.
- **Protection Status:**
  - IUCN Status: **Endangered**
  - It is listed on **CITES Appendix I**
  - It is classified under **Schedule 1, Wildlife (Protection) Act, 1972** providing absolute protection as offences under these are prescribed the highest penalties.

### Note:

**CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora)** is an international agreement which aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival.

- The **Gangetic river dolphin** is one of the four **freshwater dolphin species** in the world. The other three are found in the Yangtze River in China, the Indus river in Pakistan and the Amazon river in South America.

### Vikramshila Gangetic Dolphin Sanctuary

- It is located in Bhagalpur district of **Bihar**, India.
- The sanctuary is a 50 km stretch of the Ganges River from **Sultanganj to Kahalgaon**.
- It was designated as a protected area for the endangered Gangetic dolphins in 1991.

## Immunocontraceptives for Wildlife Population Management

The **Ministry of Environment, Forest and Climate Change (MoEFCC)** has launched a project for undertaking '**immunocontraceptive measures**' for population management of wild animals.

- The project includes four species of wild animals, viz. **Elephant, Wild boar, Monkeys and Blue Bull (Nilgai)**.
  - The pilot project will begin in Uttarakhand and then implemented in the remaining states.
- The **Wildlife Institute of India (WII)** and the **National Institute of Immunology (NII)** will develop a protocol of immunocontraception.

Note:



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### Immunocontraception

- Immunocontraception is a birth control method that uses the body's immune response to **prevent pregnancy**. It is a technology that uses a female animal's immune system to build a protein around the egg that prevents it from fertilising.
- It is a humane, **non-lethal solution** to conflicts between people and wildlife as well as a solution to local problems of animal overabundance.
- Immunocontraception can also help reduce the **overproduction of captive animals** in zoos and other facilities.

### Need

- The **human-animal conflict** has emerged as a major challenge in managing wildlife in the country.
  - Human-elephant conflict causes the maximum number of casualties every year. According to reply tabled in Parliament on June 28, 2019, nearly 494 persons were killed by elephants in 2018.
  - Between 2014 and March 2019, 2,398 people died in elephant attack in the country, with West Bengal accounting for a maximum number of such deaths.

### Challenges

- It requires mathematical modelling and knowing the adult female population in the group that has to be delivered the vaccine.
- The implementation of such a project in India will not be a simple task. It will involve multidisciplinary effort over a long period of time to deliver the contraceptive and manage the logistics around it
- Use of hormonal contraceptives in wildlife is easily passed from animal to animal. This can lead to unintended ecological consequences.

## Elephant Rehabilitation Centre

India's first elephant rehabilitation centre is to be set up in **Kottoor, Kerala**.

- It is being planned on the lines of the **Pinnawala Elephant Orphanage in Sri Lanka**.
- The rehabilitation centre is aimed at providing protection to abandoned, orphaned, injured and older elephants.

- It is planning to give an opportunity for people to know more about elephants and will be a boon for wildlife researchers and veterinary students.
- The rehabilitation centre is expected to have an elephant museum, mahout training centre, super-speciality hospital, a retirement home and crematorium for the animals.
- Recently India has also opened its first **water clinic** for elephants suffering from arthritis, joint pain and foot ailments at a **wildlife SOS Elephant Hospital, Mathura, UP**.

## Rhesus Macaque Declared 'Vermin'

The Union Environment Ministry has declared **Monkeys (Rhesus Macaque)** as '**vermin**' in **Himachal Pradesh**.

- It will allow local authorities to cull this animal in certain identified non-forest areas in Shimla for one year.
- The state government reported harm to life and property including large-scale destruction of agriculture due to the overpopulation of this species outside forests.
- Rhesus Macaque monkeys are protected species under **Schedule II of the Wildlife (Protection) Act, 1972**. The law allows for it to be hunted by declaring it 'vermin' for a specific period if it poses a danger to human life or property.

### Rhesus Macaques

- These are familiar brown primates with **red faces and rears**. They have close-cropped hair on their heads, which accentuates their very expressive faces.
- Their natural range includes **Afghanistan, Pakistan, India, Southeast Asia, and China**. A few troops of introduced rhesus macaques now live wild in Florida.
- It has a least concerned status in the **IUCN** red list.
- These **intelligent animals** can adapt to many habitats, and some can even become accustomed to living in human communities. This is most common in India, where Hindus regard the animals as sacred and usually leave them undisturbed.

### Vermin Animal

- As per **Section 62** of the **Wildlife Protection Act, 1972**, States can send a list of wild animals to the Centre

Note:

requesting it to declare them vermin for selective slaughter.

- Wildlife laws divide species into 'Schedules' ranked from I to V. Schedule I members are the best protected, in theory, with severe punishments meted out to those who hunt them.
- Wild boars, nilgai and rhesus monkeys are Schedule II and III members. These are also protected but can be hunted under specific conditions.

## Declining Hangul Population

The **Hangul** (or **Kashmiri Stag**) population monitoring exercise has revealed an alarming decline in the fawn-hind and stag-hind ratio of the hangul population in Kashmir.



- The exercise was conducted by the **Department of Wildlife Protection, Jammu & Kashmir (DWLP)** in collaboration with the **Wildlife Institute of India (WII)**.
- Fawn is a young deer in its first year and Hind is a female deer, over three years old and her counterpart, the mature male, is called a **stag**.
- The male-female and fawn-female ratios is crucial for the management and conservation of the deer population.
- Although hangul is limited to the **Dachigam Wildlife Sanctuary near Srinagar**, but a small population has also been witnessed in **Overa-Aru Wildlife Sanctuary in south Kashmir**.
- The Kashmir stag is the state animal of Jammu and Kashmir and is the only surviving species of red deer in India.

### Dachigam Wildlife Sanctuary

- Dachigam (stands for 'ten villages') National Park is located about 22 km from Srinagar, Jammu and Kashmir.

- **Fauna:** The main animal species that Dachigam is most famous for is the hangul or the Kashmir stag.
- **Flora:** The floral wealth of the park is extremely diverse and a significant part of its ecosystem and includes walnut, apricot, apple, pear, and wild cherry, plum, chestnut, willow, oak and birch trees.

## Ratapani Wildlife Sanctuary

The Madhya Pradesh government has decided to declare the **Ratapani Wildlife Sanctuary** a **tiger reserve**. The state received approval for the same from the **National Tiger Conservation Authority (NTCA)** 11 years ago.

- The sanctuary is spread over 890 sq.km. in Bhopal-Raisen forest division of **Madhya Pradesh**.
- The sanctuary has a population of about 40 tigers and the movement of 12 tigers has been reported in the forest area of Bhopal. The whole area will be combined as one to declare it as a tiger reserve.
- The area of about 3,500 sq.km. of **Raisen, Sehore and Bhopal districts** has been reserved for the same. The 1,500 sq km will be designated as a core area while 2,000 sq km as a buffer zone.
- The declaration of the sanctuary as a tiger reserve will help in better conservation of tigers in the area which is facing the problem of illegal mining and poaching.

## Blood-oozing Tree

A trio of researchers from **Assam** has discovered **Dracaena cambodiana**, a dragon tree species in the **Dongka Sarpo area of West Karbi Anglong**. This is the first time that a dragon tree species has been reported from India.



### Properties

- It is a tree that yields dragon's blood — a bright red resin (a precious traditional medicine in China) used since ancient times as medicine, body oil, varnish, incense and dye.
- Several antifungal and antibacterial compounds, antioxidants, flavonoids, etc. have been extracted from various parts of the plant.

Note:

### Location

- In India, the *Dracaena* genus belonging to the family **Asparagaceae** is represented by nine species and two varieties in the Himalayan region, the northeast and Andaman and the Nicobar Islands. But according to a study, *Dracaena cambodiana* is the only true dragon tree species, the study said.

### Threat

- Recent over-exploitation to meet the increasing demand for dragon's blood has resulted in rapid depletion of the plant. For this reason, the species is already listed in the inventory of Rare and Endangered Plants of China.
- The population size of the **dragon tree species in Assam** was estimated to be fewer than 50 mature plants. The habitat of the plant is severely fragmented due to open excavation of a stone quarry and there is continuing decline in its area of occupancy and number of mature plants.
- The *Dracaena* seeds are usually dispersed by birds. But due to the large fruit size, only a few species of birds are able to swallow the fruits, thus limiting the scope of its natural conservation.

## Tiger Census Report

The results of the fourth cycle of **All India Tiger Estimation - 2018** have been released on the occasion of **Global Tiger Day - 2019**.

- According to results of the **Tiger census**, the total count of tigers has risen to 2,967 from 2,226 in 2014 — an increase of 741 individuals (aged more than one year), or 33%, in four years.
- India has achieved the target of doubling the tiger count four years ahead of the deadline of 2022.
- This is by far the biggest increase in tiger count in terms of both numbers and percentage (since the four-yearly census using camera traps and the capture-mark-recapture method began in 2006).

### Need for Tiger Conservation

- Tigers are at the top of the food chain and are sometimes referred to as "**umbrella species**" resulting in the fact that their conservation also conserves many other species in the same area.

- More than 80% of the world's wild tigers are in India, and it's crucial to keep track of their numbers.

### Tigers in India

- India accounts for the majority of the 3,500-odd tigers that are scattered among Bangladesh, Bhutan, Cambodia, China, Indonesia, Laos PDR, Malaysia, Myanmar, Nepal, Russian Federation, Thailand and Vietnam.
- India's five tiger landscapes are Shivalik Hills and Gangetic Plains, Central Indian Landscape and Eastern Ghats, the Western Ghats, North-East Hills and Brahmaputra Plains, and the Sundarbans.

### Key Findings

- **Top Performers:** Madhya Pradesh saw the highest number of tigers (526) followed by Karnataka (524) and Uttarakhand (442).
  - Increase in tiger population: Madhya Pradesh (71%) > Maharashtra (64%) > Karnataka (29%).
- **Worst Performers:** Chhattisgarh and Mizoram saw a decline in tiger population.
  - Chhattisgarh is the only state out of the 20 tiger-bearing states where the 2018- census counted 19 tigers, significantly fewer than the 46 of 2014.
  - The decline in tiger numbers in Chhattisgarh can be attributed to the law and order problem as large parts of the state are hit by the Maoist insurgency.
  - Greater conservation efforts are needed in the "**critically vulnerable**" Northeast hills and Odisha.
- **Tiger Sanctuaries:** An evaluation of India's 50 tiger sanctuaries was also released along with the **4<sup>th</sup> National Tiger Estimation (Tiger census)**.
  - The Dampa and Rajaji reserves, in Mizoram and Uttarakhand respectively are at the bottom of the list in terms of Tiger count.

### Global Tiger Day

- Global Tiger Day was observed for the first time in 2010 at the **St. Petersburg Tiger Summit in Russia** when all 13 tiger range countries came together for the first time with the commitment of doubling the number of wild tigers by 2022.
- It is celebrated annually on July 29th.
- **Global Tiger Recovery Plan** which outlines how each country can contribute to the ambitious goal is known as TX2.

Note:



- No tiger has been found in the Buxa (West Bengal), Palamau (Jharkhand) and Dampa (Mizoram) reserves.

## Earth Overshoot Day

The **Earth Overshoot Day** fell on 29th July 2019. The day marks the date when humanity's demand for ecological resources (fish and forests, for instance) and services in a given year exceeds what the Earth can regenerate in that year.

- The concept of Earth Overshoot Day was first conceived by **Andrew Simms of the UK think tank New Economics Foundation**, which partnered with Global Footprint Network in 2006 to launch the first global Earth Overshoot Day campaign. At that time, Earth Overshoot Day fell in October.

- **World-Wide Fund for Nature (WWF)**, the world's largest conservation organization, has participated in Earth Overshoot Day since 2007.
- It is computed by **Global Footprint Network** by dividing the **planet's biocapacity** (the amount of ecological resources Earth is able to generate that year), by humanity's Ecological Footprint (humanity's demand for that year), and multiplying by 365, the number of days in a year:

**Earth Overshoot Day = (Planet's Biocapacity / Humanity's Ecological Footprint) × 365 Global Footprint Network**

- Global Footprint Network is an international non-profit organization founded in the year 2003. Its key strategy has been to make available robust Ecological Footprint data.
- The Ecological Footprint is a metric that comprehensively compares human demand on nature against nature's capacity to regenerate.



Note:

# Art & Culture

## Highlights

- Jaipur: A World Heritage Site
- International Indigenous Film Festival
- Jagannath Rath Yatra
- Kangra Painting
- Evidence of Ancient Human Cognition
- World Heritage Committee's Concerns
- Sangeet Natak Akademi Awards – 2018
- Markandeshwar Temple
- Seva Bhoj Yojna
- Kakinada Hope Island
- PATA Gold Award 2019
- Protection and Preservation of Endangered Language
- Iconic Tourist Sites
- GI Tag for Odisha Rasagola

## Jaipur: A World Heritage Site

The Pink City, Jaipur (Rajasthan), has been declared a **UNESCO World Heritage Site**.

- The decision was taken at the 43<sup>rd</sup> session of the **UNESCO World Heritage Committee (WHC)** taken place in the city of **Baku, Azerbaijan**, from 30<sup>th</sup> June - 10<sup>th</sup> July, 2019.
- The city was nominated for its value of being an exemplary development in town planning and architecture that demonstrates an amalgamation and important exchange of ideas in the late medieval period.

### Important Points

- Jaipur has become the **second city** of the country **after Ahmedabad** to get the recognition.
- With Jaipur's inclusion as a cultural site, the number of **heritage sites across India** that are on the **UNESCO World Heritage list**, has grown to 38, including 30 cultural properties, 7 natural properties and 1 mixed site.
- The walled city of Jaipur in Rajasthan was founded in 1727 AD under the **patronage of Sawai Jai Singh II**. It also serves as the capital city of the state of Rajasthan.
- Unlike other cities in the region located in hilly terrain, Jaipur was established on the plain and built according to a grid plan interpreted in the light of Vedic architecture.

- Its streets feature rows that intersect in the centre and create large public squares called **chaupars**.
- The city's urban planning shows an exchange of ideas from ancient Hindu and modern Mughal as well as Western cultures.
- Designed to be a commercial capital, the city has maintained its local commercial, artisanal and cooperative traditions to this day.
- The iconic monuments in the city include the Govind Dev temple, City Palace, Jantar Mantar, Hawa Mahal etc.

### UNESCO World Heritage Committee (WHC)

- The **World Heritage Committee** is composed of representatives of 21 States Parties to the **World Heritage Convention** who meet annually.
  - The Convention Concerning the Protection of the World Cultural and Natural Heritage is an international agreement that was adopted by the **General Conference of UNESCO in 1972**.
  - It is based on the premise that certain places on Earth are of outstanding universal value and should, therefore, form part of the common heritage of humankind.
  - It basically defines the kind of natural or cultural sites which can be considered for inscription on the **World Heritage List**.
- The Committee is in charge of implementing the Convention.
- To date, 1,092 sites in 167 countries have been inscribed on the **World Heritage List**.

Note:

## International Indigenous Film Festival

**International Indigenous Film Festival** of Kuching, **Malaysia** is showcasing films on **indigenous Indian communities**.

- Four Indian films showcased at International Indigenous film festival (held in Kuching, Malaysia) are:
  - Dibi Durga by Niranjan Kujur.
  - Niyamgiri-The Mountain of Law by Surya Shankar Dash (Odisha).
  - Shot Awake by Anungla Zoe (Nagaland).
  - Strength in Diversity by Chentei (Nagaland).
- Festival showcases films made by indigenous filmmakers in collaboration with the indigenous communities with the intent to shed a light on and celebrate the huge and diverse native tribes and indigenous cultures, their issues and concerns and the problems afflicting them.
- The festival aims to be a platform for indigenous communities from the world over to share, have a dialogue, collaborate and to use cinema as a mode of **united assertion, resistance, and activism against exploitative forces**.
- **India's first international indigenous film festival** was held in Bhubneswar, **Odisha in February 2019**.

## Jagannath Rath Yatra

- The festival is celebrated on the second day of **Shukla Paksha of Ashadh**, the third month, according to the traditional Oriya calendar.
- The **Rath Yatra (Chariot Festival)** is 9 day-long event during which the three holy chariots carrying idols of **Lord Jagannath**, his brother **Balaram (Balabhadra)** and **sister Subhadra** are pulled by thousands of devotees from India and abroad.
- The festival honours the Lord Jagannath's visit along with his siblings to the temple of **Gundicha Devi**, the place of their aunt's house where they revel in a nine-day stay.
- Jagannath Puri temple is called '**Yamanika Tirtha**' where, according to the Hindu beliefs, the power of 'Yama', the god of death has been nullified in Puri due to the presence of Lord Jagannath.

- There are four gates to the temple- Eastern '**Singhdwara**' which is the main gate with two crouching lions, Southern '**Ashwadwara**', Western '**Vyaghra Dwara**' and Northern '**Hastidwara**'. There is a carving of each form at each gate.
- In front of the entrance stands the Aruna stambha or sun pillar, which was originally at the **Sun Temple in Konark**.

## Kangra Painting

**Kangra Miniature painting** is one of the schools of Pahari paintings along with **Guler, Basholi, Mandi, Chamba and Bilaspur**.

- Miniatures are small-sized paintings, generally done with watercolour on cloth or paper.
- **Nadir Shah's invasion** and conquest of Delhi in 1739 resulted in the migration of Mughal artists to the hills to escape the uncertainties in the plains.
  - These artists found patrons in the hills which led to the founding of the Kangra school of painting.
  - By the mid-eighteenth century the Kangra artists developed a new style wherein the source of inspiration was the Vaishnavite traditions. Soft colours including cool blues and greens and lyrical treatment of themes distinguished Kangra painting.
- The name Kangra style is given to this group of painting for the reason that they are identical in style to the portraits of **Raja Sansar Chand** of Kangra.

## Evidence of Ancient Human Cognition

Recently, In **China**, archaeologists have found the earliest evidence of **Ochre on bone engravings**.

- The discovery of abstract engravings is considered an indicator of modern human cognition which researchers say led to the development of symbols, drawings, art and language.
- The bones discovered there had seven engraved lines with the presence of a red residue.
- Population which inhabited the region might have used the bone as a medium on which they could permanently record sequential markings and used ochre as a way of highlighting them.

Note:



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- **Human cognition** refers to the capacity of making **complex tools and producing different art forms** such as painting, engraving and music.
- Ochre is a natural clay earth pigment which is a mixture of ferric oxide and varying amounts of clay and sand. It ranges in colour from yellow to deep orange or brown.

## World Heritage Committee's Concerns

The **World Heritage Committee (WHC)** has flagged some concerns related to the conservation of the **heritage site** of Hampi and the **Darjeeling Himalayan Railway (DHR)**.

- The WHC has regretted the lack of response from local authorities on concerns raised about developmental projects in the world heritage site of **Hampi**.
- The Indian Railways, despite requests, have not furnished information between the years 2017 and 2019 regarding the lack of monitoring and general maintenance, and encroachment and waste dumping along the tracks – all considered violation of global heritage conservation norms.

### Hampi

- The site of Hampi comprises mainly the remnants of the **capital city of the Vijayanagara Empire (14<sup>th</sup>-16<sup>th</sup> Cent CE)**, the last great **Hindu Kingdom**.
- It encompasses an area of 4187, 24 hectares, located in the **Tungabhadra** in **Central Karnataka, Bellary District**.
- Hampi's spectacular setting is dominated by river Tungabhadra, craggy hill ranges and open plains, with widespread physical remains.
- The sophistication of the varied urban, royal and sacred systems is evident from the more than 1600 surviving remains that include forts, riverside features, royal and sacred complexes, temples, shrines, pillared halls, Mandapas etc.

### The Darjeeling Himalayan Railway

- The Mountain Railways of India, the world heritage site, includes three railways:
  - Darjeeling Himalayan Railway located in the foothills of the Himalayas in West Bengal (Northeast India),

- Nilgiri Mountain Railways located in the Nilgiri Hills of Tamil Nadu (South India).
- Kalka Shimla Railway located in the Himalayan foothills of Himachal Pradesh (Northwest India).
- The Darjeeling Himalayan Railway is the most outstanding example of a hill passenger railway. Opened in 1881, its design applies bold and ingenious engineering solutions to the problem of establishing an effective rail link across a mountainous terrain of great beauty.

### UNESCO World Heritage Committee (WHC)

- The World Heritage Committee is composed of representatives of 21 States Parties to the World Heritage Convention who meet annually.
  - The **Convention Concerning the Protection of the World Cultural and Natural Heritage** is an international agreement that was adopted by the General Conference of UNESCO in 1972.
  - It is based on the premise that certain places on Earth are of outstanding universal value and should, therefore, form part of the common heritage of humankind.
  - It basically defines the kind of natural or cultural sites which can be considered for inscription on the **World Heritage List**.
- The Committee is in charge of implementing the Convention.

## Sangeet Natak Akademi Awards – 2018

Recently, the General Council of the Sangeet Natak Akademi has announced its awards in the field of performing arts for the year 2018.

- The awards are: **Sangeet Natak Akademi Fellowships** (Akademi Ratna), **Sangeet Natak Akademi Awards** (Akademi Puraskar), and **Ustad Bismillah Khan Yuva Puraskar 2018**.

### Sangeet Natak Akademi Fellowships (Akademi Ratna)

- The Akademi conferred this award on four eminent personalities:
  - **Zakir Hussain**: Tabla
  - **Sonal Mansingh**: Indian **classical dancer** (Bharatanatyam, Odissi, Manipuri, Kuchipudi)

Note:



- **Jatin Goswami:** Sattriya dance and music
- **K. Kalyanasundaram Pillai:** Bharatanatyam

### **Sangeet Natak Akademi**

#### **Awards (Akademi Puraskar)**

- These awards have been given to forty-four artists from the field of Music, Dance, Theatre, Traditional/Folk/Tribal Music/Dance/Theatre, Puppetry and Overall contribution/scholarship in the Performing Arts.

#### **Sangeet Natak Akademi**

- The Sangeet Natak Akademi is India's national academy for music, dance and drama.
  - It was created by a resolution of the (then) **Ministry of Education**, Government of India, in 1952 with **Dr. P.V. Rajamannar as its first Chairman**.
  - It is presently an **Autonomous Body** of the **Ministry of Culture**, Government of India and is fully funded by the Government for implementation of its schemes and programmes.
  - The Akademi establishes and looks after institutions and projects of national importance in the field of the performing arts. Few important ones are:
    - **National School of Drama, New Delhi** was set up in 1959.
    - **Jawaharlal Nehru Manipur Dance Academy** in Imphal - 1954.
    - **Kathak Kendra (National Institute of Kathak Dance)** in New Delhi - 1964.
    - National Projects of Support to **Kutiyattam (Sanskrit theatre of Kerala)**, Chhau dances of eastern India, Sattriya traditions of Assam, etc.
  - These forty-four artists include three joint awards as well.
  - **Diwan Singh Bajeli (Theatre)** and **Puru Dadhich (Author/ Kathak)** have been selected for the Akademi Award 2018 in the field of Overall Contribution/Scholarship in the Performing Arts.
- #### **Ustad Bismillah Khan Yuva Puraskar**
- The academy has selected 32 (Including one joint Award) artists of India who have made a mark as young talents in their respective fields of the performing arts for Ustad Bismillah Khan Yuva Puraskar 2018.
  - It is conferred upon artists below the age of 40 years with the objective of identifying and encouraging outstanding young talents in diverse fields of performing

arts and giving them national recognition early in their lives, so that they may work with greater commitment and dedication in their chosen fields.

## **Markandeshwar Temple**

The [Archaeological Survey of India](#) is taking up the restoration work of **Markandeshwar temple in Maharashtra**.



- Markandeshwar Temple is situated on the bank of River Wainganga in district Gadchiroli of Maharashtra.
- It is also known as the "**Khajuraho of Vidarbha**".
- Markandeshwar temple belongs to the [Nagara group of temples](#) of North India.
- The temples belong to **Saiva, Vaishnava and Sakti faith**.
- Most of the temples have a simple plan, with **ardha mandapa, mandapa, antarala** and **garbhagriha** forming the component of the entire set up.

#### **Key Terms**

- **Ardha mandapa:** In Hindu temple architecture, Ardha mandapa is an entrance porch that forms a transitional area between the outside world and the mandapa or hall of the temple.
- **Mandapa:** It is a porch-like structure through the gopuram leading to the temple. It is used for religious dancing and music and is part of the basic temple compound.
  - **Gopuram** is a monumental entrance tower, usually ornate, at the entrance of a Hindu temple, in the Dravidian architecture.
- **Garbhagriha:** It is the sanctum sanctorum, the innermost sanctum of a Hindu temple where resides the murti (idol or icon) of the primary deity of the temple.

Note:



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## Seva Bhoj Yojna

The **Union Ministry of Culture**, Government of India has introduced '**Seva Bhoj Yojna**' that seeks to reimburse **Central share of Central Goods and Services Tax (CGST)** and **Integrated Goods and Service Tax (IGST)** on food/prasad/langar/Bhandara offered by charitable religious institutions.

- **Seva Bhoj Yojna** aims to lessen the financial burden of such charitable religious institutions (such as Temples, Gurudwara, Mosque, Church, Dharmik Ashram, Dargah, Matth, Monasteries etc) that provide food/prasad/langar (community kitchen)/bhandara free of cost without any discrimination to public/devotees.

### Eligibility

- The **Charitable religious institutions** which have been in existence for at least three years before applying for financial assistance/grant.
- The charitable religious institution who serve free food to at least 5000 people in a month.
- Institutions need to be covered under Section 10 of the Income Tax Act or are registered as a society under the **Societies Registration Act** or as a **Public Trust** under any law for the time being in force of statutory religious bodies constituted under any Act or institutions registered under **Section 12AA of Income Tax Act**.

## Kakinada Hope Island

The project named "**Development of Kakinada Hope Island, Konaseema (Andhra Pradesh) as World Class Coastal & Eco-Tourism Circuit**" which was sanctioned under the **Swadesh Darshan Scheme** has been completed.

### About Hope Island

- It is tadpole-shaped island formed 200 years ago by the sand formation in the **East Godavari district**.
- It is situated 10 km from **Coringa Wildlife Sanctuary** and **Sri Kukkuteswara Swamy Temple**.

### Swadesh Darshan Scheme

- The **Ministry of Tourism (MoT)** launched the **Swadesh Darshan Scheme** as a **Central Sector Scheme** in 2014-15 with the objective of improving connectivity and infrastructure of tourism destinations to enrich

overall tourist experience, enhance livelihood and employment opportunities and to attract domestic as well as foreign tourists to the destinations.

- The projects for development are identified in consultation with the State Governments/UT Administrations.
- **Theme based circuits** include Buddhist, Coastal, Desert, Eco, Heritage, Himalayan, Krishna, North-eastern, Ramayan, Rural, Spiritual, Sufi. Tirthankar, Tribal and Wildlife circuits

## PATA Gold Award 2019

The **Ministry of Tourism's** campaign, "**Find the Incredible you**" has been declared the winner of **PATA (Pacific Asia Travel Association) Gold Award 2019**.

- It received an award in the "**Marketing - Primary Government Destination**" category.
- The campaign is a part of its promotional initiatives that are released under the 'Incredible India' brand-line in the Television, Print, Digital and Social Media, in key and potential source markets overseas.
- The campaign focuses on digital and social media and the promotion of **Niche Tourism** products of the country.

### Niche Tourism

- A 'niche' tourism strategy is one that appeals to a small number of people who are especially interested in something. Another way to describe 'niche' tourism is 'specialised' tourism.
- Examples of niche tourism: Eco & Wildlife Tourism, MICE Tourism, Sustainable Tourism, Cruise Tourism, Golf Tourism, Polo Tourism, Medical Tourism, Wellness Tourism etc.
- The term "MICE" in the context of travel is an acronym for meetings, incentives, conferences, and exhibitions. The MICE market refers to a specialized niche of group tourism dedicated to planning, booking, and facilitating conferences, seminars, and other events, which is a big moneymaker in the travel industry.

### About PATA

- It was founded in 1951, its **headquarters is in Bangkok, Thailand**.
- PATA is a **not-for-profit membership association** that acts as a catalyst for the responsible development of travel and tourism to, from and within the Asia Pacific region

Note:

- The Association provides aligned advocacy, insightful research and innovative events to its more than 800 member organisations, including 95 government, state and city tourism bodies, 20 international airlines and airports, 102 hospitality organisations and 70 educational institutions, as well as over a hundred **Young Tourism Professional (YTP)** members across the world.

## Protection and Preservation of Endangered Language

The Government of India is running a scheme known as “**Protection and Preservation of Endangered Languages**” for the conservation of threatened languages.

### Background

- According to the census 1961, India has around 1652 languages. But by 1971, only 808 languages were left.
- According to the **People's Linguistic Survey of India 2013**, around 220 languages have been lost in the last 50 years and 197 has been categorised as Endangered.
- **Government of India** currently defines a language as one that is marked by a **script and effectively neutering oral languages**. Therefore, the **government recognizes 122 languages** which is far lower than the 780 counted by the **People's Linguistic Survey of India** (along with a further 100 suspected to exist).
  - This discrepancy is caused primarily because the Government of India doesn't recognise any language with less than 10,000 speakers.
- According to the criteria adopted by the **UNESCO**, a language becomes extinct when nobody speaks or remembers the language. The UNESCO has categorized languages on the basis of endangerment as follows:-
  - **Vulnerable**
  - **Definitely Endangered**
  - **Severely Endangered**
  - **Critically Endangered**
- UNESCO has recognised 42 Indian languages as **Critically Endangered**.

### Causes For Decline

- GOI does not recognize languages with less than 10,000 speakers.

- In and out migration of communities which leads to the dispersal of traditional settlement.
- **Changing employment pattern** which favours majority language.
- Changes in **social and cultural values**.
- Growth of “**individualism**”, which puts self-interest over that of community.
- **Encroachment of materialism** in traditional communities allowing spiritual, moral and ethical values being overshadowed by consumerism.

### What needs to be done?

- The proven method to ensure the survival of the language is the development of schools that teach in languages of minority (tribal languages) which enables the speakers to preserve and enrich the language.
- A **vast digital project** - on the lines of Project Tiger - for preserving and growing India's endangered languages must be launched.
- **Audio-visual documentation** of the important aspects of such language - like storytelling, folk literature and history.
- Existing work from groundbreaking initiatives like **Global Language Hotspots** can be used to enhance such documentation efforts.

### Scheme for Protection and Preservation of Endangered Languages (SPPEL)

- It was instituted by the **Ministry of Human Resource Development (Government of India)** in 2013.
- The sole objective of the Scheme is to document and archive the country's languages that have become endangered or likely to be endangered in the near future.
- The scheme is monitored by **Central Institute of Indian Languages (CIIL)** located in **Mysuru, Karnataka**.
- **University Grants Commission (UGC)** provides financial assistance for creation of centres for endangered languages at Central and State Universities to undertake research projects.

### Central Institute of Indian Languages (CIIL)

- Central Institute of Indian Languages (CIIL) was established in 1969.
- It is under the administrative control of **Ministry of Human Resource Development**.

Note:

**Purpose**

- To coordinate the development of the **Indian Language**.
- To bring about the essential unity of Indian languages through scientific studies.
- Promote interdisciplinary research.
- Contribute to the mutual enrichment of languages and contribute towards the emotional integration of the people of India.
- Protects and documents minor, minority and tribal languages.

## Iconic Tourist Sites

The government will develop 17 “**Iconic Tourist Sites**” in the country as a world-class tourist destination which in turn would serve as a model for other tourism sites.

### Iconic Tourist Sites Initiative

- The Tourism Ministry is the nodal ministry for the implementation of the initiative.
- The 17 sites identified by the Ministry are:
  - **Taj Mahal** and Fatehpur Sikri (Uttar Pradesh),
  - Ajanta & Ellora (Maharashtra),
  - Humayun’s Tomb, Red Fort and Qutub Minar (Delhi),
  - Colva (Goa),
  - Amer Fort (Rajasthan),
  - Somnath and **Dholavira** (Gujarat),
  - **Khajuraho** (Madhya Pradesh),
  - **Hampi** (Karnataka),
  - Mahabalipuram (Tamil Nadu),
  - **Kaziranga** (Assam),
  - Kumarakom (Kerala) and
  - The Mahabodhi Temple (Bihar)
- The initiative is aimed at enhancing **India’s soft power**.
- **Vision:** The Ministry shall be developing the sites in a holistic manner with a focus on issues concerning connectivity to the destination, better facilities/ experience for the tourists at the site, skill development, involvement of local community, promotion & branding and by bringing in private investment.
- **Execution:** The monuments taken up for development under the initiative fall under the jurisdiction of **Archaeological Survey of India (ASI)** and **State**

**Archaeology Departments.** The Ministry will carry out interventions at these monuments in collaboration with the ASI and State Government, and all development plans will have elements of universal accessibility, cleanliness at the monuments, use of Green Technology and enhanced security for the tourists.

### Need for the Initiative

- **Slowdown:** As per the **Economic Survey 2018-19**, the **tourism** sector witnessed a sharp slowdown in the year 2018.
  - The growth rate of **Foreign Tourist Arrival (FTA)** declined from 14.2% in 2017-18 to 2.1% in 2018-19, year on year basis.
- **Declining Investment:** The Survey also showed that the **Foreign Direct Investment (FDI)** in hotel and tourism declined from \$1,132 million in 2017-18 to \$1,076 million in 2018-19.
- **Lukewarm Response to Schemes:** Low momentum under ‘**Adopt a Heritage**’ scheme: Many of the identified monuments were opened up for adoption in late 2017 under the Ministry of Tourism’s **Adopt a Heritage Scheme**. It seems that the momentum of the scheme has slowed down as only 11 MoUs have been signed so far.
  - The **Red Fort** was adopted by the **Dalmia Group**, while the **Qutub Minar** and the **Ajanta Caves** were adopted by **YatraOnline**.
- **Less Allocation:** The Tourism Ministry has been allocated Rs. 1,378 crore for 2019-20 for the development of tourism infrastructure. This is only marginally more than the allocations in 2017-18 (Rs. 1,151 crore) and 2018-19 (Rs. 1,330 crore).

### Way Forward

- There is a need to strengthen the coordination mechanism of various Ministries and stakeholders to resolve issues in the promotion of tourism in the country.
- The State governments also need to be sensitized about tourism being a major driver of employment and poverty alleviation in the country.

## GI Tag for Odisha Rasagola

Odisha has received the **Geographical Indication tag (GI)** from the Registrar of Geographical Indication.

Note:



- **Odisha Rasagola** is a sweet made of chhena (cottage cheese) cooked in sugar syrup using the principle of **caramelisation of sugar** (caramelization is the browning of sugar which is used extensively in cooking for the resulting sweet nutty flavour and brown colour).
- Odisha Rasagola is associated with world-famous **Puri Jagannath Temple**.
- Both Odisha and West Bengal have been contesting the origin of the rasagola.
  - West Bengal received GI tag for its variety of Rasgulla in November 2017.
- The reference of Rasagola is found in the late **15<sup>th</sup>-century Odia Ramayana** written by **Balaram Das**.
  - Balaram Das's Ramayana is known as **Dandi Ramayana** or **Jagamohana Ramayana** as it was composed and sung at the Jagamohana (Assembly Hall) of the Puri Temple.
- A religious script named **"Ajodhya Kanda"** gives elaborate descriptions of chhena and chhena-based products including Rasagola.
- Famous Odia writer **Fakir Mohan Senapati**, in his writing **Utkal Bhramanam** (1892) also mentioned about the plentiful use of Rasagola in Odisha during those days.
- **'Bali Jatra'**, a poem written by **Damodar Pattanayak** on Cuttack's famous, historic fair, Bali Jatra (Journey to Bali Island of Indonesia) also mentions the presence of Rasagola and other sweets.
- The **first Odia product to receive a GI tag** was **Kandhamal Haldi**, a type of turmeric produced in the state's Kandhamal district.



Note:

# Social Issues

## Highlights

- WHO's Self Care Guidelines
- Scheme for Trans-Disciplinary Research for India's Developing Economy (STRIDE)
- Non-Communicable Diseases in India
- Disability and RTE: UNESCO Report
- NMEICT
- Feminization of Agriculture
- Manual Scavenging in India
- Measles
- Global Report on Income Inequality
- Global Multidimensional Poverty Index - 2019
- LaQshya: Labour Room Quality Improvement Initiative
- Midday Meal Scheme
- Rotavirus Vaccination Drive
- Controlling Chikungunya and Dengue through Bacteria
- Declining Sex Ratio and Fertility Rates
- Food Security and Nutrition
- Ebola: Global Health Emergency
- Tribal Education
- Child Labour in Film and Television Industry
- Special Courts for POCSO Cases
- New Tool to Reduce Maternal Mortality
- Kan Sikul, Kan Huan

## WHO's Self Care Guidelines

The **World Health Organisation (WHO)** has launched its first guidelines on **self-care interventions for health**.

- Self-care intervention guidelines are based on scientific evidence for the health benefits of certain interventions that can be done outside the conventional sector.
- Self-care intervention guidelines are not intended to replace high-quality health services nor are they a shortcut to achieving **universal health coverage**.

### Self-Care

- As per WHO "the ability of individuals, families, and communities to promote health, prevent disease, maintain health, and cope with illness and disability with or without the support of a health-care provider" is self-care.
- Self-care interventions have a unique potential in **reducing inefficiencies** in health expenditure, improving the quality of health coverage and increasing the agency and autonomy of even the **most vulnerable populations** to make informed decisions about their health.
- **Self Care Intervention Guidelines:** In its first volume, the guidelines focus on sexual and reproductive health and rights. Some of the interventions include:

- Self-sampling for **human papillomavirus (HPV)** and sexually transmitted infections.
- Self-injectable contraceptives.
- Home-based ovulation predictor kits.
- **Human immunodeficiency virus (HIV)** self-testing and self-management of medical abortion.

### Need for self-care

- Guidelines are a response to an estimate that by 2035 the world will face a shortage of nearly 13 million healthcare workers and presently at least 400 million people worldwide lack access to the most essential health services.
- According to WHO in the near future, 1 in 5 of the world's population will be living in settings that are experiencing humanitarian crises (series of events that are threatening in terms of health, safety or well being of a community or large group of people) hence self-care interventions guidelines will act as the first line of defence and will prevent health crisis.

### Significance of Self-Care

- **Autonomy and timely intervention:** Self-care interventions represent a significant push towards new and greater self-efficacy, autonomy and engagement in health for self-carers and caregivers.

Note:

- **Accessibility:** It could expand access to health services, including for vulnerable populations.
- **Right to health:** People will be able to access, control, and have affordable options to manage their health and well-being.
- **Equality:** Self-care is also a means for people who are negatively affected by **gender, political, cultural and power dynamics**, including those who are forcibly displaced, to have access to sexual and reproductive health services, as many people are unable to make decisions around sexuality and reproduction.

## Scheme for Trans-Disciplinary Research for India's Developing Economy

The **University Grants Commission (UGC)** has approved a new initiative, **Scheme for Trans-Disciplinary Research for India's Developing Economy (STRIDE)**, to support socially relevant, local need-based, nationally important and globally significant research projects.

- The UGC has set up an advisory committee under its Vice-Chairman **Bhushan Patwardhan**, to oversee the entire scheme.

### Components of the Scheme

- **Component 1:** The Scheme will provide for research capacity building in diverse disciplines by mentoring, nurturing and supporting young talents to innovate pragmatic solutions for local, regional, national and global problems. Grant available is up to Rs. 1 crore.
- **Component 2:** It will mainly focus on enhancing problem-solving skills with the help of social innovation and action research to improve the wellbeing of people and contribute to India's developing economy. Grant up to Rs. 50 lakh to 1 crore is available for projects under this component.
- **Component 3:** It will fund high impact research projects in the identified thrust areas in humanities and human sciences through a national network of eminent scientists from leading institutions. Grant available under this component is up to Rs. 1 crore for one Higher Educational Institution and up to Rs. 5 crores for a multi-institutional network.

### Expected Benefits from the Scheme

- It will help **strengthen transdisciplinary research culture** in colleges and universities.
- Transdisciplinary research is a team effort of investigators from different disciplines to create new **conceptual, theoretical, methodological innovations** that integrate and transcends beyond discipline-specific approaches to address a common problem.
- It goes beyond the mere production of knowledge and extends to the practical use of the knowledge outside academic endeavour.
- It will provide an opportunity to build **multi-sectoral linkages** between university-government-community-industry for national development and wellbeing of people.
- It will give a major impetus to high impact research in **Humanities and Human Sciences**.

### University Grants Commission (UGC)

The **University Grants Commission (UGC)** came into existence on 28<sup>th</sup> December 1953 and became a statutory organization of the Government of India by an **Act of Parliament in 1956**, for the coordination, determination and maintenance of standards of teaching, examination and research in university education.

- The head office of the UGC is located in **New Delhi**.

## Non-Communicable Diseases in India

According to **Indian Council of Medical Research (ICMR)** report titled "**India: Health of the Nation's States**" contribution of Non-Communicable Diseases (NCDs) to total death in the Country was 61.8% in 2016, as compared to 37.9% in 1990.

- Some examples of common NCDs, i.e. **diabetes, hypertension and cancers (Oral, Breast and Cervical)** are on the rise in India.
- Risk factors for NCDs include ageing, unhealthy diet, lack of physical activity, high blood pressure, high blood sugar, high cholesterol and obesity.
- Also In the States of Kerala, Goa and Tamil Nadu, due to epidemiological transition, fewer deaths are recorded for communicable, maternal, neonatal and nutritional diseases, thereby raising the share of NCDs in total deaths.

Note:

### Epidemiologic Transition

- The epidemiologic transition is that process by which the **pattern of mortality and disease is transformed** from one of high mortality among infants and children to one of the **degen-erative and man-made diseases** (such as those attributed to smoking) affecting principally the elderly.
- Though public health is a State subject, Central Government supplements the efforts of the State Governments. For example:
  - **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS)** is being implemented under the **National Health Mission (NHM)**.
    - The objectives of the programme include **health promotion activities** and **opportunistic screening** for common Non-Communicable Diseases (NCDs) including cancer.
  - Key components of population-based screening include **community-based risk assessment, screening, referral, and follow up** of all individuals of 30 years and above for common NCDs
  - The initiative will help in early diagnosis and will **generate awareness** on risk factors of NCDs.
- Citing the growing occurrence of cancer in India, the Union government sought to enhance the facilities for tertiary care of cancer.
  - The Central Government is strengthening of tertiary care cancer facilities scheme to support setting up of **State Cancer Institutes (SCI)** and **Tertiary Care Centres (TCC)** in different parts of the country.
  - Oncology is now being focussed in new AIIMS and many upgraded institutions under **Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)**.
  - **Affordable Medicines and Reliable Implants for Treatment (AMRIT)** Deendayal outlets have been opened at 159 Institutions/Hospitals with an objective to make available **Cancer and Cardiovascular Diseases drugs** and implants at discounted prices to the patients.
  - **Jan Aushadhi stores** are set up by the Department of Pharmaceuticals to provide generic medicines at affordable prices.

## Disability and RTE: UNESCO Report

The **United Nations Educational, Scientific and Cultural Organization (UNESCO)** and the **Tata Institute of Social Sciences** have released a report titled '**State of the Education Report for India 2019: Children with Disabilities**'.

- The report states that in India, 75% of five-year olds with disabilities and a quarter (more than one in four) of children with disabilities (in the age group of 5 to 19 years) do not attend any educational institution.
  - The report is in synchronization with the **Sustainable Development Goal-4** which aims to ensure "**inclusive and equitable quality education**" and promote lifelong learning opportunities for all.

### Key Findings

- There are more than 78 lakh children with disabilities in India between 5-19 years.
  - Only 61% of them were attending an educational institution.
  - About 12% had dropped out, while 27% had never been to school at all.
- There are fewer girls with disabilities in schools than boys but when it comes to school enrollment, more girls with disabilities get left behind than boys.
- According to UNESCO, India is home to 8 million children with disabilities, and 45% of them fail to attain literacy. Globally 15% of people are disabled.
- There are also differences among various types of disabilities like:
  - 20% of children with visual and hearing impairments had never been in school.
  - The percentage of children attending schools is the lowest among those with multiple disabilities, mental illnesses, and mental retardation (more than 50% do not attend school).
- A large number of children with disabilities do not go to regular schools but are enrolled at the National Institute of Open Schooling (NIOS).
  - Enrolment figures at NIOS show a decline for most categories of disabilities between 2009 and 2015.

Note:



### National Institute of Open Schooling

- NIOS is an "Open School" to cater to the needs of a heterogeneous group of learners up to pre-degree level.
- It was started as a project by the **Central Board of Secondary Education (CBSE)**.
- The **National Policy on Education** suggested strengthening of the Open School System for extending open learning facilities at secondary level all over the country as an independent system with its own curriculum and examination leading to certification.

### Challenges

- The **Right to Education Act** mandates enrolment, but not the provision of resources needed for the actual education of a child with disabilities.
- In many parts of rural India, if a parent opts for home-based education, the child may not be getting an education at all.
- Laws relating to the right to education and disabilities have certain ambiguities in terms of:
  - Where children with disabilities should study.
  - Who should teach them?
  - Gaps in terms of appropriate norms and standards applicable to all educational institutions.
- Lack of accessible physical infrastructure, assistive technologies, information and communication technology, and devices aggravates the situation of school dropout among disabled children.
- Inadequate allocations, delays in releasing funds and under-utilization of allocation are key challenges in financing education for children with disabilities.

### Recommendations

- Amendments to the **Right of Children to Free and Compulsory Education Act (RTE)**, so that it can be aligned with the **Rights of Persons with Disabilities Act, 2016**.
- Need for **structural, funding and attitudinal changes** to ensure that no child is left out of the right to education.
- There should be concentrated campaigns and large scale awareness drives which can improve the attitude towards children with disabilities in the classroom and beyond.

- **Transformation of teaching practices** is the need of the hour to aid the inclusion of diverse learners.
- Establish a coordinating mechanism under the **Ministry of Human Resource Development** for effective convergence of all education programs of children with disabilities.

## NMEICT

The Ministry of Human Resource Development administers the programme, **National Mission on Education through Information and Communication Technology (NMEICT)**, to leverage the potential of Information and Communication Technology to make the best quality content accessible to all learners in the country free of cost.

### Initiatives under the Program

- **SWAYAM: The Study Webs of Active Learning for Young Aspiring Minds' (SWAYAM)** is an integrated platform for offering online courses, covering school (9th to 12th) to Postgraduate Level. The online courses are being used not only by the students but also by the teachers and non-student learners, in the form of lifelong learning.
- **SWAYAM Prabha:** It is an initiative to provide 32 High-Quality Educational Channels through DTH (Direct to Home) across the length and breadth of the country on a 24x7 basis.
- **National Digital Library of India (NDL):** It is a project to develop a framework of virtual repository of learning resources with a single-window search facility. Presently, there are more than 3 crore digital resources available through the NDL.
- **Spoken Tutorial:** They are 10-minute long, audio-video tutorial, on open source software, to improve the employment potential of students. It is created for self-learning, audio dubbed into 22 languages and with the availability of online version.
- **Free and Open Source Software for Education (FOSSEE):** It is a project promoting the use of open-source software in educational institutions. It does that through instructional material, such as spoken tutorials, documentation, such as textbook companions, awareness programmes, such as conferences, training workshops, and internships.

Note:

- **Virtual Lab:** This is a project to develop a fully interactive simulation environment to perform experiments, collect data, and answer questions to assess the understanding of the knowledge acquired. There are about 225 such labs operational, with more than 1800 experiments that benefited more than 15 lakhs students.
- **E-Yantra:** It is a project for enabling effective education across engineering colleges in India on embedded systems and robotics. More than 275 colleges across India have benefited from this initiative.

## Feminization of Agriculture

As per the **10<sup>th</sup> Agriculture Census (2015-16)**, the percentage of **female operational holdings** in the country has increased from about 13% during 2010-11 to around 14% during 2015-16.

- Agriculture, contributing around 16% to the GDP, is increasingly becoming a female activity.
- The agriculture sector employs 80% of all economically active women; they comprise 33% of the agricultural labour force and 48% of self-employed farmers.
- About 18% of the farm families in India, according to **NSSO Reports** are headed by women.
- According to the Economic Survey 2017-18, a rise in migration of men from rural to urban areas has resulted in feminization of agriculture.

### Agriculture Census

- It is conducted at an interval of every five years by the Department of Agriculture, Cooperation and Farmers Welfare.
- Data on structural aspects of operational holdings in the country is collected through the census.
- The first census was conducted with reference year 1970-71.

### Operational Holding

- All land which is used wholly or partly for agricultural production and is operated as one technical unit by one person alone or with others without regard to the title, legal form, size or location is called an operational holding.

### Challenges Faced by Women Farmers

- Lack of ownership of land

- Lack of access to financial credit
- Lack of access to resources and modern inputs (most farm machinery is difficult for women to operate)
- Increased work burden (on-farm and off-farm productive activities) with lower compensation

### Steps Taken by Government

- **Mahila Kisan Sashaktikaran Pariyojana (MKSP)**
  - Implemented by the **Ministry of Rural Development**, it is a programme exclusively for women farmers.
  - It is a sub-component of **Deendayal Antyodaya Yojana-National Rural Livelihood Mission**.
  - It aims to empower women by enhancing their participation in agriculture and to create sustainable livelihood opportunities for them.
  - Up to 60% (90% for the North Eastern States) of the funding support for such projects is provided by the government.
  - It is in line with the provisions of the **National Policy for Farmers (2007)**.
- At least 30% of the budget allocation has been earmarked for women beneficiaries in all ongoing schemes/programmes and development activities.
- Government has increased its focus on women **self-help group (SHG)** to connect them to micro-credit through capacity-building activities and to provide information and ensuring their representation in different decision-making bodies.
- Also, recognizing the critical role of women in agriculture, the **Ministry of Agriculture and Farmers Welfare** has declared **15<sup>th</sup> October** of every year as **Women Farmer's Day**.

### Way Forward

- Provision of credit without collateral under the **microfinance initiative** of the **National Bank for Agriculture and Rural Development** should be encouraged.
- Manufacturers should be incentivised to produce tools and machinery suited to women's needs.
- **Krishi Vigyan Kendras** in every district can be assigned an additional task to educate and train women farmers about innovative technology along with extension services.
- Government flagship schemes such as the **National Food Security Mission**, **Sub-mission on Seed and**

Note:

**Planting Material** and the **Rashtriya Krishi Vikas Yojana** should include women-centric strategies and dedicated expenditure.

## Manual Scavenging in India

According to the **Social Justice and Empowerment Ministry**, despite a ban on manual scavenging from 1993, 620 cases of deaths of sanitation workers (while cleaning septic tanks and sewers) have been reported, of which 88 occurred in the past three years.

### Manual scavenging

- Manual scavenging refers to the practice of manually cleaning, carrying, disposing or handling in any manner, human excreta from dry latrines and sewers.
- The practice of manual scavenging is linked to India's caste system where so-called lower castes were expected to perform this job.
- Manual scavengers are amongst the poorest and most disadvantaged communities in India.
- Frequent deaths occur as manual scavengers don't even have adequate tools and protective gear to do their work. It often involves using the most basic of tools such as buckets, brooms and baskets.

### Issues Related to Manual Scavenging

- However, while manual scavenging for many may have ended as a form of employment, the stigma and discrimination associated with it still linger on.
  - This makes it difficult for liberated manual scavengers to secure alternative livelihoods.
  - People could once again return to manual scavenging in the absence of other employment opportunities to support their families.
- Correctly identifying manual scavengers remains a key challenge.

### Government Interventions

- In 1993, the Government of India enacted the **Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act**.
  - The act prohibited the employment of manual scavengers for manually cleaning dry latrines and also the construction of dry toilets (that do not operate with a flush).

- It provided for imprisonment of up to a year and a fine.
- In 2013, this was followed by the **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013**, which is wider in scope and importance, acknowledging the urgency of rehabilitating manual scavengers.
  - The act seeks to reinforce this ban by prohibiting manual scavenging in all forms and ensures the rehabilitation of manual scavengers to be identified through a mandatory survey.
  - **Key features of the Act:**
    - Prohibits the construction or maintenance of insanitary toilets.
    - Prohibits the engagement or employment of anyone as a manual scavenger and violation could result in a years' imprisonment or a fine of INR 50,000 or both.
    - Prohibits a person from being engaged or employed for hazardous cleaning of a sewer or a septic tank.
    - Offences under the Act are cognizable and non-bailable.
    - Calls for a survey of manual scavengers in urban and rural areas within a time-bound framework.
- A **Supreme Court order** in March 2014, makes it mandatory for the government to identify all those who died in sewerage work since 1993 and provide Rs.10 lakh each as compensation to their families.
- The Government of India has adopted a **two-pronged strategy** of eliminating in-sanitary latrines through demolition and conversion into sanitary latrines and developing a comprehensive rehabilitation package for manual scavengers through a survey.
  - A **comprehensive rehabilitation package** has been put together that includes livelihoods and skill development, access to education for children of former manual scavengers and alternate livelihoods.

## Measles

- The **World Health Organization (WHO)**, has declared **Sri Lanka**, a **measles-free country**.
- Sri Lanka is the fifth country in the WHO Southeast Asia region to eliminate **measles**.

Note:



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- The elimination of a disease means that there have been zero new cases of the disease in the last three years.
- The country reported its last case of measles in May 2016.
- The other countries in the region which have eliminated measles in their geographical area are **Bhutan, Maldives, DPR Korea and Timor-Leste**.
- Sri Lanka has also become the **fourth country in the region, after Bhutan, Maldives and Timor-Leste**, to eliminate measles and control rubella, a flagship priority programme of WHO in the region, ahead of the 2020 regional target.
  - Rubella control is achieved when a country reduces the number of rubella cases by 95% as compared to cases in the year 2008.
- Sri Lanka's achievement has come at a time when globally measles cases are increasing.
- According to the latest Global Measles and Rubella Update, India had 56,399 confirmed measles cases and 1,066 confirmed rubella cases in the year 2018, thus quite far from eliminating the diseases completely.

### Rubella and Measles

- Rubella is a contagious, generally mild viral infection that occurs most often in children and young adults.
- Measles is a highly contagious viral disease and is a cause of death among young children globally.
- Though the diseases are caused by different viruses but share more or less the same symptoms, including the red rashes.
- The Measles & Rubella Initiative, a global program, aims at eliminating both these diseases.
- The vaccine for the diseases are provided in the form of **measles-rubella (MR)**, **measles-mumps-rubella (MMR)**, or **measles-mumps-rubella-varicella (MMRV)** combination.

## Global Report on Income Inequality

The International Labour Organisation in its **Labour Income Share and Distribution** dataset has revealed that top 10% earners in India made over 69% of the country's labour income in 2017, in contrast to 0.25% made by the bottom 10% earners.

- **Labour Income Share and Distribution** dataset developed by ILO offers two new indicators for major trends in the world of work, at national, regional and global levels:
  - One provides the first internationally comparable figures of the share of Gross Domestic Product that goes to workers rather than capital through wages and earnings.
  - The second looks at how labour income is distributed.

### Key Findings

- The share of national income going to workers is declining, from 53.7% in 2004 to 51.4% in 2017.
- Worldwide, the income share of the middle 60% workers grew to 30.2% in 2017 from 23.6% in 2004, while the share of the richest 20% of workers came down by 6.8 percentage points.
- Countries, where top earners saw their share of national pay rise by at least one percentage point, include Germany, Indonesia, Italy, Pakistan, the United Kingdom and the United States
- Poorer countries tend to have much higher levels of pay inequality, something that exacerbates the hardships of vulnerable populations.
  - In Sub-Saharan Africa, the bottom 50% of workers earn only 3.3% of labour income, compared to the European Union, where the same group receives 22.9% of the total income paid to workers.

### Income Inequality in India

- Pay inequality has remained consistent in India since 2004, although it has reduced at the global workplace in the last 13 years.
- **ILO report** has found that between 2000 and 2017, income inequality rose six times.
- India's richest 10% own as much as 80.7% of the country's total wealth, while 90% own only 19.3% of its total wealth

## Global Multidimensional Poverty Index – 2019

**Global Multidimensional Poverty Index - 2019 (MPI)**, released by the **United Nation Development Programme (UNDP)** has revealed that there are **vast inequalities** across countries, and among the poorer segments of societies.

Note:



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- MPI-2019 edition is a revised version of **MPI-2018**.
- The MPI captures both the **incidence and intensity of poverty** and tracks 101 countries on deprivations across ten indicators in health, education and standard of living.

This index is developed by the **Oxford Poverty and Human Development Initiative (OPHI)** and the **United Nations Development Programme (UNDP)**.

- As per the report, a single measure is not a sufficient guide to both inequality and multidimensional poverty, and studies such as the MPI, **Human Development Index**, and the **Gini coefficient** (which measures countries wealth-income distribution), can contribute important and distinctive information for policy action to effectively reduce poverty.

### Key Findings

- As per the index, 1.3 billion people in the world are still **multidimensionally poor**.
  - Multidimensionally poor means that poverty is defined not simply by income, but by a number of indicators, including poor health, poor quality of work and the threat of violence.
- Level of Inequality and poverty is **very high** in **Sub-Saharan Africa and South Asia**.
- **Bangladesh, Cambodia, Democratic Republic of Congo, Ethiopia, Haiti, India, Nigeria, Pakistan, Peru and Vietnam** (10 selected countries have a combined population of around 2 billion people) have shown significant progress towards achieving **Sustainable Development Goal 1** i.e ending poverty in all its forms, everywhere.
- One in every three children (under the age of 10) and every second child below the age of 18 years is multidimensionally poor in the world.
- About 34% of the world's children and 17.5% adults covered under MPI survey are multidimensionally poor.
- One adult in six is multidimensionally poor compared with one child in three, hence children are more prone to multidimensional poverty than adults.
- Multidimensionally poor children are concentrated more in **Sub-Saharan Africa and South Asia**.
- In African countries such as **Burkina Faso, Chad, Ethiopia, Niger and South Sudan** 90% or more children (under the age of 10) are multidimensionally poor.
- Trends in poverty reduction is uneven in all 10 countries (**Bangladesh, Cambodia, Democratic Republic of Congo, Ethiopia, Haiti, India, Nigeria, Pakistan, Peru and Vietnam**) as rural areas are poorer than urban areas.
  - In **Cambodia, Haiti, India and Peru** poverty reduction in rural areas outpaced urban areas.

### Indian Scenario

- India lifted **271 million people out of poverty** between 2006 and 2016, (reduced from 0.283 in 2005-06 to 0.123 in 2015-16) recording the fastest reductions in the multidimensional poverty index values during the period with strong improvements in areas such as **assets, cooking fuel, sanitation and nutrition**.
- Among 10 selected countries **India and Cambodia** reduced their MPI values the fastest and they did not leave the poorest groups behind.
- **Jharkhand** has reduced the **incidence of poverty at a faster pace** than other regions (reduced the incidence of **multidimensional poverty** from 74.9% in 2005-06 to 46.5% in 2015-16).
- **India (along with Ethiopia and Peru)** significantly reduced deprivations in all 10 indicators, namely nutrition, sanitation, child mortality, drinking water, years of schooling, electricity, school attendance, housing, cooking fuel and assets.
  - MPI reduced from 640 million people (55.1%) in 2005-2006 to 369 million people (27.9%) in 2015-16.

## LaQshya: Labour Room Quality Improvement Initiative

Recently, the **Union Ministry of Health and Family Welfare** has launched "**LaQshya**" (**Labour room Quality Improvement Initiative**) to improve the quality of care in the labour room and maternity operation theatres in public health facilities.

- The aim of the LaQshya program is to reduce preventable maternal and newborn mortality, morbidity and stillbirths associated with the care around delivery in the labour room and maternity **Operation Theatre (OT)** and ensure respectful **maternity care**.

### Implementation

- The LaQshya program will be implemented by all Medical College Hospitals, District Hospitals and First

Note:



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Referral Unit (FRU), and Community Health Centres (CHCs) and will benefit every pregnant woman and new-born delivering in public health institutions.

- Under the initiative, a multi-pronged strategy has been adopted such as improving infrastructure up-gradation, ensuring the availability of essential equipment, providing adequate human resources, capacity building of health care workers and improving quality processes in the labour room.
- The **Quality Improvement in the labour room and maternity OT** will be assessed through **NQAS (National Quality Assurance Standards)**.

### Background

- India has come a long way in improving maternal survival as **Maternal Mortality Ratio (MMR)** has reduced from 167 in 2011-13 to 130 in 2014-16, an impressive decline of 22% in the last few years.
- India is further committed to ensuring safe motherhood to every pregnant woman in the country.

### Maternal Mortality Ratio

- The **Maternal Mortality Ratio (MMR)** is a key performance indicator for efforts to improve the health and safety of mothers before, during, and after childbirth.
- MMR is the annual number of maternal deaths per 100,000 live births.
- Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy.

## Midday Meal Scheme

The **Human Resource Development (HRD)** Ministry has received 35 complaints from 15 States and Union Territories (UTs) regarding substandard food quality in mid-day meals in the past three years.

- The Midday Meal Scheme comes under the **HRD Ministry's Department of School Education and Literacy**.
- Launched in the year 1995 as a **centrally sponsored scheme**, it provides that every child within the age group of six to fourteen years studying in classes I to VIII who enrolls and attends the school, shall be provided hot cooked meal having nutritional standards of 450 calories and 12 gm of protein for primary (I-V class) and 700 calories and 20 gm protein for upper

primary (VI-VIII class), free of charge every day except on school holidays.

- The scheme covers all government and government-aided schools and also **Madarsa and Maqtabas** supported under the **Sarva Shiksha Abhiyan (SSA)**.
- The last Mid Day Meal Rules were notified in the year 2015 under the **National Food Security Act, 2013** but amendments have been made from time to time.
- The rules provide that
  - The place of serving meals to the children shall be school only.
  - The meal shall be prepared in accordance with the Mid Day Meal guidelines issued by the Central Government from time to time.
  - The latest guidelines provide instructions on procuring **AGMARK** quality items for preparation of midday meals, tasting of meals by two or three adult members of the school management committee, including at least one teacher, before serving to children.
  - If the Mid-Day Meal is not provided in school on any school day due to non-availability of food grains or any other reason, the State Government shall pay food security allowance by 15th of the succeeding month.
  - The School Management Committee mandated under **Right to Free and Compulsory Education Act, 2009** shall also monitor implementation of the Mid-day meal Scheme.
  - The **State Steering-cum Monitoring Committee (SSMC)** shall oversee the implementation of the scheme including the establishment of a mechanism for the maintenance of nutritional standards and quality of meals.
- The government provides **financial support** to the eligible schools/implementing agencies in the form of free food grains and by bearing cooking-related costs.

## Rotavirus Vaccination Drive

The government of India is set to launch a rotavirus vaccine drive across all states and Union territories by September 2019.

- The vaccine is currently being administered in Himachal Pradesh, Haryana, Odisha, Andhra Pradesh, Assam, Tripura, Rajasthan, Madhya Pradesh, and Tamil Nadu.

Note:

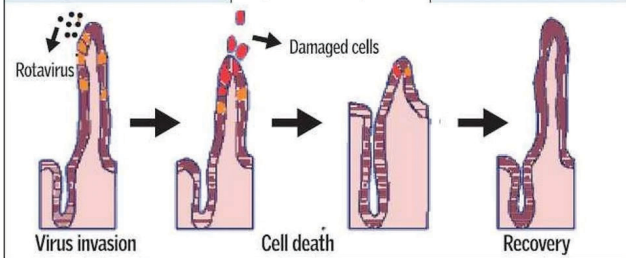
## HOW ROTAVIRUS ATTACKS

The rotavirus attacks the villus tip cells of the small intestine, and obstructs digestion and absorption

1 Once rotavirus enters the small intestine, it sticks to glycolipids on villus cells (see figure) lining small intestine

2 It invades the villus tip cells, causing atrophy, loss of digestive enzymes, and a dip in absorption

3 Once the villi become blunted, the resulting malabsorption of carbohydrates results in diarrhoea



Source: Principles and Practices of Clinical Virology, 5th ed. 2004

- The **Rotavac** has been introduced in **India's Universal Immunisation Programme (UIP)** including **Inactivated Polio Vaccine (IPV)**, **Measles**, Rubella (MR) vaccine, **Adult Japanese Encephalitis (JE)** vaccine, **Tuberculosis**, Diphtheria, Pertussis, Hepatitis B, Pneumonia and Meningitis due to **Haemophilus Influenzae type b (Hib)**.

### Rotavirus

- Rotavirus can cause **diarrhoea**, which can lead to dehydration (not having enough water in the body).
- Rotavirus is a **contagious disease** that spreads easily from child to child.
- Rotavirus spreads when a person comes in contact with the faeces of someone who has rotavirus and then touches their own mouth. For example, rotavirus can spread when a child with rotavirus doesn't wash their hands properly after going to the bathroom and then touches food or other objects.
- Symptoms include:
  - Severe diarrhoea
  - Throwing up
  - Dehydration
  - Fever
  - Stomach pain
- **World Health Organisation (WHO)** recommends that the first dose of **rotavirus vaccine** be administered as soon as possible after 6 weeks of age, along with DTP vaccination (tetanus and pertussis).
- The **WHO has recommended** the inclusion of rotavirus vaccine in the National Schedules of the countries

where under-five mortality due to diarrhoeal diseases is more than 10%.

- Currently, two vaccines are available against rotavirus:
  - **Rotarix (Glaxo Smith Kline)**: is a monovalent vaccine recommended to be orally administered in two doses at 6-12 weeks.
  - **Rota Teq (Merck)** is a pentavalent vaccine recommended to be orally administered in three doses starting at 6-12 weeks of age.

### Monovalent vaccine and Pentavalent vaccine

- **Monovalent vaccines** are designed to immunize against a single antigen or single microorganism.
- The **pentavalent vaccine** provides protection to a child from five life-threatening diseases – Diphtheria, Pertussis, Tetanus, Hepatitis B and **Haemophilus Influenzae type b (Hib)**.

## Controlling Chikungunya and Dengue through Bacteria

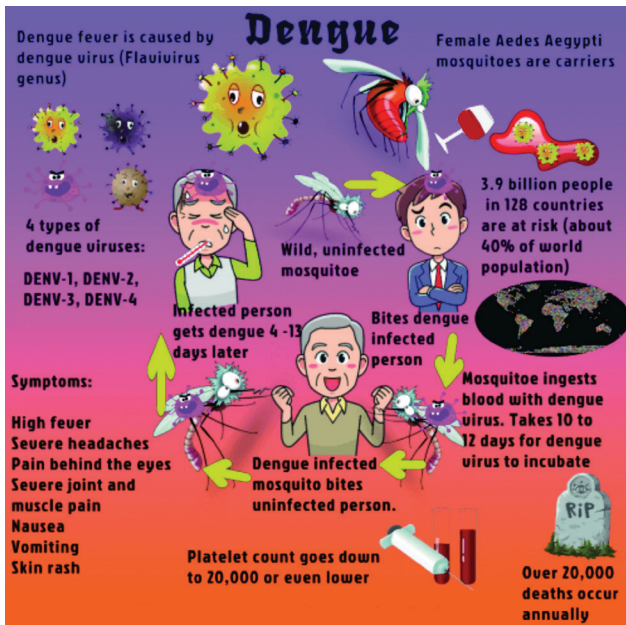
- To control the spread of dengue and chikungunya, scientists at the **Indian Council of Medical Research (ICMR)** have developed a strain of **Aedes aegypti mosquito** into which a naturally occurring bacteria, **Wolbachia**, is introduced.
- This variant of **Aedes aegypti** mosquito has been named the **Puducherry strain** since it was developed at the **Vector Control Research Centre (VCRC)**, Puducherry in collaboration with Monash University in Australia.
- **Aedes aegypti** mosquito is the main vector that transmits the viruses that cause dengue.

### Mechanism

- The bacteria **Wolbachia** "**inhibits**" viral infection, that is, even if people encounter mosquito bite, they will not be infected. This happens because bacteria do not allow the **virus to replicate in the mosquito** thereby minimising its number within the mosquito and hence virus won't be transmitted through a bite.
- Over a period of time, the population of **Aedes aegypti mosquitoes** in India will be slowly replaced by this new strain carrying **Wolbachia** bacteria. This is called a population replacement strategy.
- This strain will specifically help in reducing the number of dengue cases across the country.

Note:





### Bacteria Wolbachia

- Wolbachia is natural bacteria present in up to 60% of insect species, including some mosquitoes.
- However, Wolbachia is not usually found in the *Aedes aegypti* mosquito, the primary species responsible for transmitting human viruses such as **Zika, dengue, chikungunya and yellow fever**.
- Wolbachia is safe for humans, animals and the environment.

### About Dengue

- **Dengue** is transmitted by several species of mosquito within the genus *Aedes*.
- Symptoms include **fever, headache, muscle and joint pains**, and a characteristic skin rash that is similar to measles. There are four strains and Type-II and IV are considered more severe and normally require hospitalisation.
- **Dengvaxia** has been approved by the **US Food & Drug Administration**, the first dengue vaccine to get the regulatory nod in the US. The Indian drug controller has yet to grant approval to Sanofi's dengue vaccine - Dengvaxia.
- India has reported 6,210 cases and six deaths from dengue until June 9, 2019.

### Indian Council Of Medical Research

- The **Indian Council of Medical Research (ICMR)** is the **apex body** in India for the formulation, coordination

and promotion of biomedical research, one of the oldest medical research bodies in the world.

- It is funded by the Government of India through the Department of Health Research, Ministry of Health & Family Welfare.

## Declining Sex Ratio and Fertility Rates

As per the **Sample Registration System (SRS)** data from the Registrar General of India, the **country's sex ratio at birth (SRB)** declined to 898 in triennium (three year period) ending 2017.

- The fertility rate reduced from 2.3 in the year 2016 to 2.2 in the year 2017, close to the **replacement level of fertility** of 2.1.
- This trend is in line with the population **projections by the United Nations**, which have been revised downward in recent years. The year in which India will surpass China in population has been extended from 2022 (according to 2015 report) to 2027 (according to the 2019 report).
- This trend also indicates that Indians want fewer children now but want them as sons. The Economic Survey 2017-18 underlined the meta preference towards son in detail.
- It is **Telangana, Delhi, Kerala along with Bihar**, that has shown the sharpest worsening in sex ratio at birth in recent years.
- Though the use of sex-selection techniques is the biggest cause, social norms that prefer male children is a reason behind poor sex ratio in states like Bihar whereas in urbanised states, the richer households prefer more sons due to flawed social and economic reasons.

### Note:

The SRS data also demonstrated that the proportion of the economically active population (15-59), as well as the old age population (60+) in India, is rising. While the former constitutes 65.4 % of the populace, the latter was at 8.2 % in 2017.

### The Sample Registration System

- The **Office of Registrar General (under the Ministry of Home Affairs)** initiated the scheme of sample registration of births and deaths in India popularly

Note:



known as **Sample Registration System (SRS)** in 1964-65 on a pilot basis and on full scale from 1969-70. The SRS since then has been providing data on a regular basis.

- The revision of the SRS sampling frame is undertaken every ten years based on the results of the latest Census.

## Food Security and Nutrition

According to the latest **UN report, The State of Food Security and Nutrition in the World 2019**, more than 821 million people suffered from hunger worldwide in the year 2018.

- The report was prepared by the **UN Food and Agriculture Organization (FAO)** and other United Nations agencies including the **World Health Organization (WHO)**.

### Key Findings

- **Undernourishment:** After decades of steady decline, the trend in world hunger – as measured by the prevalence of undernourishment – reverted in the year 2015, remaining virtually unchanged in the past three years at a level slightly below 11%, posing a challenge to achieving the **SDG Goal 2** (End hunger, achieve food security and improved nutrition and promote sustainable agriculture).
  - Hunger is on the rise in almost all African subregions, making Africa the region with the highest prevalence of undernourishment, at almost 20%.
  - In Asia, despite great progress in the last five years, Southern Asia is still the subregion where the prevalence of undernourishment is highest, at almost 15%.
  - It is projected that undernutrition will reduce Gross Domestic Product (GDP) by up to 11% in Africa and Asia.
  - Most countries (65 out of 77) that experienced a rise in undernourishment between 2011 and 2017 simultaneously suffered an economic slowdown or downturn.
  - Economic shocks have also prolonged and worsened the impact of conflict and climate events on acute food insecurity.

- **Breastfeeding:** Only 40% of infants under six months are exclusively breastfed, which is far from the 2030 target of 70%.
- **Low Birthweight:** No progress has been made in reducing the prevalence of low birth weight since 2012. One in seven live births, or 20.5 million babies globally, suffered from low birth weight in 2015.
- **Stunting:** The number of stunted children has declined by 10% over the past six years. In the year 2018, Africa and Asia accounted for more than nine out of ten of all stunted children globally, representing 39.5% and 54.9 % of the global total, respectively.
- **Food Insecurity:** About 2 billion people in the world experience moderate or severe food insecurity.
  - In every continent, the prevalence of food insecurity is slightly higher among women than men, with the largest differences found in Latin America.
  - **Moderate food insecurity:** People experiencing moderate food insecurity face uncertainties about their ability to obtain food, and have been forced to compromise on the quality and/or quantity of the food they consume.
  - **Severe food insecurity:** People experiencing severe food insecurity have typically run out of food and, at worst, gone a day (or days) without eating.
- **Obesity:** Overweight and obesity continue to increase in all regions, particularly among school-age children and adults. In 2018, an estimated 40 million children under five were overweight.
  - Throughout the world, most school-age children do not eat enough fruit or vegetables, regularly consume fast food and carbonated soft drinks, and are not physically active on a daily basis.
- **Anaemia:** It currently affects 33 % of women of reproductive age – more than double the 2030 target of 15 %.

### India Specific Findings

- The prevalence of **undernourishment** in India declined from 22.2% in 2004-06 to 14.5% between 2016 and 2018.
- In Southern Asia, food insecurity increased from less than 11% in 2017 to more than 14% in 2018. This possibly reflects an increase in the unemployment rate in India between 2017 and 2018, and especially in Pakistan, where growth is expected to slow down significantly.

Note:

- In the Indian Himalayas, economic slowdown coupled with natural resource depletion and climate change negatively impacted on food production and employment opportunities. This resulted in increased threats to food security due to lower purchasing power.

### Suggestions

- Reducing **gender inequalities** and those inequalities arising from social discrimination.
- Creating **synergies** between poverty reduction, hunger and malnutrition eradication.
- Policies to protect, promote and support breastfeeding and to increase the availability and affordability of nutritious foods that constitute a healthy diet are required, along with measures to create healthier food environments and limit consumption of harmful fats, salt and sugars.
- **Safeguarding food security and nutrition** through economic and social policies that help counteract the effects of economic slowdowns or downturns, including guaranteeing funding of social safety nets and ensuring universal access to health and education.

## Ebola: Global Health Emergency

The [World Health Organization](#) has announced the Ebola outbreak in the Democratic Republic of Congo (a country in Central Africa) as the global health emergency.

- **WHO defines a global emergency** as an “extraordinary event” which constitutes a risk to other countries and requires a coordinated international response.
- A declaration of a **global health emergency** brings greater international attention and aid (both financial and technical) but should not be used to **stigmatise or penalise** the people by imposing travel or trade restrictions as those restrictions actually restrict the flow of goods and health care workers into affected countries and turn counter-productive.
- It can be noted that recently, the **World Health Organisation (WHO)** has released a list of “[Ten threats to global health in 2019](#)” which also included Ebola.

### Ebola Virus Disease

- Ebola virus disease, formerly known as Ebola haemorrhagic fever, is transmitted to people from wild animals and spreads in the human population through human to human transmission.

### Ebola Outbreak

- The 2014-2016 outbreak in West Africa was the largest Ebola outbreak since the virus was first discovered in 1976.
- The outbreak started in Guinea and then moved across land borders to Sierra Leone and Liberia.
- The current 2018-2019 outbreak in the Eastern Democratic Republic of Congo is highly complex.

- **Transmission:** [Fruit bats of the Pteropodidae family](#) are natural Ebola virus hosts.

- **Animal to human transmission:** Ebola is introduced into the human population through close contact with the blood, secretions, organs or other bodily fluids of infected animals such as fruit bats, chimpanzees, gorillas, monkeys, forest antelope or porcupines found ill or dead or in the rainforest.

- **Human-to-human transmission:** Ebola spreads via direct contact (through broken skin or mucous membranes) with:

- Blood or body fluids of a person who is sick with or has died from Ebola.
- Objects that have been contaminated with body fluids (like blood, feces, vomit) from a person sick with Ebola or the body of a person who died from Ebola

- **Symptoms:** Symptoms of Ebola can be sudden and include:

- Fever
- Fatigue
- Muscle pain
- Headache
- Sore throat
- Vomiting
- Diarrhoea
- Symptoms of impaired kidney and liver function
- In some cases, both internal and external bleeding

- **Diagnosis:** It can be difficult to clinically distinguish Ebola from other infectious diseases such as [malaria](#), typhoid fever and meningitis but confirmation that symptoms are caused by Ebola virus infection are made using the following diagnostic methods:

- ELISA (antibody-capture enzyme-linked immunosorbent assay)
- Antigen-capture detection tests
- Serum neutralization test

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- Reverse transcriptase-polymerase chain reaction (RT-PCR) assay
- Electron microscopy
- Virus isolation by cell culture.

## Tribal Education

Tribals in Wayanad district of Kerala are close to achieving 100% literacy rate.

### Scheduled Tribes

- President under Article 342 is empowered to declare communities as scheduled tribes. While Parliament by law can amend the list.
- According to Census 2011, tribes constitute 8.6% of our total population and out of which only 58.96% are literate.

### Challenges in Tribal Education

- Education is one of the primary agents of transformation towards development.
- Education is in fact, an input not only for economic development of tribes but also for inner strength of the tribal communities which helps them in meeting the new challenges of life.
- **Medium of Instruction:** Language has been the biggest constraints in tribal education. All the curriculums and teachers' modules are designed in official/regional language which is alien for tribal students.
- **Economic Condition:** The economic conditions of tribal people are so bad that they do not desire to spare their children or their labour power and allow them to attend schools.
- **Teacher Absenteeism:** In the remote tribal areas the teacher absenteeism is a regular phenomenon and this affects largely the quality of education.
- **Attitude of the Parents:** As education does not yield any immediate economic return, the tribal parents prefer to engage their children in remunerative employment which supplements the family income.
- **Infrastructural Challenges:** Most of the schools located in tribal areas have minimal infrastructural facilities. These schools are not equipped with teaching learning materials, study materials, even minimum sanitary provisions are not maintained.

### Government Intervention

- **Eklavya Model School:** Residential School based on Navodaya Model to be opened in each tribal block by 2022.
- **Rajiv Gandhi National Fellowship Scheme (RGNF):** It was introduced in 2005-2006 with the objective to encourage the students belonging to the ST community to pursue higher education.
- Pre and Post Matric Scholarship Schemes.
- **Vocational Training Center in Tribal Areas:** The aim of this scheme is to develop the skills of ST students depending on their qualifications and present market trends.

### Recommendations

- **Kothari Commission** stressed to pay special attention to the education of STs.
- **XaXa Committee recommended** a greater focus on removing gender disparity in education.
- **Awareness Campaigns** like street drama, Camps Counselling session to bring attitudinal change in parents.
- Emphasis should be given to **career or job-oriented courses**.
- Teachers should be **locally recruited** who understand and respect tribal culture and practices. Most importantly they should be acquainted with the local language.

## Child Labour in Film and Television Industry

The government is working to ensure “**strict compliance**” of norms on working conditions for children by film and television industry, as well as the inclusion of mandatory disclaimers when they appear on the screen.

- The Ministry has expressed concern over violations of child labour rules in film and television.

### Child Labour

- The term ‘**Child Labour**’ is defined as a work that **deprives children of their childhood, potential, dignity and is harmful to their physical and mental development**.
- It refers to the work that is **mentally, physically, socially or morally dangerous, harmful to children,**

Note:

interferes with schooling by depriving them of the opportunity to attend school and compels them to leave school prematurely or to combine school attendance with excessively long and heavy work.

### **Child Labour (Prohibition and Regulation) Amendment Rules, 2017**

- Under the **Child Labour (Prohibition and Regulation) Amendment Rules, 2017**, child artistes are supposed to work for a maximum of five hours a day and not more than three hours without rest.
- The rules also require permission from the **District Magistrate** and an undertaking by the producer, as well as the deployment of one person each, for ensuring the safety and security of a maximum of five children.
- Children should not be away from schooling for more than 27 days and 20% of their income should be deposited in a fixed deposit in their name, as per the rules.
- If a child was involved in filming, the film should include a disclaimer saying that all measures were taken to ensure that no abuse, neglect or exploitation of the child took place during shooting.

## **Special Courts for POCSO Cases**

The **Supreme Court** has directed the **Centre** to set up special courts to deal exclusively with **Protection of Children from Sexual Offences (POCSO)** cases.

- **Special courts** will be established under a Central scheme (fully funded by the Centre) in each district across the country that had over a 100 cases of child abuse and sexual assault pending trial under the **Protection of Children from Sexual Offences (POCSO) Act**.
- The Centre would have to appoint trained, sensitized prosecutors and support persons to deal with the POCSO cases (*deals with crime against minor*).
- Supreme court has also directed states to ensure there is **no delay in Forensic Sciences Laboratories (FSL)** releasing test reports in POCSO cases.
- Supreme Court has found that the **National Commission for the Protection of Child Rights (NCPCR)**, which is mandated to monitor implementation of the Protection of Children from Sexual Offences (POCSO) Act, does not have any data on POCSO cases in the country.

### **Problems in NCPCR**

- NCPCR still follows an **outdated format of data collection**, which only lists out state wise number of nodal officers, special courts, special prosecutors, whether the victim has received compensation, etc.
- It **doesn't collect or maintain district-wise data** on POCSO cases before the police or courts, nor does it have disaggregated data as per various sections of POCSO Act.
- NCPCR has started **the process of developing a new online tool** and format for data collection in 2018 but the portal is still in its testing period.

### **Pendency in POCSO Cases**

- Nearly 1.5 lakh cases under POCSO Act are pending.
- Uttar Pradesh has the most cases pending (over 44,000) followed by Maharashtra (over 19,000 cases).
- According to **National Crime Records Bureau** around 89% (in 2016) of the total cases before the courts are pending trial while the pendency rate at the police investigation stage is 31%.

### **The National Commission for the Protection of Child Rights**

- NCPCR was established in March 2007 as a statutory body under the Commission for Protection of Child Rights Act, 2005.
- It was set up to protect, promote and defend child rights in the country.

### **Functions of NCPCR under POCSO Act**

- To monitor the implementation of the provisions of the POCSO Act.
- Monitor the designation of Special Courts by state governments.
- Monitor the appointment of Public Prosecutors by state governments.
- Monitor formulation of the guidelines described in the Act by the state government.

## **New Tool to Reduce Maternal Mortality**

The use of **Non-pneumatic Anti- Shock garment (NASG)** controls blood loss due to **postpartum haemorrhage (PPH)**, thus saving the lives of new mothers.

Note:



- Postpartum haemorrhage (PPH) leads to continuous and **excessive bleeding**. The rapid loss of blood because of PPH reduces the **body's blood pressure** and can even cause death.
- The **NASG applies pressure to the lower body and abdomen**, thereby forcing the blood that was getting accumulated in the pelvic area to other essential organs of the body. Thus, NASG **quickly stabilizes patient** and gives enough time to doctors for treatment.
- NASG is part of a **local initiative named Sahara**, by the district's development officer (Arun Mahesh Babu) of Ahmedabad district in Gujarat. The officer has started the initiative in November 2018.
- While there were 8 maternal deaths in the district because of PPH between January and November 2018, since the introduction of this initiative there have been no PPH deaths.
  - A lot of mothers were **anaemic** in the Ahmedabad district because of **poor nutrition**. This weakness compounds the damage caused by **excessive and sudden bleeding**.
  - Moreover, women delivering children in rural areas are far away from district hospitals when such complications occur. Data showed that almost 30% of maternal deaths in the state were because of PPH and these primarily took place within the first 4 to 24 hours after childbirth.
- Today, 40 PHCs (Primary Health Care Centres) in Ahmedabad have an NASG suit each - each suit can be used 140 times - and the government has spent Rs 14,500 per suit under the **Janani Shishu Suraksha Karyakram (JSSK)**.

#### Janani Shishu Suraksha Karyakram (JSSK)

- The Government of India has launched **Janani Shishu Suraksha Karyakram (JSSK) on 1<sup>st</sup> June, 2011**.
- It is an initiative to provide completely free and cashless services to pregnant women including

normal deliveries and caesarean operations and sick newborn (up to 30 days after birth) in Government health institutions in both rural & urban areas.

- It will motivate those who still choose to deliver at their homes to opt for institutional deliveries.
- According to **Sample Registration System** results of 2016-17, Gujarat's **IMR** (per 1,000 live births) was 30 and **MMR** (per 100,000 live births) was 91 — better than the national averages but quite high for a relatively more prosperous state.

## Kan Sikul, Kan Huan

Mizoram's Lawngtlai district administration's project **Kan Sikul, Kan Huan (My School, My Farm)** has been made the model for all schools and colleges in Mizoram.

- Kan Sikul, Kan Huan **aims to curb the problem of shortage of fruits and vegetables** in the region by setting up the kitchen/ nutrition gardens in every school.
- The project seeks to make Lawngtlai self-sufficient in the local variety of fruits and vegetables and fight **malnutrition** among children (by March 2020) by letting every **school, Anganwadi, child care institutions and hostel** in Lawngtlai to grow their own fruits and vegetables with the help of teachers, parents and community members.
- Project is in consonance with the objectives of central governments **Poshan abhiyan**.
- Lawngtlai, is Mizoram's most backward and disaster-prone district with 35.3% stunted, 21.3% underweight and 5.9% severely wasted (low weight-for-height) children under 5 (highest on all counts in Mizoram).
- Kitchen /nutrition gardens have yielded in **improving the nutritional content** of the **midday meal** served in the schools.



Note:

# Security

## Highlights

- INS 'Shivalik' and INS 'Sindhukirti'
- INS Viraat to be Scrapped
- LCU L-56 Commissioned into Indian Navy
- National Defense Authorisation Act
- Third Generation NAG Missile
- Bhabha Kavach
- Social Engineering Attacks
- Security Pedia
- Maharashtra to Adopt AMBIS

## INS 'Shivalik' and INS 'Sindhukirti'

Defence Minister visited the Indian Navy's indigenously designed stealth frigate, INS 'Shivalik' and INS 'Sindhukirti'.

### INS Shivalik

- **INS Shivalik** is India's first stealth frigate in the Shivalik series under project 17 with 80% indigenous content.
  - Stealth frigates can escape detection by normal radars and surveillance equipment.
- INS Shivalik is armed with missiles, helicopter support, mounted guns and a combat management system that can effectively coordinate all weapons and sensors onboard, giving it the ability to deal with multiple threats.
- Special aerodynamics, equipment, and materials used in designing and building INS 'Shivalik' makes it very difficult to monitor their movements.
- Apart from India, only the US, Russia, UK, France, Sweden, Japan, Italy, and China have the capability to build stealth warships of this size and class.

### Project 17 – Shivalik class Frigate

- The **Shivalik class or Project 17** is a class of multi-role frigates in service with the Indian Navy.
- Stealth Frigates under Shivalik class series are **INS Shivalik, INS Sahyadri, and INS Satpura**. These are the first stealth warships built in India (by Mazagon Dock Limited).

### INS Sindhukirti

- Acquired in 1990, INS Sindhukirti is among the oldest operational submarines in the Navy. It is a diesel-electric class submarine that can launch torpedoes, missiles, and even mines.

## INS Viraat to be Scrapped

The **Union Ministry of Defence** has decided to scrap **INS Viraat** after consultation with Indian Navy.

- There had been demands from various quarters to not let Viraat go the INS Vikrant way, India's first carrier that was eventually scrapped.
- INS Vikrant, a Centaur class, was maintained by the Navy in Mumbai for 17 years as various proposals to convert it into a museum went back and forth unsuccessfully before the ship was eventually sent to a scrapyard in 2014.

### Reasons for Scrapping INS Viraat

- **Expenditure:** The Navy has been incurring expenditure on its upkeep such as the provision of electricity and water, and repairs till date.
- **Space:** The Navy has stated that it cannot keep Viraat indefinitely as it would block space in the already crowded Mumbai dockyard.
- **No Viable Alternative:** Efforts to keep it intact by converting it into a museum or other means have not been successful. INS Viraat could not be handed over to any State Government because of non-receipt of a self-sustaining financially complete proposal.

Note:

**INS Viraat**

- Viraat, a Centaur class aircraft carrier weighing 27,800 tonnes, had served in the **British Navy as HMS Hermes** for 25 years from 1959 to 1984.
  - The Centaur class was the light fleet carrier designs built for the **Royal Navy (British Navy)** in the closing years of the Second World War.
  - After refurbishment, it was commissioned into the Indian Navy in May 1987.
  - It was decommissioned from the Navy in March 2017 at Naval Dockyard, Mumbai.
  - It holds the **Guinness Books of record** for being the longest-serving warship in the world.
  - Viraat has played a major role in **Operation Jupiter in 1989** in the Sri Lankan peacekeeping operation.
  - It has been instrumental in sharpening the art of flying operations from a carrier deck in the Navy, which resulted in the seamless induction of **INS Vikramaditya**.
- Andhra Pradesh submitted a proposal in 2016 for the conversion of Viraat as an aircraft museum, including tourist and hospitality components on a commercial basis through a joint venture with the Union government. But the Defence Ministry rejected the proposal.
  - In 2018, the Maharashtra Cabinet approved a proposal to convert the carrier into a museum and hospitality centre on a **public-private partnership (PPP)** basis, but there were no takers.

## LCU L-56 Commissioned into Indian Navy

**Indian Navy** has recently commissioned the ship LCU L-56, which is the 100<sup>th</sup> warship built by the **Garden Reach Shipbuilders and Engineers (GRSE)**.

- **LCU 56** is an amphibious ship with its primary role being transportation and deployment of main battle tanks, armoured vehicles, troops and equipment from ship to shore.
- It is the sixth of eight indigenously built Landing Craft Utility (LCU) MK IV class ships.
- The LCU Mk-IV Class of ships are fitted with close to 90% **indigenous content**, in line with the Government of India's 'Make in India' initiative towards achieving self-reliance and indigenisation.

- The induction of LCU 56 will add to maritime and **Humanitarian Assistance and Disaster Relief (HADR)** capability of **Andaman Nicobar Command**.
- The ship will be deployed for multi-role activities such as beaching operations, search and rescue missions, disaster relief operations, coastal patrol, and surveillance operations along the Andaman and Nicobar Group of Islands.

## National Defense Authorisation Act

The U.S. Senate has passed the **National Defense Authorisation Act (NDAA)** for the fiscal year 2020 that brings **India at par with America's NATO allies** and countries like **Israel and South Korea** for increasing defence cooperation.

- The amendment provides for increased U.S.-India defence cooperation in the Indian Ocean in the areas of humanitarian assistance, counterterrorism, counter-piracy and maritime security.
- The bill would be signed into law after both the chambers of the U.S. Congress, i.e. the House of Representatives and the Senate passes it.
- The "upgrade" will also smoothen the passage of sales to India of high-end US military hardware to India.
- The US has already given India **Strategic Trade Authorization-1(STA Tier-1)** status, a move that facilitates the exchange of high technology and strengthens defence collaboration, and also designated India as a "**Major Defence Partner**" in 2016.
- While the major **non-Nato** ally status or its equivalent, does not automatically enjoins a **mutual defence pact** with the United States (as it does with Nato allies), it still confers a variety of military and financial advantages that otherwise are not obtainable by non-NATO countries.

## Third Generation NAG Missile

India has successfully carried out trials of NAG Missile.

- The **Nag missile** has been indigenously developed under the Indian Ministry of Defence's **Integrated Guided Missile Development Programme (IGMDP)**, which also involved the development of four other missiles that are **Agni, Akash, Trishul** and **Prithvi**.

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### About Nag Missile

- Nag is a third-generation, **fire-and-forget, anti-tank guided missile** developed by India's state-owned **Defence Research and Development Organisation (DRDO)** to support both mechanised infantry and airborne forces of the Indian Army.
- It is an all-weather condition with day and night capabilities and with a minimum range of 500m and a maximum range of 4 km.
- Nag can be launched from land and air-based platforms. The land version is currently available for integration on the **Nag missile carrier (NAMICA)**.
- The helicopter-launched configuration, designated as **helicopter-launched NAG (HELINA)**, can be fired from **Dhruv advanced light helicopter (ALH)** and **HAL Rudra (ALH WSI) attack helicopter**.

### Bhabha Kavach

India's **lightest and cheapest** bulletproof jacket 'Bhabha Kavach' was displayed at the **International Police Expo 2019** held at Pragati Maidan in New Delhi.

- The expo was organised by **Nexgen Exhibitions** (Asia's leading and established trade fair, exhibition and conference organizer).
- The bulletproof jacket weighs just 6.6 kg (in comparison to traditional jackets which weigh around 17 kg).

### Production and Development

- Bhabha Kavach was **developed indigenously** by Defence organizations like Ordnance Factory Board and Mishra Dhatu Nigam Limited (MIDHANI) with the transfer of **carbon-nanomaterial technology** from **Bhabha Atomic Research Centre (BARC)**.
  - **MIDHANI**, is a (public sector undertaking) specialized metals and metal alloys manufacturing facility in India, located in Hyderabad, Telangana.
  - **Ordnance Factory Board** is an industrial organisation, functioning under the Department of Defence Production, **Ministry of Defence** (headquartered in Kolkata).

### Manufacturing

- **Bhabha Kavach** is built from layers of high-density, high-tensile polyethylene, which are fused together at high temperatures to form a thick, hard armour

plate, which is then sprayed with BARC's carbon nanomaterial.

- The material used in the jacket are hard boron carbide ceramics, carbon nanotubes and composite polymer (polymer made up of two or other types of polymer).

### Bhabha Atomic Research Centre

- BARC is India's premier **nuclear research** facility based in Mumbai, Maharashtra.
- It is a multi-disciplinary research center with extensive infrastructure for advanced research and development.
- Its core mandate is to sustain peaceful applications of nuclear energy, primarily for power generation.

### Need

- In the backdrop of several terrorist attacks (like Uri, Pulwama), Indian security forces are in the dire need to develop an advanced, **efficient and cost-effective security system** which can potentially deal with the fast-changing threats of the 21<sup>st</sup> century.
- **Central Armed Police Forces** like Central Reserve Police Force, **Border Security Force**, Indo-Tibet Border Police, and Sashastra Seema Bal, which secure our border areas are more exposed to security threats and hence, Bhabha Kavach has been designed to protect Indian defence forces against:
  - **AK-47 rifle**: 7.62 mm hard steel core or bullets fired from an AK-47 rifle.
  - **INSAS bullet**: 5.56 mm Indian Small Arms System (INSAS) bullet.
  - **SLR**: 7.65 mm bullet of self-loading rifle (SLR).

### Social Engineering Attacks

Recently, the **Ministry of Home Affairs (MHA)** has issued warning to government officials against '**social engineering**' attacks.

- To prevent the leak of sensitive information, the MHA has asked officials to avoid unsolicited phone calls, visits or email messages from unknown persons claiming to represent some organisation.

### What is Social Engineering Attack?

- **Social engineering attack** involves manipulating people into breaking normal security procedures

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and best practices in order to gain access to systems, networks or physical locations, or for financial gain. It relies heavily on **human interaction**.

- Social engineering attack **manipulates government** officials to obtain sensitive information without letting them realise that a security breach is occurring.
- The MHA held that hackers often ask for information **through Phishing by sending** an email or text message.
- **Phishing:** The email or text message carrying a link appears to come from a trusted source like a bank.
  - The link takes you to a fake website and once details like login name and passwords are entered, the login credentials reach to the hacker.
- **Quid pro quo attack:** In this case, a hacker comes posing as a technician and uploads malware with the intention to steal information from the system.

## Security Pedia

The **Central Industrial Security Force (CISF)** has launched an **online encyclopedia** called **Securitypedia**.

- Securitypedia is a **website** which incorporates a wide range of security-related issues, best practices and latest technologies (in the domain of security) available across the world.
- It is not just a static website containing data archives but is more of a dynamic platform where a force member can contribute by writing blogs on relevant security-related professional issues.
  - Just like Wikipedia, any member could post information or edit articles after citing authentic and verifiable sources.

- As a supplement to Securitypedia, **CISF has also developed CISF Tube** which is an online video database of all videos relevant to CISF.
- The videos available on CISF Tube enables CISF personnel to learn on various subjects related to their area of functioning.

## Maharashtra to Adopt AMBIS

**Maharashtra** became the first state to adopt an **Automated Multi-modal Biometric Identification System (AMBIS)** to aid police investigations.

- The **Automated Multi-modal Biometric Identification System (or AMBIS)** adopted by the Maharashtra police will soon be replicated by other state police forces in the country.
- An AMBIS unit comprises a computer terminal, a camera, and iris, fingerprint, and palm scanners.
- It also includes a **portable system** to dust off and capture fingerprints from crime scenes.
- AMBIS (with **facial recognition** from CCTV cameras), enables the police to cross-refer criminals whose fingerprints have been captured on paper over the decades, apart from solving fresh crimes.
- AMBIS with **facial recognition technology** feature is an updated version of the **Automated Fingerprint Identification System (AFIS)**, which has been used by Indian law enforcement agencies to search finger and palm prints.
  - AFIS has limited utility, providing only **one-to-one fingerprint** matches as compared multimodal matches possible with AMBIS.



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# Miscellaneous

## Highlights

- European Heatwave
- Longest Electrified Railway Tunnel
- Garuda VI
- Automated Facial Recognition System
- Plan Bee
- World Population Day
- Operation Thirst
- Anshula Kant
- World Youth Skills Day
- Subansiri Dam
- Jal Marg Vikas Project
- JATAN: Virtual Museum Software
- Eruption on Mount Etna
- International Charter on Space and Major Disasters

## European Heatwave

France has recorded the hottest temperature of 45.9°C amid European heatwaves.

- The **heatwave** in Europe has caused flash floods and forest fires.

### European heatwave

- According to the **World Meteorological Organization (WMO)**, heatwaves in Europe are the result of warm air masses from Africa and extreme heat condition in India, Pakistan, parts of the Middle East and Australia.
- According to weather experts, heatwaves are being amplified by a rise in **global temperature**.
- A scientific study on Europe-wide heatwave by the **World Weather Attribution group** concluded that high temperatures in the region were made more likely by human activities that contributed to **climate change**.
- If the current trend were to continue, heatwaves across Europe could occur as often as every other year by the 2040's, with the possibility that temperatures may rise by 3-5 degrees Celsius by 2100.

## Longest Electrified Railway Tunnel

The **South Central Railway (SCR)** had commissioned the longest electrified tunnel of 6.6 km between **Cherlopalli and Rapuru stations** in the state of Andhra Pradesh.

- The tunnel is part of the recently completed Obulavaripalli-Venkatachalam new railway line.
- The new line also facilitates direct and viable connectivity between the South Coast and West Coast.
- It also opens up the viable rail connectivity between Krishnapatnam port and its hinterland for freight train services.

## Garuda VI

**Indian Air Force (IAF)** has participated in the 6<sup>th</sup> edition of bilateral exercise **Garuda** hosted by **France**.

- It is aimed at enhancing the **interoperability level of French and Indian crews** in air defence and ground attack missions.
- The **Garuda exercise** is alternately held in France and India, under the framework of bilateral cooperation between the two nations.
- Participation of IAF in the exercise will promote professional interaction, exchange experiences and operational knowledge besides strengthening bilateral relations with the French Air Force.

## Automated Facial Recognition System

The **National Crime Records Bureau (NCRB)** has released a request for proposal of an **Automated Facial Recognition System (AFRS)** to be used by police officers across the country.

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- Automated Facial Recognition System can play a very vital role in crime prevention, criminal identification and verification (identifying criminals, missing people, and unidentified dead bodies) by facilitating easy recording, analysis, retrieval and sharing of information between different organizations.

### **Automated Facial Recognition System (AFRS)**

- AFRS will be a mobile and web application hosted in NCRB (which manages data for police) data centre in Delhi but used by all police stations in the country.
- AFRS works by comparing the new image of an unidentified person often taken from CCTV footage with the existing database (AFRS maintains a database with photos and videos of people faces) to find a match and identify the person.
  - The **artificial intelligence technology** used for pattern-finding and matching is called “neural networks”.

### **Integrating AFRS with Existing Database**

- NCRB has proposed integrating automated facial recognition system with multiple existing databases like:
  - Crime and Criminal Tracking Network & Systems (CCTNS)
  - Integrated Criminal Justice System (ICJS)
  - State-specific database systems
  - Khoya paya portal

#### **Criminal Tracking Network & Systems**

- CCTNS is a countrywide integrated database on crime incidents and suspects, connecting FIR registrations, investigations, and charge sheets of all police stations and higher offices.
- CCTNS also plans to offer citizen services, such as passport verification, crime reporting, online tracking of case progress, grievance reporting against police officers.

**Integrated Criminal Justice System (ICJS):** It is any computer network, system or architecture that allows justice practitioners and agencies to electronically access and share information between systems and/or across jurisdictional lines.

**Khoya Paya Portal:** Khoya Paya portal is a citizen-based website to exchange information on missing and found children developed by the **Ministry of Women and Child Development** and the **Department of Electronics and Information Technology (DeitY)**.

### **Concerns**

- Cyber experts have cautioned against government abuse of facial recognition technology, as it can be used as a tool of control and risks citizens privacy and data.
- In the absence of data protection law, Indian citizens are more vulnerable to privacy abuses.

### **Plan Bee**

**Plan Bee**, a unique strategy adopted by **Northeast Frontier Railway (NFR)** to keep **wild elephants** away from railway tracks, has won the best innovation award by Indian Railways.

- **Northeast Frontier Railway (NFR)'s** Plan Bee, involves setting up of devices (an amplifying system imitating the buzz of a swarm of honey bees) near tracks, which emit the ‘**buzzing**’ sound of swarming bees, considered as a natural repellent of elephants (elephants have a natural fear of the perilous stings of insects).
  - First one was installed near the Guwahati railway station.
- The sound is audible to elephants 600-700 meters away and thus helps them in keeping away from the tracks.
- According to **wildlife experts**, India has the **highest number of train accidents** involving elephants in the world.

### **World Population Day**

**11 July** is celebrated as **World Population Day**.

- In 1989, the **Governing Council** of the **United Nations Development Programme** recommended that 11 July be observed by the international community as World Population Day, a day to focus attention on the urgency and importance of population issues.
- The **United Nations Population Fund (UNFPA)** seeks to create awareness about the **issues associated with population**.

### **Present Population Trends**

- Current estimates indicate that roughly 83 million people are being added to the world’s population every year.
- Even assuming that fertility levels will continue to decline, the global population is expected to reach 8.6 billion in 2030, 9.8 billion in 2050 and 11.2 billion in 2100.

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### United Nations Population Fund

- The **United Nations Population Fund (UNFPA)**, formerly the **United Nations Fund for Population Activities**, is a UN organization. It was created in **1969**.
  - UNFPA works to support family planning by ensuring a steady, reliable supply of quality contraceptives; strengthening national health systems; advocating for policies supportive of family planning; and gathering data to support this work.
  - UNFPA also provides global leadership in increasing access to family planning, by convening partners – including governments – to develop evidence and policies, and by offering programmatic, technical and financial assistance to developing countries.
- According to the '**World Population Prospects 2019**' published by the **Population Division** of the **UN Department of Economic and Social Affairs**, India is projected to surpass China as the world's most populous country by 2027.
  - But according to the Economic Survey 2018-19, India's population growth rate will **decline faster** than assumed as the fertility rate in many states has reached the replacement rate.

## Operation Thirst

**Indian Railways** have launched "**Operation Thirst**", as an all India drive to curb the menace of selling unauthorized packaged drinking water in railway premises.

- With the increase in the number of passengers travelling by railways (due to the closure of schools & festive/marriage season) during peak summer, the demand for drinking water also increases.
- The operation thirst drive was carried out in all major railway stations of the country on 8 and 9th July 2019.
- During the drive, 1371 persons were arrested by the railway protection force for selling of packaged drinking water of unauthorized brands.
- Stalls on platforms were also found selling packaged drinking water bottles of brands which are not authorized by the Indian Railway.

## Anshula Kant

**India's Anshula Kant** has been appointed as the **Managing Director (MD)** and **Chief Financial Officer (CFO)** of the **World Bank**.

- Anshula Kant will be the **first woman** Chief Financial Officer of the World Bank.
- As Managing Director and Chief Financial Officer, she will be responsible for:
  - Financial and risk management of the World Bank Group.
  - Oversight of financial reporting.
  - Working closely with the World Bank Chief Executive Officer on the mobilization of financial resources.

## World Youth Skills Day

On the **World Youth Skills Day (15<sup>th</sup> July)**, the **Ministry of Skill Development and Entrepreneurship (MSDE)** celebrated the fourth anniversary of the **Skill India Mission**.

- During the celebration, team for **World Skills International Competition**, to be held from 22<sup>nd</sup>-28<sup>th</sup> August 2019 in Kazan, Russia, was announced.
- A Degree Apprenticeship Program that will have apprenticeship/on-the-job training embedded in a 3 or 4-year University degree program, was launched. This program is designed by the **MSDE** and the **Ministry of Human Resource and Development (MHRD)**.
- Announcement regarding the establishment of a new **Japan India Institute for Manufacturing (JIIM)** in Haryana and new courses in (Industrial Training Institutes) ITIs around training on Electric Vehicles (EVs), in line with the government's intention to work for greener energy sources, was also made.

### Skill India Mission

- Launched in the year 2015, it is an initiative of the Government of India to empower the youth of the country with skill sets which make them more employable and more productive in their work environment.

### World Youth Skills Day

- The **United Nations**, at its **General Assembly** in November 2014, declared 15 July as **World Youth Skills Day (WYSD)**.
- The aim of WYSD is to advocate for skills as an important factor to improve young people's transitions to decent work and to highlight the crucial role of skilled youth in addressing today's most challenging global issues.
- The theme for the year 2019 is "**Learning to learn for life and work**".

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## Subansiri Dam

- **Subansiri Lower Hydroelectric Project (SLHEP)**, is an under-construction gravity dam on the Subansiri river along the **border of Assam and Arunachal Pradesh**.
  - Subansiri River (**gold river**), originates in the Tibet Plateau and enters India through Miri hills in Arunachal Pradesh.
  - It is the **largest tributary of Brahmaputra River**.
- Subansiri Lower Hydroelectric Project had been kept pending due to local agitation over several **dam safety** and administrative issues involved in the implementation of the project like:
  - SLHEP contravenes the 1980 **Brahmaputra Board Act** by transferring the work of Water Resources Department of **Subansiri Basin** from the Brahmaputra Board to the public and private sector.
  - The **seismic threat level** to the dam, assessed by Indian Institute of Technology at Roorkee.

### Gravity Dam

- Gravity dam is constructed from concrete or cement (unlike mud and masonry stones used in embankment).
- It is designed to hold back water by primarily utilising the weight of the material alone to resist the horizontal pressure of water pushing against it.

### Other Controversial Dams

- **Sardar Sarovar Dam:** The Sardar Sarovar Dam is a gravity dam (2<sup>nd</sup> largest concrete gravity dam by volume in the world) on the Narmada river near Navagam, Gujarat.
  - Gujarat, Madhya Pradesh, Maharashtra, and Rajasthan, receive water and electricity supplied from the dam.
  - The dam is alleged to displace around 2.5 lakh villagers.
- **Mullaperiyar Dam:** It is a gravity dam on the Periyar River in Idukki district of Kerala but it is owned and operated by the Tamil Nadu government.
  - There is an ongoing contention between Kerala and Tami Nadu governments over the height of the dam.
- **Polavaram project:** It is an under-construction multi-purpose National project on the Godavari River in the West Godavari District and East Godavari District in Andhra Pradesh.

- The project will submerge villages in Chhattisgarh and Odisha.
- **Kishanganga Hydroelectric Plant** is a run-of-the-river hydroelectric scheme that is designed to divert water from the Kishanganga River to a power plant in the Jhelum River basin and is located in Jammu and Kashmir.
  - **The World Bank's** court of arbitration failed to resolve the dispute between India and Pakistan over the Indus water treaty issue.

## Jal Marg Vikas Project

The **Jal Marg Vikas Project (JMVP)** for capacity augmentation of navigation on **National Waterway-1 (NW-1)** is being implemented by the support of the **World Bank**.

- One of the major problems for commercially viable and safe navigation on NW-1 is low depth upstream of **Farakka barrage** due to low discharges from tributaries and difficult **hydro morphological** characteristics of the river Ganga.
- The project will contribute to bringing down the logistics cost in the country and will provide an alternative mode of transport which will be **environment-friendly and cost-effective**.
- It is being implemented by the **Inland Waterways Authority of India** (Ministry of Shipping).
- The project envisages fairway development through a performance-based contract for the least assured depth of 2.2 metres to 3 metres and bottom channel width of 45 metres, bank protection works, and provisions of navigation aids.
- The states that are being covered under the Project are Uttar Pradesh, Bihar, Jharkhand, West Bengal.
- The Project is expected to be completed by March, 2023.

## JATAN: Virtual Museum Software

- Archaeological site museums under **Archaeological Survey of India (ASI)** have been digitised through JATAN software.
- **JATAN** is a **virtual museum builder software**, that enables the creation of a digital collection management

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system for Indian museums and is deployed in several national museums across India.

- It's objective is to make a digital imprint of all the objects preserved in museums and help researchers, curators and other people interested in the field.
- Designed and developed by Human Centres Design and Computing Group, **Centre for Development of Smart Computing (C-DAC)** Pune.
- The digital imprints (of preserved objects and monuments) created using the **JATAN software** are integrated into the national digital repository and portal for making them accessible to the public.
  - The **National portal and digital repository** (developed by C-DAC, Pune) for museums of India provide integrated access to **theme-based collections** and **artefacts** (in terms of sculptures, paintings, manuscripts, weapons, coins and numerous other categories of artefacts) irrespective of the physical and geographical locations of museums.
- **Centre for Development of Smart Computing (C-DAC)** Pune has also developed "**Darshak**", a mobile-based application aimed at improving the museum visit experience among the differently-abled.
  - It allows real-time museum visitors to gather all details about objects or artefacts simply by **scanning a QR code** placed near the object.

#### Centre for Development of Advanced Computing

- C-DAC is the premier Research & Development organization of the Ministry of Electronics and Information Technology (MeitY) for carrying out R&D in IT, Electronics and associated areas.
- India's first supercomputer PARAM 8000 was indigenously built (in 1991) by the Centre for Development of Advanced Computing.

## Eruption on Mount Etna

Recently, **Mount Etna** in **Sicily (Italy)** has erupted. It spewed a plume of ash and lava as two fractures opened at the base of its crater (a bowl-shaped depression, or hollowed-out area, produced by the impact of volcanic activity).

- Eruptions of Etna follow a variety of patterns. Most occur at the summit, where there are currently (as of 2019) five distinct craters.

- Other eruptions occur on the flanks, which have more than 300 vents, ranging in size from small holes in the ground to large craters hundreds of metres across.

### Mount Etna

- Mount Etna is the highest Mediterranean island mountain and the most active **stratovolcano** in the world. It is about 3,326 metres high and is the highest peak in Italy south of the Alps.
- The **eruptive history** of the volcano can be traced back 500,000 years and at least 2,700 years of this activity has been documented.
- The almost continuous eruptive activity of Mount Etna continues to influence **volcanology, geophysics and other Earth science disciplines**.
- The volcano also supports important terrestrial ecosystems including endemic flora and fauna and its activity makes it a natural laboratory for the study of ecological and biological processes.

### Volcano

- A volcano is an opening on the surface of a planet or moon that allows material warmer than its surroundings to escape from its interior.
- When this material escapes, it causes an eruption. An eruption can be explosive, sending material high into the sky. Or it can be calmer, with gentle flows of material.
- On Earth, the erupted material can be liquid rock ("**lava**" when it's on the surface, "**magma**" when it's underground), ash, cinders, and/or gas. There are **three reasons why magma might rise and cause eruptions onto Earth's surface**.
- Magma can rise when pieces of Earth's crust called **tectonic plates slowly move away from each other**. The magma rises up to fill in space. When this happens underwater volcanoes can form.
- Magma also rises when these **tectonic plates move toward each other**. When this happens, part of Earth's crust can be forced deep into its interior. The high heat and pressure cause the crust to melt and rise as magma.
- A final way that magma rises is over **hot spots**. Hot spots are the hot areas inside of Earth. These areas heat up magma. The magma becomes less dense. When it is less dense it rises. Each of the reasons for rising magma is a bit different, but each can form volcanoes.

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## International Charter on Space and Major Disasters

India, by virtue of being a member of the **International Charter 'Space and Major Disasters'** has received satellite data related to the Assam floods from other member nations including France, Russia and China.

- Whenever there is a natural or man-made disaster, the **National Remote Sensing Center (NRSC)** and **member space agencies** of other countries which are a part of the International Charter Space and Major Disasters can activate the platform.
- **National Remote Sensing Center** represents **Indian Space Research Organisation (ISRO)** as a member of the charter which has been set up under the **UN-SPIDER (United Nations Platform for Space-based Information for Disaster Management and Emergency Response)**.

### International Charter 'Space and Major Disasters'

- World's first coordinated multi-satellite operational setup for emergency response Introduced at Space Assembly (**UNISPACE III**) in 1999 and is Operational since Nov 1, 2000.

### Purpose

- It is an **International Agreement among Space Agencies** to support with space-based data and information for relief efforts in emergencies caused by major disasters, on the humanitarian ground at no cost.

### Need

- No single space agency can provide imaging capability to meet the spatial and temporal requirements of different types of disasters.
  - Different space sensors (Thermal, Microwave, Optical) are required for different disasters (Fire, Floods, EQ).
- Hence the need for a global system for disaster management, supported by multi-satellite and multi-imaging capabilities.

### Members

- Currently, 16 global space agencies Including India's ISRO are its members.
- The members cooperate on a **voluntary basis**.
- **UN-SPIDER** and **UNITAR** (United Nations Institute for Training and Research is a dedicated training arm of the United Nations system) are not formal members of the mechanism but are authorized to request the activation of the mechanism on behalf of UN agencies, in countries affected by disasters.

### Disasters Types Supported

- **Charter addresses both:**
  - Natural disasters like floods, earthquakes, forest fires, landslides, tsunamis, ocean storms, volcanic eruptions.
  - Man-made disasters like oil spills and industrial accidents.

### Mechanism

- **Direct activation:** Authorized Users (civil protection agencies, governmental relief organizations, or other authorities with a mandate related to disaster management) are able to request the activation of the Charter to support emergencies in their own country.
- **Activation via an Authorized User on behalf of a user from another country without AU:** Authorized Users can access the charter to request support for a disaster in another country with which they cooperate for relief purposes.
- **Activation via the United Nations (UN) for UN users:** The Charter has an agreement with UN OOSA (Vienna) and UNITAR/UNOSAT (Geneva) to provide support to UN agencies, may submit requests on behalf of users from the United Nations.
- **Activation for Asia Pacific users via Sentinel Asia:** Sentinel Asia is a regional collaboration for satellite-based emergency response in the Asia Pacific.



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**Summary**



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**Summary**



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# Current Affairs (CONSOLIDATION)

**AUGUST 2019**

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# Polity and Governance

## Highlights

- Article 370 and 35(A) Revoked
- Delimitation of Jammu and Kashmir
- The Muslim Women (Protection of Rights on Marriage) Act 2019
- Anti Mob Lynching and Honour Killing Bills Passed
- Increasing the Strength of SC Judges
- Accused Can be Ordered to Give Voice Samples
- Institutions of Eminence Scheme
- Skilling under MGNREGA
- Western Zonal Council
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- SKOCH Governance Gold Award for DAY-NULM
- Shagun: Integrated Online Junction for School Education
- Compulsory Rural Service for Doctors
- San-Sadhan Hackathon
- Mob Lynching

## Article 370 and 35(A) Revoked

On 5<sup>th</sup> of August 2019, the President of India promulgated the **Constitution (Application to Jammu and Kashmir) Order, 2019**.

- The order effectively abrogates the special status accorded to Jammu and Kashmir under the provision of **Article 370** - whereby, provisions of the Constitution which were applicable to other states were not applicable to **Jammu and Kashmir (J&K)**.
- According to the Order, provisions of the **Indian Constitution are now applicable in the State**.
- A separate Bill - **the Jammu and Kashmir Reorganisation Bill 2019** - was introduced to **bifurcate the State into two separate union territories of Jammu and Kashmir (with legislature), and Ladakh (without legislature)**.
- **Jammu and Kashmir Reservation (Second Amendment) Bill, 2019** was also introduced to extend the reservation for **Economically Weaker Sections (EWS)** in educational institutions and government jobs in Jammu and Kashmir.

### History

- J&K acceded to the Dominion of India after the **Instrument of Accession** was signed by Maharaja Hari Singh, the ruler of the princely state of Jammu and Kashmir, on 26 October 1947.
- **Article 370 of the Indian Constitution** provided that only **Articles 1 and 370 itself would apply to J&K**. The

application of other Articles was to be determined by the President in consultation with the government of the state.

- **The Constitution Order of 1950** specified the matters on which the Union Parliament would be competent to make laws for J&K, in concurrence with the Instrument of Accession - accordingly, 38 Subjects from the Union List were added.
- **The Constitution (Application to Jammu and Kashmir) Order, 1954** settled the constitutional relationship of J&K and the Union of India. It made the following provisions:
  - Indian citizenship and all related benefits (fundamental rights) were extended to the '**permanent residents**' of Jammu and Kashmir.
  - **Article 35A** was added to the Constitution (empowering the state legislature to legislate on the privileges of permanent residents with regard to immovable property, settlement in the state and employment)
  - The **jurisdiction** of the Supreme Court of India was extended to the State.
  - Central Government was given the power to **declare a national emergency** in the event of **external aggression**. The power in case of internal disturbances could be exercised only with the concurrence of the State Government.
  - Normalized the financial relations between the Centre and J&K.

Note:

### Article 370 - Features and Provisions

- **Present in part XXI of the Indian Constitution**, which comprises of **Temporary, Transitional and Special Provisions** with respect to various states of India.
- Forms the basis of the **"Special Status"** of J&K.
- Provides for a **separate Constitution** of J&K.
- Limits the Union Parliament's power to make laws for J&K to those subjects mentioned in the **Instrument of Accession (defense, foreign affairs, and communications)** and others as and when declared by the Presidential Orders with the concurrence of the Government of the State.
- Specified the mechanism by which the Article shall cease to be operative. That is, on the **recommendation of the Constituent Assembly of the State** before the President issues such a notification. However, this provision has been amended by the **Constitution (Application to Jammu and Kashmir) Order, 2019**.

### Was it Temporary

- The Article was introduced to accommodate the apprehensions of Maharaja Hari Singh who would not have acceded to India without certain concessions.
- Territorial integrity and security was of paramount importance to India post-independence. Thus, such a special provision was introduced in the constitution.
- This provision, however, is part of the **"Temporary, Transitional and Special Provisions"** of our constitution.
- Moreover, Article 370 could be interpreted as temporary in the sense that the J&K Constituent Assembly had a right to either modify, delete, or retain it and it decided to retain it.
- Another interpretation was that accession was temporary until a plebiscite.

### Issues in Revoking

- Article 370 is the bedrock of the constitutional relationship between Jammu and Kashmir and the rest of India.
- It has been described as a tunnel through which the Constitution of India is applied to J&K.
- India has used Article 370 at least 45 times to extend provisions of the Indian Constitution to J&K. This is the only way through which, by mere Presidential Orders, India has almost nullified the effect of J&K's special status.

- By the 1954 order, almost the entire Constitution was extended to J&K including most Constitutional amendments.
- However, abrogating the article altogether **may threaten the peace in the state** which is already a hotspot of conflicts and militancy.
- It will completely change the relationship between the state and the rest of India.
- It will also clear the path for **abrogating Article 35A** which would allow Indian citizens to **purchase land and settle permanently** in J&K.
- Thus, the move is bound to have a **significant impact on the demography, culture, and politics of J&K**.

## Delimitation of Jammu and Kashmir

Recently, the **Election Commission of India** held internal discussions on the delimitation of constituencies ahead of elections to the new Union Territory of Jammu and Kashmir.

- According to the Jammu and Kashmir Reorganisation Act, 2019, the number of seats in the Legislative Assembly of J&K would be increased from **107 to 114**.
- In the new Assembly, 24 seats have been kept aside for areas under Pakistan Occupied Kashmir (PoK), which means elections will be **conducted for the remaining 90 seats**.
- The Act also specifies that delimitation will be based on the **2011 census** till 2026.

### Delimitation in India

- Articles **82 and 170 of the Constitution of India** provides for readjustment (Delimitation) and the division of each State into territorial constituencies on the basis of the 2001 census and in such manner as Parliament may, by law, determine.
  - Accordingly, the Parliament has enacted the **Delimitation Commission Acts in 1952, 1962, 1972 and 2002 for this purpose**.
- Further, **Articles 330 and 332 of the Constitution of India** provides for reserving the number of seats reserved for the Scheduled Castes and Scheduled Tribes in the House of the People and State Legislative Assemblies on the basis of the 2001 census.

Note:

### Need for Delimitation

- The **uneven growth of population** in constituencies in different parts of the country as well as within the same state.
- Also, **continuous migration** from one place to another, especially from rural to urban areas have resulted in strikingly different sizes of electoral constituencies even within the same State.
- So, after every census, a readjustment is to be made in:
  - Allocation of seats to the states in the Lok Sabha.
  - Division of each state into territorial constituencies.
- However, the **42<sup>nd</sup> Amendment Act of 1976** froze the allocation of seats to the states in the Lok Sabha and the division of each State into territorial constituencies till the year 2000.
- Further, by the **84<sup>th</sup> Amendment Act of 2001**, this ban on readjustment was extended for another 25 years (i.e., upto year 2026), without affecting the total number of seats based on the **1971 census**.
  - The **84<sup>th</sup> Amendment Act of 2001** also empowered the government to undertake readjustment and rationalisation of territorial constituencies in the states on the basis of the population figures of 1991 census.
  - Later, the **87<sup>th</sup> Amendment Act of 2003** provided for the delimitation of constituencies on the basis of the 2001 census and not 1991 census.
- Delimitation of constituencies is carried out by the **Simple Majority of Parliament**.
- Also, delimitation exercise cannot be **questioned in any court**.

## The Muslim Women (Protection of Rights on Marriage) Act 2019

The Muslim Women (Protection of Rights on Marriage) Bill 2019 after receiving President's nod became an Act.

- The Muslim Women (Protection of Rights on Marriage) Act, 2019 has replaced an **ordinance promulgated on triple talaq**.

### Key Provisions

- **Declaration of Talaq:** The Act makes all declaration of talaq, including in written or electronic form, to be void (i.e. not enforceable by law) and illegal.

- The Act defines talaq as **talaq-e-biddat** or any other similar form of talaq pronounced by a muslim man resulting in instant and irrevocable divorce.
- **Offence and Penalty:** The Act makes a declaration of talaq a **cognizable offence**, punishable with three years of **imprisonment with a fine**.
  - A cognizable offence is one for which a police officer may arrest an accused person without warrant.
- **Cognizable Offence:** The offence will be cognizable only if information relating to the offence is given by married woman (against whom talaq has been declared), or any person related to her by blood or through marriage.
- **Bail:** The Act provides that the Magistrate may grant bail to the accused.
  - The bail may be granted only after hearing the woman (against whom talaq has been pronounced), and after that, if the Magistrate is satisfied that there are reasonable grounds for granting bail.
- **Compounding Offence:** The offence may be compounded (i.e. the parties may arrive at a compromise) by the Magistrate upon the request of the woman (against whom talaq has been declared).
  - The terms and conditions of the compounding of the offence will be determined by the Magistrate.
- **Allowance:** A Muslim woman against whom talaq has been declared, is entitled to seek **subsistence allowance** from her husband for herself and for her dependent children.
  - The amount of the allowance will be determined by the Magistrate.
- **Custody:** A Muslim woman against whom such talaq has been declared, is entitled to seek custody of her minor children.
  - The manner of custody will be determined by the Magistrate.

## Anti Mob Lynching and Honour Killing Bills Passed

The Rajasthan Assembly has passed two separate bills against mob lynching and honour killing to tackle the rising incidents of these offences.

- The bills propose to make offences non-bailable and also impose heavy penalties and punishment, including the death penalty or life imprisonment, in case of honour killings.

Note:



### ***The Rajasthan Protection from Lynching Bill, 2019***

- Makes mob lynching a cognisable, non-bailable and non-compoundable offence, punishable with life imprisonment and a fine up to Rs 5 lakh.
- Definition of Mob and Lynching in the bill:
  - **Mob:** Bill defines the mob as a group of two or more individuals.
  - **Lynching:** It is an act or series of acts of violence or those of aiding, abetting or attempting an act of violence, whether spontaneous or preplanned, by a mob on the grounds of **religion, race, caste, sex, place of birth, language, dietary practices, sexual orientation, political affiliation or ethnicity.**
- **Imprisonment and Fine:** For the offence of an assault by a mob, leading to the victim suffering grievous injuries, the bill provides for jail term up to 10 years and a fine of ₹25,000 to ₹3 lakh and if victims suffer simple injuries, the **imprisonment** is up to seven years and a fine up to ₹1 lakh
- **Conspiracy of Lynching:** For plotting a conspiracy of lynching or aiding, abetting or attempting such an offence, the bill seeks to punish the offenders in the same manner as if he/she actually committed the offence.
- **Prevention of Lynching:** Bill empowers the state police chief to appoint a state coordinator of the rank of Inspector General of Police to prevent the incidents of lynching
- **Other Offences Related to Lynching:** Bill also enlists various other offences related to the lynching such as dissemination of offensive materials, propagation of hostile environment and obstructing legal processes, which would be punishable with jail terms varying from three to five years.
- **Victim Compensation and Rehabilitation:** Bill also stipulates the provision of compensation to victims by the state government as per the Rajasthan Victim Compensation Scheme.
  - It also binds the state government to take necessary measures to rehabilitate the victims of mob lynching, suffering displacement from their native places.

#### ***Need***

- Among the total number of mob lynching cases in India after 2014, **86%** of cases were reported in Rajasthan.

### ***The Anti Honour Killing Bill, 2019***

- **Death Penalty:** As per the provisions of the bill whoever causes the death of a couple or either of them on the basis that their marriage has dishonoured, or brought disrepute to the caste, community or family shall be punished with death, or with imprisonment for life and fine which may extend to 3 lakh.
- **Life Imprisonment and Fine:** If the couple or either of them is **grievously hurt**, the punishment will be from 10 years to imprisonment for life and with fine of maximum ₹3 lakh, whereas in the case of simple injuries punishment will be three to five years imprisonment with fine which may extend to ₹2 lakh.
  - **Sub Divisional Magistrate** or the **District Magistrate** shall receive any request or information from any person or persons seeking protection from any unlawful assembly, or from any other person who is likely to or who have been objecting to any lawful marriage.
- **Unlawful Assembly:** Bill says no person or group shall assemble at any time with the view or intention to deliberate on or condemn any marriage, not prohibited by law, on the basis that such marriage has dishonoured the caste or community tradition or brought disrepute to all or any of the persons forming part of the assembly or the family or the people of the locality concerned.

#### ***Need***

- In past five years in Rajasthan, 71 cases of illegal diktat given by 'Khap Panchayats' (caste councils which function like kangaroo courts) were registered and 10 cases of honour killing occurred in which four men and eight women were killed.
- Honour killing cases have increased in the past few years and have become a hurdle in societal development.

### ***Increasing the Strength of SC Judges***

The Union Cabinet has approved increasing the strength of judges in the Supreme court.

- The Cabinet has taken a decision to **increase the strength (an increase of 10%)** from 31 to 34 judges including the Chief Justice of India (CJI).

Note:

- The Supreme Court (Number of Judges) Act, 1956 was last amended in 2009 to increase the judge's strength from 25 to 31 (including the CJI).
- As per the **Article 124 (1)** of the Constitution of India, the strength of the Supreme Court is fixed by the law made by the Parliament.

### Need

- **Rising Pendency:**
  - Between 2006 and 2018 (up to April), there has been an 8.6% rise in the **pendency** of cases across all courts.
  - Pendency before Supreme Court increased by 36%, High Courts by 17%, and subordinate courts by 7%.
- **Low Disposal Rate:** The disposal rate has stayed between 55% to 59% in the Supreme Court, at 28% in the High Courts, and at 40% in the subordinate courts.

### Constitutional Provisions

- **Article 124 (1)** states that there shall be a Supreme Court of India consisting of a Chief Justice of India and not more than seven other judges, until Parliament by law prescribes a large number.
- **Article 124 (2)** states that every judge of the Supreme Court shall be appointed by the President by warrant through his seal after consultation with the judges of Supreme Court and of the High Courts (in states).
- The **Parliament is competent** to increase the number of judges if it deems necessary.

## Accused Can be Ordered to Give Voice Samples

The Supreme Court has ruled that a **judicial magistrate** can order an accused to give his **voice samples** even **against his consent** in the course of a **criminal investigation**.

- The Supreme Court has issued this order under **Article 142** of the Constitution of India.
- It called upon the Parliament to make requisite changes in the Code of Criminal Procedure and till the time these changes are made, the magistrate will have the power to order the same.
  - The **87<sup>th</sup> Report of the Law Commission of India** describes a voiceprint as a “**visual recording of voice**”. Voiceprints resemble fingerprints, in that each person has a distinctive voice with characteristic features dictated by vocal cavities and articulates.

- In a past judgment, the court said that the making of such far-reaching interpretations in the Criminal Procedure Code – which is silent on whether a court can order a person to give voice sample to police – should be best left to the legislature.
- The court also observed that **the fundamental right to privacy (Article 21)** cannot be construed as absolute and must be bendable towards public interest and welfare.
- The court did not give any direct observation on **Article 20 (3)** of the Constitution which protects an accused from being compelled to be a witness against himself.
  - However, with this order, a person can be compelled to give his voice sample during the criminal investigation.
  - The **Chief Justice** compared a voice sample with other impressions like **specimen handwriting, or impressions of his fingers, palm or foot** collected by police during the investigation. By themselves, these impressions or the handwriting do not incriminate the accused person, or even tend to do so.
  - A voice sample will be taken for comparing it **with other voices** in order to see if they match and are of the same person.

### Article 142

- **Definition:** Article 142 provides **discretionary power** to the Supreme Court as it states that the Supreme Court in the exercise of its jurisdiction may pass such decree or make such order as is necessary for doing **complete justice in any cause or matter pending before it**.
- **Constructive Application:** In the early years of the evolution of Article 142, the general public and the lawyers both lauded the Supreme Court for its efforts to bring complete justice to the deprived sections of society or to protect the environment.
  - The **Cleansing of Taj Mahal** and justice to many undertrials is a result of the invocation of this article only.
- In the **Union Carbide case**, relating to the victims of the Bhopal gas tragedy, the Supreme Court placed itself above the laws made by the **Parliament or the legislatures of the States** by saying that, to do justice, it could easily override the laws.
  - However, in the **Supreme Court Bar Association v. Union of India**, the Supreme Court stated that **Article 142 could not be used to supplant the existing law, but only to supplement it**.

Note:

➤ **Cases of Judicial Overreach:** In recent years, there have been several judgments of the Supreme Court which prove that lately, it has been foraying into areas which had long been forbidden to **the judiciary by the doctrine of 'separation of powers'**, which is part of the **basic structure of the Constitution**. One such example is:

- **The ban on the sale of alcohol along national and state highways:** While the notification by the central government prohibited liquor stores along National Highways only, the Supreme Court put in place a ban on a distance of 500 metres by invoking **Article 142**.
- Additionally, and in the absence of any similar notification by any of the State governments, the court extended the ban to State highways as well.
- Such judgments have created **uncertainty about the discretion** vested in the court to invoke Article 142 where even fundamental rights of individuals are being ignored.

### Way Forward

- **The Supreme Court needs to introspect** on whether the use of Article 142 as an independent source of power should be regulated by strict guidelines.
- Another option is that **all cases invoking Article 142 should be referred to a Constitution Bench of at least five judges** so that this exercise of discretion may be the outcome of five independent judicial minds operating on matters having such far-reaching impact on the lives of people.
- In all cases where the court invokes Article 142, the government should bring out a white paper to study the beneficial as well as the negative effects of the judgment after a period of six months or so from its date.

## Institutions of Eminence Scheme

The **University Grants Commission**, has nominated 20 institutions for **Institutes of Eminence tag (IOE)**.

- Nominations have been made on the recommendations of **Empowered Expert Committee (EEC)** headed by **N Gopalaswami**.
  - Empowered Expert Committee constituted by the **University Grants Commission (UGC)** was

entrusted to conduct the appraisal of applications for shortlisting 20 Institutions of Eminence (10 public and 10 private institutions).

### Objectives

- **Excellence and Innovation:** To provide for higher education as may be deemed fit at post-graduate, graduate and research degree levels.
- **Specialization:** To engage in varied areas of specialization to make distinctive contributions to the objectives of the university education system.
- **Global Rating:** To aim to be rated internationally for its teaching and research-oriented activities, in top hundred Institutions of the world, over time.
- **Quality teaching and Research:** To provide for high quality teaching and research and for the advancement of knowledge and its dissemination.

### Criteria

- **Global/National Ranking:** Only those institutions which have appeared in any of the global/national ranks shall be recommended for the IoE status.
  - **Public institutions** are assessed on the basis of **QS-2020 world rankings**, in case of a tie **QS- 2019 rankings** are used.
  - **Private institutions** are assessed on the basis of **their ranking in the QS India or National Institution Ranking Framework (NIRF)**, the NIRF ranking is to be used as a tie-breaker.
  - Any institution that did not appear in any rankings (QS-2019, QS-2020 and NIRF) will be **excluded completely from the list of IOE tag**.
- **Greenfield Proposals:** Only after exhausting the above criterion, if any slot remains vacant, preference shall be given to yet to be established (Greenfield) proposals.
  - The term **greenfield project** generally refers to the initiation of a project without the need to consider any prior work.
  - The Greenfield Institutions would get 3 year period to establish and operationalise the institution, and thereafter, EEC will consider giving IoE status to such institutions.
  - **Satya Bharti Foundation** (telecom major Airtel's philanthropic arm) became the **second greenfield institution** to be given IoE status, after Reliance's Jio Institute.

Note:



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### Benefits

- **Autonomy:** Institutes with IOE tag will be given greater autonomy and freedom to decide fees, course durations and governance structures.
- **Grant:** The public institutions under IOE tag will receive a government grant of ₹1,000 crore, while the private institutions will not get any funding under the scheme.

## Skilling under MGNREGA

The central government is working on an initiative to root out 10-12.5 million families out of poverty and include them within the ambit of the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)**, by imparting skills and creating durable assets.

### Background

- Under the **Livelihoods in Full Employment (LIFE) project** of the MGNREGA, started in 2015-16, the government provides training to eligible workers in the age group of 15-35 years. However, this is applicable to only those MGNREGA workers, who have completed at least 100 days of work.
- In a mid-term review of the initiative, a lot of states complained of slow progress.
  - States also complain of **absence of stipends** (for loss of wages due to engagement in skilling),
  - Candidates ineligibility for skilling due to the age criterion, was also one of the complaints from the states.

### New Initiative Features

- The government is planning to **spend Rs 500-1,000 crore every year** on this and it will not be limited to those who completed 100 days of work under the MGNREGA.
- As part of the proposed initiative, each year **one member of 400,000-500,000 families will get training for 30-45 days**.
- **Stipends** will be provided for compensation of any loss in wages that may arise.
- Training will be provided within the mandated 100 days (of MGNREGA) and conducted under skill-development initiatives such as the **Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)**, self-employment programmes run by banks, and the **National Rural Livelihood Mission (NRLM)**.

- The workers will be working under **Krishi Vigyan Kendras (KVKs)** and trained in grafting, horticulture, growing fruit-bearing crops, etc.

### Livelihoods in Full Employment (LIFE) Project

- The **Ministry of Rural Development** has formulated a project for '**Livelihoods in Full Employment**' under Mahatma Gandhi National Rural Employment Guarantee Act (Project LIFE-MGNREGA) in April 2015.
- The project aims to **promote self reliance** and improving the skill base of the **MGNREGA** workers, and thereby improving the livelihood of the workers, so that they can improve their current status of partial employment to full employment.

### Deen Dayal Upadhyaya

#### Grameen Kaushalya Yojana (DDU-GKY)

- The **Ministry of Rural Development** announced the **Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) Antyodaya Diwas**, on 25<sup>th</sup> September 2014.
- It is the demand based, skill training initiative, with a promise of placements, under the **National Rural Livelihood Mission (NRLM)**.
- DDU-GKY is uniquely focused on youth between the ages of 15 and 35 years belonging to poor families.

### Krishi Vigyan Kendras (KVKs)

- KVK is an integral part of the **National Agricultural Research System (NARS)**, which aims at assessment of location specific technology modules in agriculture and allied enterprises, through technology assessment, refinement and demonstrations.
- KVKs have been functioning as **Knowledge and Resource Centre of agricultural technology** supporting initiatives of public as well as private sector for improving the agricultural economy of the district and are linking the NARS with extension system and farmers.
- The KVK scheme is 100% financed by the Government of India.
- KVKs are sanctioned to **Agricultural Universities, ICAR institutes, related Government Departments and Non Government Organizations (NGOs)** working in Agriculture.
- The first KVK was established in 1974 at Puducherry.

Note:



## Western Zonal Council

The 24<sup>th</sup> meeting of the Western Zonal Council, to be chaired by Union Home Minister, will be held in **Panjim (Goa) on August 22, 2019**.

- Issues such as- Speedy investigations into sexual assault cases, a comprehensive security plan and improved security at railway stations etc will be among some of the primary agendas of the meeting.
- The council, functioning under the aegis of the **Ministry of Home Affairs (MHA)**'s Inter-State Council Secretariat, comprises **Goa, Gujarat, Maharashtra, and the Union Territories of Daman and Diu and Dadra and Nagar Haveli**.
- The previous meeting of the council was chaired by the then Home Minister in April, 2018 at Gandhinagar (Gujrat).

### Zonal Council

- The **Zonal Councils** are the **statutory (and not the constitutional) bodies**. They are established by an Act of the Parliament, that is, **States Reorganisation Act of 1956**.
- The act divided the country into **five zones (Northern, Central, Eastern, Western and Southern)** and provided a zonal council for each zone.
- While forming these zones, several factors have been taken into account which include: the **natural divisions** of the country, the river systems and means of communication, the **cultural and linguistic affinity**, and the requirements of **economic development, security and law and order**.
- Each zonal council consists of the following members:
  - Home Minister of Central government.
  - Chief Ministers of all the States in the zone.
  - Two other ministers from each state in the zone.
  - Administrator of each union territory in the zone
- In addition to the above Zonal Councils, a **North-Eastern Council** was created by a separate Act of Parliament—the **North-Eastern Council Act of 1971**.
  - Its members include **Assam, Manipur, Mizoram, Arunachal Pradesh, Nagaland, Meghalaya, Tripura and Sikkim**.
- These are **advisory bodies** that will discuss and make recommendations with regard to any matter of common interest, in the field of economic and social planning, between the Centre and States.

## City Knowledge and Innovation Clusters

Six cities — **Bhubaneswar, Chandigarh, Jodhpur, Pune, Ahmedabad and Hyderabad** will be developed as City Knowledge and Innovation Clusters.

- The project is led by the office of the **Principal Scientific Advisor (PSA)** on a priority basis.
- These clusters will **connect existing research and knowledge setups at institutions** and various industries that exist in the city or state.
  - A huge amount of knowledge and fiscal resources exist within a city or region. If these independent entities **connect through a virtual platform**, optimisation of resources can be achieved and various sectors will be able to work in partnership.
- The project will **assist industries in gaining access** to existing technology, and help academic institutions commercialise this technology.
- Under the project each city cluster will have a **nodal office** headed by a **Chief Executive Officer (CEO)**, who will be selected by the stakeholders. Government officials, such as municipal commissioners, will also be a part of the city cluster.
  - The nodal offices will be **run and funded by the PSA's office** for the first three years, within which time the stakeholders will have to look at how to make the initiative independent of government funding.
- The aim of the project is that over a period of time, **city clusters will be able to bid for international projects** and seek international funding from organisations like the **World Bank**.
- To enhance collaboration of research and facilities in the clusters, the government is also planning to set up **I-Stemm** (a web portal which will function as a nationwide inventory of all public funded institutions as well as all scientific instruments and infrastructure).
- It can be noted that, Chandigarh has already experimented with a version of the project called **Chandigarh Region Innovation Knowledge Cluster (CRIKC)** where the city has opened its laboratories to students of Panjab University. The Chandigarh model has done well and the government is pondering over extending it to the rest of the state

Note:



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## North East Rural Livelihood Project

The North East Rural Livelihood Project (NERLP) has empowered the poor and improved the lives of people in about 3,00,000 rural households in Mizoram, Nagaland, Tripura and Sikkim.

### About North East Rural Livelihood Project

- Launched in 2012, the **NERLP** is aided by the **World Bank**, multi-state livelihood ₹683 crore project under the **Ministry of Development of North Eastern Region (DoNER)**.
- The project has been implemented in 11 districts of **Mizoram, Nagaland, Tripura and Sikkim** with an aim to improve rural livelihoods especially that of women, unemployed youth and the most disadvantaged.
- There are **four components** to the Project:
  - Social empowerment
  - Economic empowerment
  - Partnership development
  - Project management
- The specific **project objectives** are to:
  - Create sustainable community institutions around women **Self-Help Groups (SHGs)**, Youth Groups of men and women (YG) and Community Development Groups (CDG).
  - Build capacity of community institutions for self governance, bottom up planning and democratic functioning with transparency and accountability.
  - Increasing livelihood opportunities.
  - Developing partnership of community institutions for natural resource management, microfinance, market linkages and sectoral economic services.
- The project also works in partnerships with expert organizations to focus on **cluster development through value chain**.

### Outcomes

- It has **impacted the lives of about 18 lakh population**, with creation of common economic assets (including rural infrastructure) worth around total Rs. 136 crores.
- Under the project, **10,462 boys and girls have been trained in various job skills** and 5,494 of them are employed as of now.

- Various activities have been undertaken by CDGs such as reclamation of wasteland, construction of check-dams, plantation, horticulture projects etc.
- Livelihood activities pursued by SHG members have increased considerably, leading to **increase in family incomes**.
- **Women have become more knowledgeable**, expressive and display better leadership qualities.

## SKOCH Governance Gold Award for DAY-NULM

The **Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM)** has been conferred the prestigious **SKOCH Governance Gold Award** for its **Portal for Affordable Credit and Interest Subvention Access (PAISA)**.

- **DAY-NULM** is a flagship mission under the **Ministry of Housing and Urban Affairs. Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM)**.
- The mission was launched in 2014 and is being implemented by the **Urban Ministry of Housing & Poverty Alleviation**.
- It aims to uplift urban poor by providing livelihood opportunities through skill development.
- It is **Centrally Sponsored Scheme**.
  - Funding will be shared between the **Centre and the States** in the **ratio of 75:25**. For **North Eastern and Special Category** – the ratio will be 90:10.
- Its intended beneficiaries are urban poor (street vendors, slum dwellers, homeless, rag pickers), unemployed and differently-abled.
  - **Skills Training and Employment:** It provides for the development of vendor markets and also the promotion of skills for the aforementioned parties by setting up infrastructure and special projects for rag picker and differently-abled etc.
  - It provides for employment through **Skill Training and Placement**, through City Livelihood Centres, to reduce poverty and vulnerability.
  - It also provides subsidy to urban poor i.e. interest subsidy of 5% – 7% for setting up individual micro-enterprises with the loan of up to 2 lakhs and for group enterprises with a loan limit of up to Rs. 10 lakhs.

Note:



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- **Self-Help Groups:** It also provides **social mobilization and institution** development through the formation of **Self-Help Groups (SHG)** for training members, initial support of Rs. 10,000 is given to each group.
- **Shelters:** It fully funds the cost of **construction of shelters for the urban homeless.**

### **Portal for Affordable Credit and Interest Subvention Access (PAiSA)**

- It is a centralized IT platform which simplifies and streamlines the release of **interest subvention** under the DAY-NULM.
- It offers end to end online solution for processing, payment, monitoring and tracking of interest subvention claims from banks, on a monthly basis.
- The portal has been designed and developed by the **Allahabad Bank.**

#### **SKOCH Awards**

- These awards were given in 2003, for the first time in recognition of **people, projects and institutions** that go the extra mile to make India a better nation.
- It recognises the best of efforts in the areas of digital, financial and social inclusion, governance, inclusive growth, excellence in technology and applications, change management, corporate leadership, corporate governance, citizen service delivery, capacity building and empowerment.

## **Shagun: Integrated Online Junction for School Education**

The Union Human Resource Development Minister has launched **one of the world's largest Integrated Online Junction for School Education 'Shagun'.**

- It is an **online junction of different websites and portals** at a single platform, to improve the accessibility of information relating to schools.
- It will ensure a **holistic approach to transforming the education sector.**

### **Shagun**

- It is an initiative to improve school education system by creating a junction of all online portals and websites relating to various activities of the Department of School Education and Literacy in the Government of India and to be applied in all States and Union Territories.

- The term 'Shagun' is coined from two different words - '**Shala**' meaning **Schools** and '**Gurvatta**' meaning **Quality.**
- The portal seeks to provide an effective feedback mechanism, which will increase public participation and ensure accountability and transparency.
- It also provides vital information relating to the availability of nearby schools, navigable distance vis-a-vis aerial distance between schools.

### **Integrated National School Education Treasury**

- Union Human Resource Development Minister has also announced the setting up of the **Integrated National School Education Treasury (INSET).**
- It will envisage a fully integrated, accessible and seamless information network for students, teachers, and schools in the country.
- The **main focus of INSET** will be on the following areas:
  - Reinforcing and cleaning the data of the Integrated Online Junction through feedback from Stakeholders.
  - Ensuring full interoperability among the websites, portals and applications which are already hosted in the junction.
  - Creating high-quality e-contents, including quizzes and puzzles to enhance learning and providing aids for teachers for creative classroom interactions.
  - Using artificial intelligence and deep machine learning in a variety of ways to enhance the quality of school education including for designing evidence-based inventions.

## **Compulsory Rural Service for Doctors**

The Supreme Court has suggested the Union Government and the **Medical Council of India** to have a uniform policy regarding the compulsory service to be rendered by the doctors who are trained in government institutions.

- The **Association of Medical Super Speciality Aspirants and Residents and others** had challenged the state government's regulations that imposed a condition of **compulsory service** for a fixed period with the state.
- Doctors complained that such a condition violated the **right of an individual** to carry on his profession, amounted to '**forced labour**' in violation of their constitutional right and would impede their career growth.

Note:

- However, the **Supreme Court** ruled that doctors across the country are bound by the compulsory bonds executed by them at the time of their admission in post-graduate and super-speciality medical courses.
- The SC noted that huge infrastructure has to be developed and maintained, for running medical colleges with post-graduate and super-speciality courses. However, the fees charged from students is meagre in comparison to private medical colleges.
- Moreover, reasonable stipend is also paid to these doctors.
- It affirmed policies of states of Andhra Pradesh, Goa, Gujarat, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Telangana and West Bengal.
- **Compulsory Bonds:** It binds doctors with conditions to serve in their respective states for a fixed period, in rural areas. The doctors' original mark-sheets, certificates and other documents are usually retained by the state authorities, after the completion of speciality courses.
- **Compulsory service** is in the **larger public interest** and beneficial for **deprived sections of society**, the top court ruled in favour of the policy to have compulsory bonds to be executed on the doctors before their admissions to PG and super speciality courses.

### ***Need of Compulsory Bonds***

- There is a need to provide healthcare to people and due to the scarcity of super specialists in their states, it is not arbitrary to utilise the services of doctors who were government beneficiaries.
- The state governments have introduced compulsory service bonds to protect the fundamental right of the deprived sections of society guaranteed to them under **Article 21 of the Constitution of India**.

### ***Violation of Fundamental Right***

- The appellants contended that their **rights guaranteed under Article 21** of the Constitution of India have been violated.
  - The SC rejected this argument on the grounds that, while balancing **communitarian dignity** vis-à-vis the dignity of private individuals, the scales must tilt in favour of communitarian dignity.

## **San-Sadhan Hackathon**

The government has invited applications for its latest initiative under the **Swachh Bharat Mission**, called the '**San-Sadhan**' Hackathon.

- The initiative aims to ease lives of **Divyangjan** by making toilets smarter, more accessible, and easier to use.
- It is being jointly Organized by:
  - **Ministry of Jal Shakti**
  - Department of Empowerment of Persons with Disabilities
  - **Atal Innovation Mission, NITI Aayog**
  - Bill & Melinda Gates Foundation
  - 91 spring board.
- The **Objective of San-Sadhan Hackathon** are:
  - Affordable, compact, flexible to use & designed in a way so as to suit variable area requirements.
  - Demands of different disabilities, age groups, genders and cultures have to be kept in mind.
  - Specifically, issues of wheelchair users, amputees, visually impaired and conditionally disabled (person with fracture, pregnant women, lactating mothers, elderlies etc.), need to be addressed.
- The solution could be developed for any one of the following categories:
  - Rural Individual Use Toilet
  - Rural Community Use Toilet
  - Urban Individual Use Toilet
  - Urban Community Use Toilet
- As per the **2011 census**, **2.68 crore people** in the country fall under the category of 'Divyangs'.

### ***Swachh Bharat Abhiyan***

- The **Swachh Bharat Abhiyan (SBA)** or **Swachh Bharat Mission (SBM)** was launched on October 2, the **birth anniversary of Mahatma Gandhi in 2014**.
- It aims to clean up the streets, roads and infrastructure of India's cities, towns, and rural areas and achieve an open-defecation free India by October 2, 2019, the 150th birth anniversary of Mahatma Gandhi.
- Also aims to build 90 million rural toilets in the country.
- Further, the mission will also help India meet the **Sustainable Development Goal-6 (SDG 6)**, as established by the UN in 2015.

Note:

### Other Initiatives Related to Divyangjan

- Recently, the second "**Disability Summit, 2019**" took place in **Buenos Aires, Argentina** with the hope of achieving real change for people with disabilities.
- The **United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)** is a comprehensive human rights convention and international development tool and is at the heart of the disability rights movement.
- India had enacted the **Rights of Persons with Disabilities Act, 2016**.
- **The international day of persons with disabilities** is observed every year on 3<sup>rd</sup> December.
- Recently, the **Ministry of Social Justice and Empowerment** organised Regional Conference on "**Deendayal Disabled Rehabilitation Scheme (DDRS)**" in Mumbai.
- The **Election Commission of India (ECI)** launched **Accessible Elections initiative** in Lok Sabha Election-2019 to make the election process more participative and inclusive.
- Recently, the Ministry of Social Justice and Empowerment entered into the Guinness Book of **World Records for implanting 'Modern Artificial Limbs (Legs)'** on 260 Divyangjans within eight hours.

### Mob Lynching

The **West Bengal Assembly** has passed a bill to prevent and punish mob assaults and lynching.

- The **West Bengal (Prevention of Lynching) Bill, 2019** provides for three years to life imprisonment for the crime of causing injuries to a person and capital punishment or rigorous life imprisonment for those causing death.
- Recently, **Rajasthan also passed an anti-lynching bill**.
- **Manipur was the first state** to pass a law against lynching.
- In 2018, the Supreme Court had also **issued guidelines to curb lynching**.

### The Supreme Court's Guidelines on Preventing Mob Lynching:

- The state governments shall designate a senior police officer in each district for taking measures to prevent incidents of mob violence and lynching.
- The state governments shall immediately identify districts, sub-divisions and villages where instances of lynching and mob violence have been reported in the recent past.
- The nodal officers shall bring to the notice of the Director General of Police (DGP) any inter-district co-ordination issues for devising a strategy to tackle lynching and mob violence-related issues.
- It shall be the duty of every police officer to cause a mob to disperse, which, in his opinion, has a tendency to cause violence in the disguise of vigilantism or otherwise.
- The Central and the state governments should broadcast on radio and television and other media platforms including the official websites that lynching and mob violence of any kind shall invite serious consequence under the law.
- Curb and stop the dissemination of irresponsible and explosive messages, videos and other material on various social media platforms which have a tendency to incite mob violence. Register FIR, under relevant provisions of law against persons who disseminate such messages.
- State governments shall prepare a lynching/mob violence victim compensation scheme.
- Ensure that there is no further harassment of the family members of the victims.
- If a police officer or an officer of the district administration fails to do his/her duty, the same will be considered as an act of deliberate negligence for which an appropriate action must be taken against him/her.



Note:



# Economic Scenario

## Highlights

- Cabinet Approves Nutrient Based Subsidy Rates
- Atal Community Innovation Centre
- WorldSkills International Competition 2019
- Flipkart Samarth
- SANKALP Scheme
- Pathamadaai Silk Mat
- Periodic Labour Force Survey (PLFS)
- Aquaponics
- National Time Release Study
- India: Second-largest Scrap Importer
- Changes in the Prevention of Money Laundering Act
- Injeti Srinivas Committee Report on CSR
- SUPRA Scheme
- 'Farm in' Expenditure
- Sabka Vishwas
- Tech-Saksham
- Auto Trigger Mechanism in RCEP
- NDB to Tap Indian Offshore Market
- World's First Facial Biometric Seafarer Identity Document
- Decriminalisation of CSR Violation
- Revised FDI Norms
- 5<sup>th</sup> Aqua Aquaria India 2019

## Cabinet Approves Nutrient Based Subsidy Rates

The **Cabinet Committee on Economic Affairs (CCEA)** has approved the proposal of the **Department of Fertilizers** for fixation of NBS rates for **Phosphatic and Potassic (P&K) Fertilizers** for the year 2019-20.

- The approved rates for NBS will be Rs 18.90 per kg for N (Nitrogen), Rs 15.21 per kg for P (Phosphorus), Rs 11.12 per kg for K (Potash) and Rs 3.56 per kg for S (Sulphur).
- The expected expenditure for release of subsidy on P&K Fertilizers during 2019-20, will be Rs. 22875.50 crore.

### Cabinet Committee on Economic Affairs

- **Chaired by the Prime Minister**, CCEA lays down the priorities for public sector investment and considers proposals for investment of not less than Rs. 3 Billion, at present, which is revised from time to time.
- It has a mandate to review economic trends as well as the problems and prospects, on a regular basis, with a view to evolve a consistent and integrated economic policy framework for the country.
- It also directs and coordinates all policies and activities in the economic field including **foreign investment**.

## Background

- Government provides fertilizers, Urea and 21 grades of P&K fertilizers to farmers at subsidized prices.
- In accordance to its **farmer friendly approach**, the Govt is committed to ensure the availability of P&K fertilizers to farmers at affordable prices.
- The subsidy on P&K fertilizers is being governed by NBS Scheme from 2010.

### The Nutrient Based Subsidy (NBS) Scheme

- It is being implemented from April 2010 by the Department of Fertilizers, Ministry of Chemicals & Fertilizers.
- Under NBS, a fixed amount of subsidy decided on an annual basis, is provided on each grade of subsidized Phosphatic & Potassic (P&K) fertilizers depending on its nutrient content.

## NBS Analysis

- The NBS scheme, was sought to **deregulate subsidy on non-urea fertilizers** and expected to reduce the subsidy burden substantially.
- While the NBS certainly did not lead to any decline in subsidy on fertilizer, it did lead to worsening of soil quality, along with shortages and price increases all three types of major nutrients, namely Nitrogenous, Phosphoric and Potassic.

Note:



- An undesirable outcome has been the change in fertilizer mix. As against the recommended Nitrogen (N): Phosphorous (P): Potassium (K) ratio of 4:2:1, the NPK ratio in 2013-14 was 8.2:3.2:1.
- The **environmental damage** caused by the inappropriate use of fertilizers, is certainly a matter of serious concern in many states.
- Considering that fertilizer subsidy is the **second-biggest subsidy after food subsidy**, the inaction on the part of the government might adversely affect fiscal health as well as soil health of the country.
- Since fertilizer prices follow the trend in international petroleum prices, the only way to reduce the subsidy bill is to **reduce the dependence on imports and increase domestic production**.
- While **rationalizing fertilizer subsidy** across nutrients may be the short-term and immediate solution to the problem, the need of the hour is to have a policy framework that incentivizes domestic production of fertilizers.
- The bigger challenge is to **change the pattern of fertilizer use**. This not only involves **revamping and re-energizing the extension services** but also changing the NBS suitably to remove the price distortion caused by it.

## Atal Community Innovation Centre

The Union Minister of Petroleum & Natural Gas and Steel inaugurated the **Atal Community Innovation Centre (ACIC)** program, a new initiative under **Atal Innovation Mission (AIM)**.

- The purpose of ACIC, is to enable establishment of **socially inclusive innovation ecosystem** as well as to encourage the **equitable distribution** of necessary infrastructure by encouraging innovation across the country.
- The aim is to not only **encourage the spirit of innovation** in the country's specific areas that lack the required infrastructure, but also facilitate innovation ecosystem.
- **Coverage:** In order to provide an environment conducive to support innovators across unserved/ regions in an equitable manner, the desired applicant for establishment of ACICs should be from the following focus areas:
  - Tier-2, Tier-3 cities, Tribal areas, Rural areas
  - **Aspirational districts**, North East (NE) region and cities of Jammu & Kashmir (J&K).
  - Smart Cities identified by Government of India.
  - Unserved/ areas of Tier-1 / Metro cities.
- **Eligibility under the Program**
  - The eligible academic applicants are **University Grants Commission (UGC)** and the **All India Council for Technical Education (AICTE)** affiliated Universities/ Colleges, educational institutions like ITIs & other technical diploma colleges.
  - The eligible non-academic applicants are voluntary and other organizations having good experience and exposure in awareness and promotion of Science and Technology in the country.
- **Finance Mechanism:**
  - Atal Innovation Mission in its ACIC program will consider applications for the grant in-aid support up to Rs. 2.5 Crore in multiple over a maximum period of 5 years. This support would cover capital and operational expenditure of the proposed ACIC up to 50%, of the total project cost. The remaining contribution has to be arranged by applicant.
  - An important objective behind establishment of ACIC, is to evolve a **Public Private Partnership (PPP) model** with participation from the **Corporate Social Responsibility (CSR) funds** or other funding sources to support community education and build the innovation ecosystem.
- **Expected function outcome of the ACIC**
  - Build capacity of the potential innovators through community engagement in innovation related events.
  - Conduct events like Ideathons to encourage scouting solutions for addressing community challenges .
  - Provide training and mentorship to entrepreneurs to groom their capacity to innovate.
  - Assist the potential startups in unserved and underserved regions for creating a sustainable, scalable & profitable business model.
- **Benefits:**
  - It will help in providing solutions to the problems that India is facing such as pollution, high fossil fuel import bill etc.
  - It will play a major role towards establishing India as **Innovation and Technology led Start-up**

Note:

nation and improve the ranking of India in [Global Innovation Index](#).

## WorldSkills International Competition 2019

The **Ministry of Skill Development & Entrepreneurship (MSDE)** has announced the 48-member group which will represent India at the **WorldSkills International Competition 2019**.

- The WorldSkills International is a not for profit membership association open to agencies or bodies which have a responsibility for promoting vocational education and training in their respective countries/regions. The organization is registered in Amsterdam, Netherlands.
- The WorldSkills International Competition is a biennial event and the biggest showcase of skills excellence in the world.
  - Also referred to as the '**Olympics for Skills**', the event is scheduled in **Kazan, Russia** from 22<sup>nd</sup> to 27<sup>th</sup> August 2019.
- More than 1,500 competitors from 60 countries will compete in 55 skill competitions at this mega event. India will participate in 44 skills including mobile robotics, prototype modeling, hairdressing, baking, confectionery & patisserie, welding, bricklaying, car painting, floristry among others.
- **National Skill Development Corporation (NSDC)** under the aegis of **MSDE** has been leading India's delegation at the event since 2011.
- During the **last edition of the event at Abu Dhabi** in 2017, India won one silver, one bronze and nine medallions of excellence. India also finished at 19th out of 56 countries which participated at the event, making it India's best performance since its participation at this event.
- With the **sixth-largest contingent** at WorldSkills this year, Team India aspires to improve on its performance from the last competition and win laurels for the country.

## Flipkart Samarth

Indian **E-commerce** company Flipkart has launched "**Flipkart Samarth**" initiative to bring indigenous weavers, artisans and makers of handicrafts on its online platform.

- Flipkart Samarth will support such artisans, weavers, etc by on-boarding and helping them in the process of selling their products on the internet.
- The initiatives and benefits under Flipkart Samarth include dedicated support for onboarding, cataloguing, account management, business insights, dedicated seller support, reduced commission where eligible, and warehousing support.
- 'Flipkart Samarth' will leverage **internet usage** in rural India to boost entrepreneurship.
- Flipkart Samarth will work closely with reputed NGOs, Government bodies and livelihood missions to reach a large number of rural entrepreneurs, with a special focus on women-led enterprises, differently abled entrepreneurs, artisans, and weavers, who often face obstacles such as lack of access to working capital, poor infrastructure, and inadequate training.
- Earlier, the **Tribal Cooperative Marketing Development Federation of India Limited (TRIFED)** and e-commerce giant Amazon have signed an agreement for selling tribal products on Amazon's global marketplace.

## SANKALP Scheme

Recently the **Ministry of Skill Development and Entrepreneurship** has called for **SANKALP** Scheme to focus on district-level skilling ecosystem through convergence and coordination.

- To enhance the district level ecosystem, the Ministry has taken the following initiatives:
  - **Skill India Portal:** A system to capture and converge skill data even at the district level.
  - **Grants:** Nine States namely Andhra Pradesh, Assam, Bihar, Gujarat, Jammu & Kashmir, Maharashtra, Manipur, Punjab and Uttar Pradesh were given grants.
  - **Aspirational Districts:** In addition to these State, grants have also been released to 117 **aspirational districts** under Aspirational Skilling Abhiyaan.

### *Skills Acquisition and Knowledge Awareness for Livelihood Scheme*

- Skills Acquisition and Knowledge Awareness for Livelihood (SANKALP) is an outcome-oriented programme of Ministry of Skill Development & Entrepreneurship (MSDE) with a special focus on decentralised planning and quality improvement.

Note:



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- It is a **Centrally Sponsored Scheme** which is collaborated with the World Bank.
- It aims to implement the mandate of the **National Skill Development Mission (NSDM)**.
- The main objectives of the scheme are:
  - **Convergence:** Creating convergence among all skill training activities, both State-led and Government of India funded, at the state level.
  - **Quality:** Improving the quality of skill development programs through building a pool of quality trainers, developing model curriculum and content, and standardizing assessment and certification.
  - **Evaluation System:** Establishing a robust monitoring and evaluation system for skill training programs.
  - **Inclusiveness & Opportunity:** Providing access to skill training opportunities to the disadvantaged sections. Creating industry-led and demand-driven skill training capacity.
- Similar to SANKALP scheme, the government has also launched the STRIVE scheme for skill development.

### ***Skills Strengthening for Industrial Value Enhancement Scheme***

- Skills Strengthening for Industrial Value Enhancement (STRIVE) scheme is a World Bank assisted-Government of India led project with the objective of improving the relevance and efficiency of skills training, provided through Industrial Training Institutes (ITIs) and apprenticeships.
- It is a **Central Sector Scheme**, covering the following 4 result areas:
  - Improved performance of ITI.
  - Increased Capacities of State Governments to support ITIs and Apprenticeship Training.
  - Improved Teaching and Learning.
  - Improved and Broadened Apprenticeship Training.

### ***Central Sector Scheme and Centrally Sponsored Scheme***

- India's developmental plan comprise of two types of schemes i.e., **Central Sector and Centrally Sponsored Scheme**.
  - Central sector schemes, are 100% funded by the Union government and implemented by the Central Government machinery.

- Under Centrally Sponsored Scheme (CSS), a certain percentage of the funding is borne by the States, usually in the ratio of 50:50, 70:30, 75:25 or 90:10 and these are implemented by the State Governments.

## **Pathamadaai Silk Mat**

Inclusion of technology in the making of traditional Pathamadaai silk mat, through the use of electronic powerloom is ensuring higher production and income for weaving community.



- Handmade Pathamadaai silk mats are also called Pattu paai.
- Traditional art of weaving pathamadaai silk mat belongs to Tirunelveli district of Tamil Nadu.
- Pathamadaai mat is made up of Korai grass.
- Pathamadaai mats have been granted **Geographical Indication (GI)** status by the trademarks and GI authorities.
- These are made specially for **wedding ceremonies** and have the bride's and groom's names as well as the wedding date woven on them.

### ***Concerns***

- Because of the initial use of outdated **handicraft methods** in the making of **Pattamadaai mats**, the **handicraft industry** is facing tough competition from increased domestic and international demand as well as supply imbalance which has led to increased use of synthetic dyes and lesser focus on benefits for the weaver.
- Low cost of plastic mats also contributed to the decline of the silk mat industry.

Note:



### **Initiatives/Schemes to Promote Technology in Textile Production**

- **Sustainable and Accelerated Adoption of efficient Textile technologies to Help Small Industries (SAATHI) Initiative:** Under this initiative, Energy Efficiency Services Limited (EESL), will acquire energy efficient powerlooms, motors and rapier kits in bulk and provide them to the small and medium powerloom units.
- **Power Tex India:** It is a comprehensive scheme for powerloom sector development.
- **Merchandise Exports from India Scheme (MEIS):** It is aimed at stimulating the growth of textile exports from India in various traditional and emerging markets.
  - Textile sector is one of the biggest beneficiaries of the MEIS.
- **Amended Technology Upgradation Fund Scheme for textiles industry (ATUFS):** It is designed to provide incentives to entrepreneurs and business owners for upgrading technologies.
- **Integrated Skill Development Scheme (ISDS):** Textile weavers and workers lack formal training in using the latest technology which reduces their chance to get a better job and higher wages.
  - ISDS plans to bridge this skill gap by training 1.5 million people.
- **Scheme for Integrated Textile Parks (SITP):** Under SITP scheme, the government will provide funding for infrastructure, buildings for common facilities like design & training centre, warehouse, factories and plant & machinery.

### **Periodic Labour Force Survey (PLFS)**

The recently released unit-level data of the PLFS, (PLFS was launched by the National Sample Survey Organisation (NSSO) in 2017), suggests that job market conditions in the country are more worrisome than what the headline numbers reveal.

- According to **Periodic Labour Force Survey (PLFS) 2017-18**, **6.1%** of India's labour force, and **17.8%** of young people (15-29 years) in the labour force are unemployed.
- The data shows that the proportion of the workforce engaged in regular wage/salaried jobs increased by

**5 percentage points** between 2011-12 (when the last **NSSO** employment unemployment survey was conducted) and 2017-18.

- But this increase was partly because of the denominator effect (the overall workforce declined by 4 percentage points between 2011-12 and 2017-18).
- As a share of the population, regular workers increased only by one percentage point to 8% over the same period.
- Moreover, it is worth noting that **India still lags far behind its South Asian neighbours and developing economies** such as China (53.1%), Brazil (67.7%) and South Africa (84.8%) in the share of salaried or regular jobs.
- The **median daily earnings were higher for men and women in regular jobs**, as compared to self-employment and casual work.
  - However, not all salaried jobs guarantee high pays as around 45% of salaried workers — the best-paid workers in India — **earned less than ₹10,000 per month**, and only about 4% of them earned more than ₹50,000 per month in 2017-18.
  - Overall, **72% of regular workers earned below the minimum monthly salary of ₹18,000 prescribed by the 7<sup>th</sup> Pay Commission**.
- Across categories of the workforce, **wages and earnings were higher in urban areas than in rural areas, and for men than for women**.
- About 15% of regular workers were engaged in **elementary occupations** such as building caretakers, garbage collectors and manual workers.
  - This includes 21% of female regular workers and 13% of male regular workers.
  - The median earnings of these workers was only about one-fourth of the top-earning occupational group (legislators, senior officials and managers).
- The median earnings in elementary occupations is followed by service workers and those engaged in skilled agricultural work and fisheries (median earnings of ₹8000 per month for both sets of workers).
- Regular jobs are important and in **high demand globally** because they tend to offer **better pay and job security**.
- About 71% of the regular workers in the non-agricultural sector did not have a **written job contract** in 2017-18.

Note:



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- Absence of a written job contract **undermines job security**, and the proportion without a job contract increased for both men and women regular workers between 2011-12 and 2017-18. So did the proportion of workers who were not eligible for paid leave.
- There was a 5.8 percentage points decline in the proportion of regular workers who were not eligible for any **social security benefits** between 2011-12 and 2017-18.
  - This number continues to be high, and around half of the regular workers were not eligible for any social security benefits in 2017-18.

### **Government Steps for Generating Employment in the Country**

- Government is **encouraging private sector** of the economy to boost employment in the country.
- Government is also working for fast tracking of various projects involving substantial investment and increasing public expenditure on schemes like:
  - Prime Minister's Employment Generation Programme (**PMEGP**) run by the Ministry of Micro, Small & Medium Enterprises.
  - Mahatma Gandhi National Rural Employment Guarantee Scheme (**MGNREGA**).
  - Pt. Deen Dayal Upadhyaya Grameen Kaushalya Yojana (**DDU-GKY**) scheme run by Ministry of Rural Development.
    - Deendayal Antyodaya Yojana- National Urban Livelihoods Mission (**DAY-NULM**) run by the Ministry of Housing & Urban Affairs etc.
- The Government has also constituted **Cabinet Committee on Employment & Skill Development**.

## **Aquaponics**

Aquaponics is an ecologically sustainable model that **combines Hydroponics** with **Aquaculture**. Hydroponics is the soilless growing of plants, where soil is replaced with water. Aquaculture is raising of fish.

- With Aquaponics **both fish and plants** can grow in one integrated **ecosystem**.
- The fish waste provides an **organic food source** for the plants, which in turn naturally filter the water for the fish, creating a **balanced ecosystem**.

- The third participant i.e. **microbes or nitrifying bacteria** converts the ammonia from the fish waste into nitrates which is essential for plants to be able to grow.

### **Benefits and Weaknesses of Aquaponics**

The **Food and Agriculture Organization** of the United Nations (**FAO**) put out a technical paper in 2014, detailing the positives and negatives of the practice:

- **Benefits:**
  - Higher yields (20-25% more) and qualitative production.
  - Can be used on non-arable land such as deserts, degraded soil or salty, sandy islands.
  - Creates little waste.
  - Daily tasks, harvesting and planting are cut down to a great extent, thereby saving labour and time.
  - Both fish and plants can be used for consumption and income generation.
- **Weaknesses:**
  - Expensive initial startup costs compared with soil production or hydroponics.
  - Knowledge of fish, bacteria and plant production is needed.
  - Optimal temperature ranges needed (17-34°C).
  - Mistakes or accidents can cause catastrophic collapse of system.
  - Daily management is mandatory.
  - Requires reliable access to electricity, fish seed and plant seeds.
  - If used alone, aquaponics will not provide a complete diet.

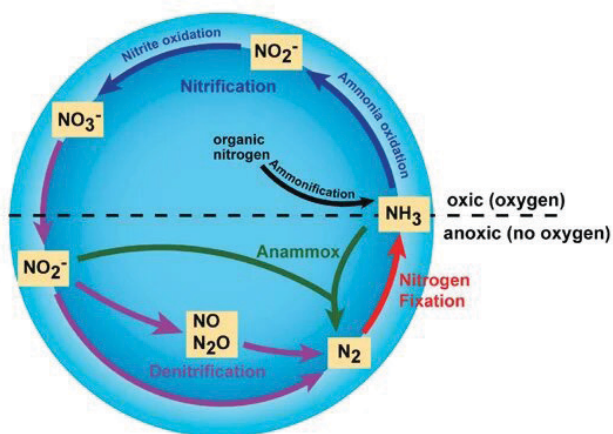
### **Nitrogen Cycle**

- Nitrogen is one of the primary nutrients critical for the survival of all living organisms.
- It is a **necessary component** of many biomolecules, including proteins, DNA, and chlorophyll.
- Although nitrogen is abundant in the atmosphere as **Nitrogen gas (N<sub>2</sub>)**, it is largely inaccessible in this form to most organisms, making nitrogen a scarce resource and often limiting primary productivity in many ecosystems.
- Only when nitrogen is converted from Nitrogen gas into **ammonia (NH<sub>3</sub>)** it becomes available to primary producers, such as plants.

Note:



- The major transformations of nitrogen gas can be through the processes of:
  - Nitrogen fixation (nitrogen gas to ammonia).
  - Nitrification (ammonia to nitrite and nitrate).
  - Denitrification (nitrate to nitrogen gases).
- The process of converting Nitrogen gas ( $N_2$ ) into biologically available nitrogen, that is ammonia, by **nitrogen fixing microorganisms**, is called **nitrogen fixation**.
  - Some nitrogen-fixing organisms are free-living, while others are **symbiotic nitrogen-fixers**, which require a close association with the host to carry out the process.
  - Some of these bacteria are **aerobic**, others are **anaerobic**; some are **phototrophic**, others are **chemotrophic** (use chemicals as their energy source instead of light).
  - They all have a similar enzyme complex called **nitrogenase** that catalyzes the reduction of  $N_2$  to  $NH_3$  (ammonia).
- **Nitrification** is the process that converts ammonia to nitrite and then to nitrate.
  - Most nitrification occurs aerobically and there are two distinct steps of nitrification that are carried out by distinct types of microorganisms.
    - The first step is the **oxidation of ammonia to nitrite**, which is carried out by microbes known as ammonia-oxidizers.
    - The second step in nitrification is the **oxidation of nitrite ( $NO_2^-$ ) to nitrate ( $NO_3^-$ )**. This step is carried out by a completely separate group of prokaryotes (a unicellular organism), known as **nitrite-oxidizing bacteria**.



Nitrogen Cycle

## National Time Release Study

India's first national Time Release Study (TRS) is being conducted by the **Ministry of Finance** as part of its **strategic commitment to improve global trade**.

- Time Release Study exercise will be conducted every year across **15 ports including sea, air, land and dry ports**.
- The national TRS will **establish baseline performance measurement** and have standardized operations and procedures across all ports.
- TRS initiative for accountable governance, will **measure rule-based and procedural bottlenecks** (including physical touchpoints) in the clearance of goods, from the time of arrival until the physical release of cargo.
- The **TRS is an** internationally recognized tool advocated by the **World Customs Organization** to measure the efficiency and effectiveness of international trade flows.
- **Objective:** Identify and address bottlenecks in the trade flow process and take the corresponding policies and measures required to improve the efficiency of border procedures, without compromising efficient trade control.
- **Expected beneficiaries:** These will be export-oriented industries and **Micro, Small & Medium Enterprises (MSME)** which will enjoy greater standardization of Indian processes with comparable international standards.
- **Significance:** TRS initiative will help in improving the **Ease of Doing Business (EODB)**, particularly on the trading across borders indicator which measures the efficiency of the cross border trade ecosystem

## India: Second-largest Scrap Importer

India has emerged the **world's second-largest scrap importer of steel** **toppling South Korea**.

- Scrap imports in India increased by 35% in the first half of this year to 3.87 million tonnes.
- This signifies that **the Indian system is not consuming internal scrap of steel, due to lack of efficient metal recycling facilities and technology**.

Note:

### ***What will be the benefits of using internal scrap?***

- Due to the **slowdown in the domestic steel industry and cheap price of imported scrap metals**, India became the second-largest scrap importer.
- However, India's Internal scrap market holds huge potential, for instance, India will have **22 million obsolete vehicles by 2025** from 8.7 million at present.
- But as of now, **India lacks regulations in scrapping and, recycling** is mostly done by the **unorganised segment**.
- Thus, there is a need for a **comprehensive metal recycling policy** so that India can mobilise Internal scrap market.
- **Benefits of using internal scrap:**
  - It will improve India's **balance of trade**.
  - Mobilising internal scrap will create **millions of jobs** in recycling dominated industries like plastic, rubber, glass, fabric, metal industries and technology and the automobile sector.
- The government can **incentivise internal scrap** mobilisation in the automobile industry, by steps like waiver in the registration fee for a new car can be provided if the buyer produces a certificate for scrapping an old car.
- **Turkey** is still the **world's largest recycler** and scrap importer of the world.

## **Changes in the Prevention of Money Laundering Act**

Recently, the Union government has issued a notification on certain changes in the Prevention of **Money Laundering Act (PMLA)**, which will further empower the Enforcement Directorate (ED) in tackling the cases of Money Laundering.

### ***What are the proposed amendments?***

- The amendment seeks to treat **money laundering as a stand-alone crime**.
  - Till now Money Laundering was not an independent crime; rather linked to another crime, known as the '**predicate offence**' or '**scheduled offence**', the proceeds of which are made the cause behind the crime of money laundering.
- It also **expands the ambit of "proceeds of crime"** to those properties which "may directly or indirectly be

derived or obtained as a result of any criminal activity relatable to the scheduled offence.

- The most crucial amendments are the **deletion of provisions** in sub-sections (1) of Section 17 (Search and Seizure) and Section 18 (Search of Persons).
  - These provisions required the pre-requisite of a FIR or charge sheet by other agencies that are authorised to probe the offences listed in the PMLA schedule.
- An explanation is added to Section 45 that clarifies that all **PMLA offences will be cognisable and non-bailable**.
  - **Therefore, ED will be empowered to arrest an accused without a warrant, subject to certain conditions.**
- Another vital amendment makes concealment of proceeds of crime, possession, acquisition, use, projecting as untainted money, or claiming as untainted property as independent and complete offences under the Act.
- Section 72 will now give power to the Centre to set up an **Inter-Ministerial Coordination Committee** for inter-departmental and inter-agency coordination for operational and policy level cooperation, for consultation on anti-money laundering and counter-terror funding initiatives.

### ***What is Money Laundering?***

- **Money laundering is the process of making large amounts of money generated by criminal activity, such as drug trafficking or terrorist funding, appear to have come from a legitimate source.**
- Criminal activities like illegal arms sales, smuggling, drug trafficking and prostitution rings, insider trading, bribery and computer fraud schemes produce large profits.
- Thereby it creates the incentive for money launderer to "legitimize" the illegal gains through money laundering.
- The money so generated is called 'dirty money' and **money laundering is the process of conversion of 'dirty money', to make it appear as 'legitimate' money.**

### ***How does Money Laundering take place?***

- Money laundering is a three-stage process:
  - **Placement:** The first stage is when the crime money is injected into the formal financial system.

Note:



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- **Layering:** In the second stage, money injected into the system is layered and spread over various transactions with a view to obfuscate the tainted origin of the money.
- **Integration:** In the third and the final stage, money enters the financial system in such a way that original association with the crime is sought to be wiped out and the money can then be used by the offender as clean money.
- **Bulk Cash Smuggling, Cash Intensive Businesses, Trade-based laundering, Shell companies and trusts, Round-tripping, Bank Capture, Gambling, Real Estate, Black Salaries, Fictional Loans, Hawala, False invoicing are some of the common methods of Money Laundering.**

### ***The legal framework in India to deal with Money Laundering***

- In India, the specific legislation dealing with money laundering is the Prevention of Money-Laundering Act (PMLA), 2002
- The law was enacted to combat money laundering in India and has three main objectives :
  - To prevent and control money laundering.
  - To provide for confiscation and seizure of property obtained from laundered money.
  - To deal with any other issue connected with money-laundering in India.
- **Under the PMLA Act, the Enforcement Directorate is empowered to conduct a Money Laundering investigation.**
- Apart from the provisions of PMLA, there are other specialised provisions such as RBI/SEBI/IRDA anti-money laundering regulations

### ***Enforcement Directorate***

- Directorate of Enforcement is a specialized financial investigation agency under the Department of Revenue, Ministry of Finance, Government of India.
- On 1 May 1956, an 'Enforcement Unit' was formed, in Department of Economic Affairs, for handling Exchange Control Laws violations under Foreign Exchange Regulation Act, 1947.
- In the year 1957, this Unit was renamed as '**Enforcement Directorate**'.
- ED enforces the following laws:
  - Foreign Exchange Management Act, 1999 (FEMA)
  - Prevention of Money Laundering Act, 2002 (PMLA)

## **Injeti Srinivas Committee Report on CSR**

The committee chaired by **Injeti Srinivas**, secretary, corporate affairs ministry, has submitted its **recommendations on Corporate Social Responsibility (CSR)** to the **Minister of Corporate Affairs (MCA)**.

### ***Corporate Social Responsibility (CSR)***

- The term "Corporate Social Responsibility" in general can be referred to as **corporate initiative to assess and take responsibility for the company's effects on the environment and impact on social welfare.**
- In India, the concept of CSR is governed by **clause 135 of the Companies Act, 2013.**
- India is the **first country in the world to mandate CSR spending** along with a framework to identify potential CSR activities.
- The CSR provisions within the Act is **applicable to companies with an annual turnover of 1,000 crore and more, or a net worth of Rs. 500 crore and more, or a net profit of Rs. 5 crore and more.**
- The Act requires companies to setup a CSR committee which shall recommend a CSR Policy to the Board of Directors and also monitor it from time to time.
- The Act encourages **companies to spend 2% of their average net profit in the previous three years** on CSR activities.
- The indicative activities, which can be undertaken by a company under CSR, have been specified under **Schedule VII of the Act.** The activities include:
  - Eradicating extreme hunger and poverty.
  - Promotion of education, gender equality and empowering women.
  - Combating Human Immunodeficiency Virus, Acquired Immune Deficiency Syndrome and other diseases.
  - Ensuring environmental sustainability.
  - Contribution to the **Prime Minister's National Relief Fund** or any other fund set up by the Central Government or the State Governments for socio-economic development and relief and funds for the welfare of the Scheduled Castes, the Scheduled Tribes and other backward classes, minorities and women etc.

Note:



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## Recommendations

- The **expenses towards CSR should be eligible for deduction in the computation of taxable income.**
- A clarification may be issued that for newly incorporated companies, the CSR obligation under Section 135 of the Companies Act shall lie only after they have been in existence for three years.
- A provision to **carry forward unspent CSR balance** for three to five years.
  - CSR should not be used as a “means of resource-gap funding for government schemes”.
  - **The Companies (Amendment) Act, 2019** provides that the CSR expenditure which remains unspent in three years would be transferred to any fund specified in Schedule VII of the Companies Act such as the Swachh Bharat Kosh, the Clean Ganga Fund, and the Prime Minister’s Relief Fund.
  - The committee report said that the central government funds should be discontinued as CSR spend, and instead a **special designated fund** should be created for **transfer of unspent CSR money beyond three to five years.**
- **Aligning Schedule VII** of the **Companies Act** with the **United Nations Sustainable Development Goals.**
- The companies having CSR-prescribed amount below ₹50 lakh may be exempted from constituting a CSR Committee.
- The violation of **CSR compliance** may be made a civil offence and shifted to the penalty regime.
  - This is a departure from the recent policy change, which provided for a three-year jail term for violating CSR norms.
- Introducing impact assessment studies for CSR obligations of ₹5 crore or more.
- CSR spending has to be a “board-driven process to provide innovative technology-based solutions for social problems” and that the board has to assess the credibility of an **implementation agency**, which have to be registered with the MCA to carry out CSR activities.
- **Developing a CSR exchange portal to connect contributors**, beneficiaries and agencies, allowing CSR in social benefit bonds and promoting social impact companies.

## SUPRA Scheme

The Science and Engineering Research Board (SERB) has proposed a new scheme, **Scientific and Useful Profound Research Advancement (SUPRA)** with the objective of funding exploration of new scientific and engineering breakthroughs with global impact.

- The scheme will fund **disruptive ideas** that can lead to new areas of study, new scientific concepts, new products and technologies.
- The focus is not on incremental or short-term advances in understanding, but new science or truly disruptive technologies.
- The scheme is **designed to attract high quality research proposals** consisting of new hypotheses or challenge existing ones and provide 'out-of-box' solutions.

### Science and Engineering Research Board

- It was set up as a **statutory body in 2009** under the **Department of Science and Technology** to promote and fund research in different scientific disciplines.

## ‘Farm in’ Expenditure

Recently, the **Central Board of Direct Taxes (CBDT)** has clarified that **‘farm in’ expenditure** incurred by **oil Exploration and Production (E&P) companies** would be treated as an ‘intangible asset’ and thereby it would be eligible for claim of depreciation.

- After this Farm-in expenditure will become **unamortised expenses**.
  - Unamortised Expenses are those expenses that are written off to the company's Statement of **Profit/Loss periodically.**
  - The unamortised expenditure is allowed as a deduction and the surplus is taxed.
  - Hence, this will boost domestic and foreign investment and enhance the domestic production of oil and gas.
- Farm in expenditure is incurred when an entity in the oil and gas business acquires a **Participating Interest (PI)** from another entity in oil/gas block(s) and becomes part of the **Production Sharing Agreement (PSC).**
- Participating interest is like holding equity (shares) in a company.

Note:



- A **holding of 20%** or more of the shares of an undertaking is presumed to be a participating interest.
- The CBDT has also acknowledged that it is common international practice for (E&P) companies to buy (farm-in) and sale (farm-out) their PI in the PSC to share the risk, bring new and niche expertise and technologies

### **Central Board of Direct Taxes (CBDT)**

- It is a statutory authority that functions under the **Central Board of Revenue Act, 1963**.
- It is a part of the **Department of Revenue** in the **Ministry of Finance**.
- It provides inputs for policy and planning of direct taxes in India and is also responsible for the administration of direct tax laws through the **Income Tax Department**.
- Direct Taxes include income tax, corporation tax etc.

### **Production Sharing Contract**

- It is a term used in the Hydrocarbon industry and refers to an agreement between Contractor and Government whereby Contractor bears all exploration risks, production and development costs in return for its stipulated share of (profit from) production resulting from this effort.
- Production Sharing Contracts became widely adopted as part of the **New Exploration and Licensing Policy (NELP)** launched by the Government in 1997, for enhanced exploration of oil and gas resources in the country.
- PSC allows the contractor to recover his cost, before giving Government its share in the contractor's revenues. Until a profit is made, no share is given to the Government, other than royalties and cesses.

## **Sabka Vishwas**

Sabka Vishwas is a **legacy dispute resolution scheme** notified by Government for closing pending disputes relating to **legacy Service Tax and Central Excise** cases. It is to be operationalized from 1<sup>st</sup> September 2019.

- The two main components of the Scheme are dispute resolution and amnesty.
  - The **dispute resolution component** is aimed at liquidating the legacy cases of Central Excise and

Service Tax that are subsumed in GST and are pending in litigation at various forums.

- The **amnesty component** of the Scheme offers an opportunity to the taxpayers to pay the outstanding tax and be free of any other consequences under the law.
  - The most attractive aspect of the Scheme is that it provides substantial relief in the tax dues for all categories of cases as well as full waiver of interest, fine, penalty. In all these cases, there would be no other liability of interest, fine or penalty. There is also a complete amnesty from prosecution.
- **The objective of the Scheme:** is to free the large number of small taxpayers of their pending disputes with the tax administration.

## **Tech-Saksham**

The Union **Minister for Micro, Small and Medium Enterprises (MSME)** has launched a project named '**Tech Saksham**' to accelerate **MSME** growth through technology enablement.

- It is a Ministry of MSME and **Confederation of Indian Industry (CII)** partnered project which brings together technology majors Dell Technologies India, HP India, etc to address technological gaps faced by MSMEs in their growth.
- **Vision:** To bridge the gap in technology adoption for MSMEs so as to provide an impetus for them to be competitive on a global scale, increase their contribution to country exports and leverage cost efficiencies.
- **Duration:** It is a three-year-long comprehensive project which, in its first phase, will focus on sectors that are labour-intensive and have the propensity to respond positively to tech-adoption, and will spark a larger discussion in other MSME clusters.
- **Expected Outcome:** Through various policy recommendations, knowledge sessions, mentoring initiatives, and useful resource banks for MSMEs, the project will help in addressing critical barriers in the MSME ecosystem such as awareness and cost of technology purchase/maintenance, resources and manpower required to run the technologies, return on investments, etc.

Note:

## Auto Trigger Mechanism in RCEP

Recently, India has stated it will push for several crucial issues for acceptance at negotiating round of the **RCEP countries** that have started in Jakarta.

### Key demands of India

- To protect the domestic industry, India proposes the **'auto-trigger' mechanism** to check import surges.
  - According to it, in case **there is a flood of imports** (once duties are eliminated or reduced for RCEP members), after reaching a certain threshold, the auto-trigger of safeguard duties on imports should be initiated.
  - Through this India can accord some **protection to its local industry**.
- India is opposed to the proposed **Investor-State Dispute Settlement (ISDS)** body, as it does not want its domestic laws to be challenged outside India.
  - However, RCEP countries are in favour of ISDS, because of certain issues faced by companies in India like:
    - Operational permits of international investors in telecom companies were cancelled by the Supreme Court in the wake of the 2G scam. etc.
- India is pushing for stringent norms for **'Rules of origin'** to prevent goods being routed through nations with lower duties.
  - India is apprehensive that after signing of RCEP, the Indian market will be flooded with cheap import of the third country which is not a member of RCEP but has signed FTA with other RCEP member.
- **Rules of origin** are the criteria needed to determine the national source of a product. Their importance is derived from the fact that duties and restrictions in several cases depend upon the source of imports.
- Apart from this India wants greater **market access in the services sector**.

## NDB to Tap Indian Offshore Market

- Recently, the **New Development Bank (NDB)** in its efforts to raise capital has announced to tap into the Indian rupee offshore market.

- NDB which recently has received its **first 'AAA' rating**, is looking into the Indian rupee offshore market to raise resources after the Masala bonds market slowed down.
- There has been a slowdown in **Masala bond** market due to the global slowdown and India's economic issues like **IL&FS crisis**.
- It is a significant move as this will strengthen **gradual internationalization of the Indian Rupee**.
- However, the offshore rupee market has its own issues.
  - The exchange rate in the two markets i.e. home and offshore, could be different leading to arbitrage opportunities and inefficiencies.
  - In fact, the price in one market could drive the price in another market.
  - This reduces the efficacy of central bank's monetary policy.
  - That's why the government had recently formed a **Task Force on Offshore Rupee Markets** under former Deputy Governor of the RBI, Usha Thorat.
    - The task force recommended expanding onshore currency markets, in a calibrated manner.
    - This will enable foreign investors to hedge their currency risk and could incentivise greater participation in rupee-denominated bonds.

### Note:

- AAA is the safest of investment ratings, as there's almost zero probability of defaulting on the loan.
- It is significant that NDB got a higher rating than the **BRICS countries**.
  - Also, no other bank owned by emerging markets has a AAA rating.

## World's First Facial Biometric Seafarer Identity Document

India has become the first country in the world to issue **Biometric Seafarer Identity Document (BSID)**, capturing the **facial biometric data of seafarers**.

- The project has been launched by the **Ministry of Shipping**.

Note:

- The new card is in confirmation of the **Convention No. 185** of the **International Labour Organisation** on BSID.
- **India ratified** the Convention in October 2015.

### Background

- Development of BSID is very significant against the backdrop of the increase in seafaring activities.
- BSID will provide a foolproof identification to seafarers which will facilitate:
  - **Seafarer's movement,**
  - **Ease of getting jobs,**
  - **Identification of seafarers from any location in the world.**
- The shipping sector is seeing major developments in the areas of coastal shipping, inland waterways and other maritime activities.
- These major developments will increase the number of Indian seafarers in the international shipping industry.
- The total number of Indian seafarers who were employed on Indian or foreign flag vessels increased by 35% from 2017 to 2019.

### Biometric Seafarer Identity Document

- It will have a biometric chip embedded in it.
- The card has two optical security features:
  - **Micro prints/micro texts.**
  - **Unique Guilloche pattern.**
- A software has been developed for capturing the facial biometrics and its authentication through the public key infrastructure.
- A record of each **Seafarer Identity Document (SID)** issued will be maintained in a national database and its related information will be internationally accessible.

#### Convention No. 185 of the International Labour Organisation on BSID

The convention promotes:

- Security against potential threats of **International Terrorism.**
- Introduces **modern security features** of the BSID.
- Requiring a record of each BSID issued to be maintained in a **national database**, with the related information to be internationally accessible.
- Ensures the reliability of the identification of the holder of the BSID, while protecting the holder's dignity and privacy.

## Decriminalisation of CSR Violation

Finance Minister has announced that **corporate social responsibility (CSR)** violations would not be treated as criminal offences and would instead be a **civil liability**.

- The imprisonment of up to 3 years for officials of companies that fail to comply with the specified corporate social responsibility (CSR) expenditure has been **rolled back**.
- Recently, **Injeti Srinivas panel** had been set up to study CSR expenditure.
- Implications of decriminalisation of CSR Violations:
  - It will allow the corporations to think and employ their CSR funds in an effective way.
  - Freedom to decide and choose the field of CSR related work for corporations.
- Recently, **Parliament passed amendments to the Companies Act, 2013** which includes:
  - Unspent CSR funds by companies should be transferred into an **escrow account** called Unspent Corporate Social Responsibility Account.
  - The transferred funds needs to be utilised within three years of transfer.
  - Any unspent annual CSR funds must be transferred to one of the funds under **Schedule 7 of the Companies Act** like Prime Minister's Relief Fund within six months of the financial-year end.

### Corporate Social Responsibility

- Under the Companies Act, 2013, certain classes of profitable entities are required to spend at least two per cent of their three-year annual average net profit towards Corporate Social Responsibility (CSR) in a particular financial year.

## Revised FDI Norms

Recently, the Union Cabinet has approved the proposal for the review of **Foreign Direct Investment** in various sectors.

- This will result in making India a **more attractive FDI destination**, leading to benefits of increased investments, employment and growth.
  - As of now (March 2019), **Singapore remains India's top FDI source**, twice that from Mauritius.

Note:

**Revised Norms**

- **100% FDI under automatic route** is permitted for **sale of coal**, for **coal mining activities** including associated processing infrastructure.
- The government has allowed **100% FDI through the automatic route** for contract manufacturing.
- It will **augment the Make in India initiative** and will attract global companies in India looking to establish alternative manufacturing hubs.

**Contract Manufacturing**

- The business model in which a firm hires a contract manufacturer to produce components or final products based on the hiring firm's design. **Companies outsource their production to other companies.**
- Contract manufacturing offers a number of benefits:
  - **Cost Savings:** Companies save on their capital costs and labour costs because they do not have to pay for a facility and the equipment needed for production.
    - Some companies may look to contract manufacture in low-cost countries, such as India, to benefit from the low cost of labour.
  - **Advanced Skills:** Companies can take advantage of skills that they may not possess, but the contract manufacturer does.
  - **Focus:** Companies can focus on their core competencies better if they can hand off base production to an outside company.
  - **Economies of Scale:** Contract Manufacturers have multiple customers that they produce, it may lead to reduced costs in acquiring raw materials by benefiting from economies of scale.
- **Easing norms for FDI in Single Brand Retail Trading (SBRT):** Retail trading through **online trade by SBRT**, can also be undertaken prior to the **opening of brick and mortar stores** (it should be opened within 2 years from the date of start of online retail).
  - Online sales will lead to the creation of jobs in logistics, digital payments, customer care, training and product skilling.
- It has been decided to **permit 26% FDI under government route for uploading/ streaming of News & Current Affairs through Digital Media**, on the lines of print media.

- In India, FDI policy provisions have been progressively liberalized across various sectors in recent years to make India an attractive investment destination.
  - Some of the sectors include Defence, Construction Development, Trading, Pharmaceuticals, Power Exchanges, Insurance, Pension, Other Financial Services, Asset Reconstruction Companies, Broadcasting and Civil Aviation.
  - **Due to these measures, a total FDI into India from 2014-15 to 2018-19 has been \$ 286 billion.**
  - Despite the dim global picture (**UNCTAD's World Investment Report 2019**), India continues to remain a preferred and attractive destination for global FDI flows.
    - India seeks to use this potential to attract far more foreign investment which can be achieved inter-alia by further liberalizing and simplifying the FDI policy regime.

**Foreign direct investment (FDI)**

- It is an investment from a party in one country into a business or corporation in another country with the intention of **establishing a lasting interest**.
- Lasting interest differentiates FDI from foreign portfolio investments, where investors passively hold securities from a foreign country.
- Foreign direct investment can be made by expanding one's business into a foreign country or by becoming the owner of a company in another country.

**5<sup>th</sup> Aqua Aquaria India 2019**

Recently, the Vice President of India inaugurated the 5<sup>th</sup> Aqua Aquaria India, 2019 in Hyderabad, Telangana.

- The **theme** for the 2019 edition is **"To take Blue Revolution to India's hinterland"**.
- It is the largest aquaculture exhibition in India.
- It is a **biennial exhibition** organised by the **Marine Products Export Development Authority (MPEDA)**.

**Fisheries Sector in India**

- India is the **second-largest fish producer** in the world.
- Fish constituted about **10% of total exports from India and almost 20% of agriculture exports** in 2017-18.
- India is the **4<sup>th</sup> largest exporter of fish** in the world.
- Contribution of **fisheries to the GDP is about 1% and about 5.37% to the Agricultural GDP**.

Note:



- Thus, India has the potential to emerge as a leading **Blue Economy** in the world. Notified existing potentials in the Fisheries sector are:
  - **Shrimp Culture:** Recently, the government has permitted the regulated introduction of Pacific White Shrimp with the objective of utilizing the potential of the species to cater to the global markets.
  - **Cage Culture:** It involves the growing of fish in existing water resources while being enclosed in a net cage which allows free flow of water.
  - **Pen Culture:** It is the system of culturing fish within a fixed net enclosure either at the bank or in a water body

### **Marine Products Export**

#### **Development Authority (MPEDA)**

- **Marine Products Export Development Authority (MPEDA)** is a nodal coordinating, state-owned agency engaged in fishery production and allied activities.
- It was established in 1972 under the **Marine Products Export Development Authority Act (MPEDA), 1972**.
- It functions under the **Union Ministry of Commerce and Industry**.
- It is headquartered in **Kochi, Kerala**.
- Its mandate is to increase exports of seafood including fisheries of all kinds, specifying standards, marketing, processing, extension and training in various aspects.



Note:



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# International Relations

## Highlights

- United Nations Convention on International Settlement Agreements
- Currency Manipulation
- International Day of Indigenous Peoples
- India France
- PM's Visit to Bhutan
- India-Bahrain
- First Monument in Memory of a Glacier
- Five Star Movement
- Akademik Lomonosov

## United Nations Convention on International Settlement Agreements

The Union Cabinet has approved the signing of the **United Nations Convention on International Settlement Agreements (UNISA)** by India.

- **United Nations Convention on International Settlement Agreements** is scheduled to be signed at **Singapore** on 7<sup>th</sup> August, 2019, or at the **United Nations**.

### Background

- Until the adoption of the convention, the often-cited challenges to the use of **mediation** was the lack of an **efficient and harmonized framework** for cross-border enforcement of settlement agreements resulting from mediation.
  - In response to this need, the convention has been developed and adopted by the **General Assembly**.
- The United Nations General Assembly adopted the **United Nations Convention on International Settlement Agreements Resulting from Mediation (the Convention)** on 20<sup>th</sup> December 2018.
- The General Assembly authorized that the convention will open for signature on 7<sup>th</sup> August 2019 in Singapore and will be known as the "**Singapore Convention on Mediation**" (**the Convention**).

### Benefits

- Signing of the convention will boost the confidence of the investors and shall provide a positive signal to foreign investors about India's commitment to adhere

to international practice on **Alternative Dispute Resolution (ADR)**.

### Initiatives to Promote ADR Mechanisms

- **New Delhi International Arbitration Centre (NDIAC)** Bill, 2019, seeks to establish a New Delhi International Arbitration Centre (NDIAC) as a **statutory body**.
  - Earlier, the Committee chaired by **Justice B.N. Srikrishna (Srikrishna Report)** to review the institutionalization of arbitration in India had **recommended** the establishment of NDIAC.
  - NDIAC will conduct arbitration, mediation and conciliation proceedings.
- **The Commercial Courts Act, 2015**, has been further amended and legislative exercise to further replace the Arbitration and Conciliation Act, 1996 with **The Arbitration and Conciliation (Amendment) Bill, 2018** is currently underway.
- **Commercial Division and Commercial Appellate Division of High Courts (Amendment) Bill, 2018** has been passed by Lok Sabha to resolve commercial disputes worth Rs 3 lakh or more.
- Several measures have been taken by the **Ministry of Law and Justice** to introduce **Online Dispute Resolution** mechanism.

### UNISA

- The Convention has been designed to become an essential instrument in the facilitation of **international trade** and in the promotion of **mediation** as an alternative and effective method of resolving **trade disputes**.
- It also contributes to strengthening access to justice, and to the **rule of law**.

Note:

- The Convention defines two additional grounds upon which a court may, on its own motion, refuse to grant relief.
  - Those grounds relate to the fact that a dispute would not be capable of settlement by mediation or would be contrary to public policy.
- The Convention ensures that a settlement reached by parties becomes **binding and enforceable** in accordance with a simplified and streamlined procedure.

## Currency Manipulation

The US Treasury Department has **declared China** as a currency **manipulator**. This move comes after the People's Bank of China (PBOC), which is the central bank of China, allowed the **yuan** to suddenly depreciate (or lose value) relative to the dollar by 1.9% - one of the biggest single-day falls.

### Background

- China's currency move came as a result of new tariffs announced by the US President on \$300 billion of Chinese imports.
- The move roiled markets, with **S&P 500 Index** sliding more than 1% in Asia.
  - The S&P 500 or Standard & Poor's 500 Index is a market-capitalization-weighted index of the 500 largest U.S. publicly traded companies.
- Also, a weaker yuan makes **Chinese exports more competitive**, or cheaper to buy with foreign currencies.
- The US government has said that it will now engage with the **International Monetary Fund (IMF)** to eliminate the unfair competitive advantage created by China's latest actions.
- It seems that the ongoing **trade war** between the world's two biggest economies is now turning into a **currency war** as well.

### Currency Manipulation

- Currency manipulation happens when governments try to artificially tweak the exchange rate to gain an "unfair" advantage in trade.
- The US Treasury department defines currency manipulation as **when countries deliberately influence the exchange rate between their currency and the US dollar to gain "unfair competitive advantage in international trade"**.

- Once a country is designated as a currency manipulator by the U.S., the next step taken by the US government is to seek negotiations with the government accused of manipulation.
  - But officials in Beijing and Washington have already been engaged in trade talks for more than a year.
- If there is no progress a year after the designation, China could face possible sanctions including its firms being prohibited from competition for US government contracts and excluded from getting financing from an American government agency for development projects.

### Exchange Rate

- Exchange rate is the **price of one currency in terms of another currency**.
- It often determines the affordability of buying or selling internationally.
  - For instance, if one wants to buy a car produced in the U.S., that will involve two transactions: one, using rupees to buy dollars; two, using these dollars to buy the car.
- The exchange rate for any currency would be **determined by the interplay of its demand and supply**.
  - For instance, if more Indians want to buy US goods, there would be a higher demand for the dollar relative to the rupee. This, in turn, would mean the dollar would be "stronger" than the rupee — and gain in strength as the demand increases.
  - If demand falls, the dollar would depreciate relative to the rupee (or the rupee would appreciate relative to the dollar).
- **Sometimes central bank of a country intervenes** to reduce wild fluctuations in the exchange rate. But **excessive and undisclosed interventions** are not considered fair.
  - For instance, if China's central bank buys dollars in the forex market, it can artificially weaken the yuan — and Chinese goods will then become more affordable (and competitive) in the international market.

## International Day of Indigenous Peoples

International day of indigenous people is observed on August 9 every year, in order to raise awareness of

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the needs of indigenous people. The first meeting of the **UN Working Group on Indigenous Populations was held in Geneva in 1982.**

- The **theme of 2019 is Indigenous People's Languages** in view of 2019 being marked as the **International Year of Indigenous Languages** by the **United Nations.**

### **International Day of Indigenous Peoples in India**

- On International day of indigenous people, the **Khadi and Village Industry Commission (KVIC)** has launched a new programme '**Leather Mission**'.
- It has distributed as many as 50 leather kits and 350 Bee-Boxes with live bee colonies in tribal-dominated village in Sirohi district of Rajasthan, one of the **aspirational districts** in India identified by the NITI Aayog.

#### **Indigenous people**

- They are inheritors and practitioners of unique cultures and ways of relating to people and the environment.
- They have retained social, cultural, economic and political characteristics that are distinct from those of the dominant societies in which they live. Despite their cultural differences, indigenous peoples from around the world share common problems related to the protection of their rights as distinct peoples.
- The indigenous people in the world make up less than 5 percent of the total population, but fall in the 15 percent of the poorest, according to the UN website. They represent as many as 5,000 different cultures.

### **International Year of Indigenous Languages**

- Languages play a important role in the daily lives of all people. They are pivotal in the areas of human rights protection, peace building and sustainable development, through ensuring cultural diversity and intercultural dialogue.
  - However, despite their immense value, languages around the world continue to disappear at an alarming rate due to a variety of factors. Many of them are indigenous languages.
- Indigenous languages in particular are a significant factor in a wide range of other indigenous issues, notably education, scientific and technological development,

the biosphere and the environment, freedom of expression, employment and social inclusion.

- The **International Year of Indigenous Languages** is a United Nations observance in 2019. It aims to raise awareness of the consequences of the endangerment of indigenous languages across the world, with an aim to establish a link between language, development, peace, and reconciliation.

## **India France**

India's Prime Minister on his two-day visit to France is supposed to participate in **G-7 meeting scheduled to be held in France** as a non-member country on the invitation of France for the first time. He had a discussion on a spectrum of issues with France President. Both countries have condemned cross-border terrorism in all its forms and manifestations. They have called for halting cross-border movements of terror outfits based in Pakistan and engaged in anti-India activities, particularly in Jammu and Kashmir.

- The followings are **key takeaways** of recently concluded visit:
  - **Terror:** France backed the PM's proposal to hold a global conference on terrorism. The two leaders asked UN countries to support organising new "No Money for Terror" International Conference on Fighting Terrorist Financing in Melbourne.
    - Two countries agreed to enhance their operational cooperation and launch fresh efforts to fight radicalisation, especially **Online Radicalisation.**
    - The two leaders reaffirmed their support for the implementation of the **Christchurch Call to Action** to eliminate terrorist and violent extremist online content adopted in Paris last May.
  - **Defence:** Both countries showed satisfaction towards the progress in implementation of agreements signed and reaffirmed their commitment to further strengthen cooperation in defence industry field in the spirit of "**Make in India**" and for the mutual benefit of both countries.
    - The first of the **36 Rafale aircraft** is likely to be delivered in the third week of September.
  - **Nuclear:** Both countries expressed satisfaction with the progress in negotiations between NPCIL and EDF since the conclusion of the **Industrial Way**

Note:



**Forward Agreement** between the two parties in 2018 for construction of six nuclear power reactors in Jaitapur, Maharashtra.

- **Space:** Both have decided to deepen space cooperation to meet new challenges together, whether it concerns **planetary exploration** or human spaceflight.
  - They took the decision to train medical support personnel for Indian astronauts, who will be part of India's manned space mission by 2022.
- **Cyber:** Both countries adopted a cybersecurity and digital technology roadmap aimed at expanding Indo-French bilateral cooperation, particularly in the strategic sectors of high-performance computing and Artificial Intelligence, with the target of bringing start-up ecosystems closer to each other.
- **Maritime:** Based on a shared commitment to **maintaining the freedom of navigation**, particularly in the Indo-Pacific zone.
  - France and India reviewed the swift implementation of the conclusions of the Joint Strategic Vision of India-France Cooperation in the Indian Ocean Region, adopted during the last visit of France president.
  - For the implementation of the **White Shipping agreement**, India and France agreed on the appointment of a French liaison officer at the **Information Fusion Centre** – Indian Ocean Region (IFC-IOR) in Gurgaon.
  - They signed an Implementing Arrangement for the establishment of a framework for the realisation of joint **maritime domain awareness mission**. This is to keep an eye on Chinese assertive moves in the Indian Ocean region.
- **Economic engagement:** The two sides decided to have an appropriate framework to find ways to further promote bilateral trade and investment
- **Issue of Afghanistan:** The two sides decided to cooperate actively for international peace and security. They supported an inclusive peace and reconciliation process in Afghanistan which is **Afghan-led, Afghan-owned and Afghan-controlled**, leading to a lasting political solution based on preservation of the gains, including the constitutional order, human rights, particularly women's rights, and liberties gained over the past 18 years.

- They called for the timely holding of Presidential elections; cessation of terrorist violence; and an end to terrorist safe havens for enduring and sustainable peace, security and stability in Afghanistan.

#### White Shipping Agreement

- The white shipping information refers to an exchange of relevant advance information on the identity and movement of commercial non-military merchant vessels.
- Ships would be classified into white (commercial ships), grey (military vessels), and black (illegal vessels).
- The seas of the entire world are interlinked and vessels can sail routinely around the globe in pursuit of cargo. Thus a vessel that is in Indian waters today maybe sailing towards a distant destination and similarly several vessels set sail from ports around the globe could be bound for India.
  - This information is likely to be available with the country from whose port it sails. The information is equally relevant for the destination country and those it passes en route. Thus the mutual exchange of such information, called white shipping information, is extremely useful for all concerned.
- India has signed white shipping agreements with several countries including The United States and Singapore and is seeking similar agreements with more countries.

### PM's Visit to Bhutan

During the visit of the Prime Minister of India to Bhutan, **both the countries reiterated their commitment to maintain close coordination on matters affecting each other's security and national interests.**



Note:

### Key Takeaways

- The two countries inked 10 Memoranda of Understanding (MoUs) in the fields of **space research, aviation, IT, power and education** to infuse new energy in their ties.
- Both sides emphasised the importance of “hydro-power development” as one of the most important areas of mutually beneficial bilateral cooperation.
  - The two Prime Ministers formally inaugurated the recently completed 720 MW Mangdechhu Hydroelectric Plant and resolved to continue working together to expedite the completion of other ongoing projects such as Punatsangchhu-1, Punatsangchhu-2 and Kholongchhu.
- Both the leaders agreed to collaborate on the **joint development of a small satellite for Bhutan**.
- The two countries agreed to further expand bilateral trade and investment.
  - The Prime Minister of India assured the Bhutan Prime Minister of “positive consideration” of Bhutan’s request for enhancement of the currency swap limit under the SAARC Currency Swap Framework.
  - As an interim measure, he offered an additional USD 100 million of currency swap under the **Standby Swap Arrangement**.
  - The Union Cabinet had, on March 1, 2012, approved the framework on currency swap arrangement for SAARC member-countries with the intention to provide a line of **funding for short-term foreign exchange requirements** or to meet balance of payments crises till longer term arrangements are made or the issue is resolved in the short-term itself.
  - India has also incorporated a \$400-million ‘**Standby Swap**’ facility within the existing approved overall \$2 billion currency swap arrangement for SAARC member-countries.
  - This incorporation of ‘Standby Swap’ provides the necessary flexibility to the current ‘framework on currency swap arrangement’ and enable India to provide a prompt response to the request from SAARC member- countries for availing themselves of the swap amount exceeding the present limit prescribed under the SAARC Swap Framework.
- India announced the **increase in scholarships for Bhutanese students** for studies at Nalanda University from 2 to 5.
- Both the leaders launched the facility for **use of Indian RuPay cards in Bhutan**, which would facilitate Indians’ travel to Bhutan by reducing the need to carry cash, boost the Bhutanese economy and further integrate the two economies
  - They also agreed for a feasibility study on the use of India’s **Bharat Interface for Money (BHIM) app** in Bhutan to promote cashless payments between the two countries.
- The two Prime Ministers also **inaugurated in Thimphu** the **Ground Earth Station of the South Asian Satellite**, constructed with the support of the **Indian Space Research Organisation (ISRO)**.

### India-Bahrain

The Prime Minister of India, during his visit to Bahrain, launched a **USD 4.2 million redevelopment project of the 200-year-old Lord Sri Krishna temple in the Bahraini capital, Manama**.



- This is the first time that an Indian Prime Minister has visited Bahrain.
- The heritage and the 200-year-old **legacy of the Shreenathji (Shree Krishna)** temple in Manama will be highlighted in the redevelopment and the new iconic complex will house the sanctum sanctorum and prayer halls.
- India and Bahrain also agreed to enhance cooperation in the field of **security and counter-terrorism**.
  - In a joint statement, both the countries urged the international community to reject terrorism infrastructures and to cut off any kind of support to the terrorists.
- An MoU was also signed between BENEFIT, a Bahrain company handling ATM and POS transactions among others, and National Payments Corporation of India (NPCI) for **launch of RuPay card**.

Note:

- The two countries also signed MoUs on **cultural exchange programme, space technology, solar energy**.
- India welcomed the interest of Bahrain to join the **International Solar alliance (ISA)**.
- Both the sides also emphasised on the urgent need to pursue **UN reforms**, including the Security Council through an expansion of both categories of its membership, to make it more representative and effective in tackling global challenges.

## First Monument in Memory of a Glacier

**Iceland honours** the passing of **Okjokull**, its first glacier lost to climate change. A bronze plaque was unveiled in a ceremony to mark Okjokull — which translates to “**Ok glacier**” — in the **western Iceland**.

- It will be the **first monument** to a glacier lost to **climate change** anywhere in the world.

### Okjokull Glacier

- Okjokull, also called OK (jokull is Icelandic name for “glacier”), was part of the **Langjökull group**—one of Iceland’s eight regional groupings of glaciers.
  - **Vatnajokull group** being the largest among them.

### Vatnajokull Glacier

- The Iceland’s **Vatnajokull National Park** was recently added to **UNESCO's World Heritage List**, is situated in the largest ice cap in Europe i.e Vatnajokull Glacier.
- Vatnajokull National Park is situated in the south Iceland and was officially formed in 2008 by joining together Jokulsargljufur and Skaftafell National Parks.
- It is the **largest National Park in Europe** and covers an area of 12,000 square kilometers.
- It is situated atop of **OK volcano** in the west central Iceland.



- Glaciologists stripped Okjokull of its glacier status in 2014.
  - A glacier is defined as a persistent mass of compacted ice that accumulates more mass each winter than it loses through summer melt and moves constantly under its own weight. When this ceases to be the case, the remains are known as “dead ice”.
- According to the **University of Iceland report (2017)**, the glacier measured around 16 square kilometre (6.2 square miles) in 1890, which now remains just 0.7 square kilometre.
- It was also labelled as “**415 ppm CO<sub>2</sub>**”, which means the record level of carbon dioxide measured in the atmosphere.
- According to a study published by the **International Union for Conservation of Nature (IUCN)**, nearly half of the world's heritage sites could lose their glaciers by 2100 if greenhouse gas emissions continue at the current rate.

## Five Star Movement

Recently, **Italy’s Prime Minister Giuseppe Conte** announced his resignation on account of the collapse of coalition between his party **Five Star Movement (M5S)** and **League party**.

- League party withdrew its support by stating that its political goal was to challenge the European Union’s fiscal rules.

### Five Star Movement (M5S)

- M5S is a populist movement that was started in 2009 as an **internet-based group** becoming one of the most voted-for parties in Italy.
- It was started by **Beppe Grillo** and **Gianroberto Casaleggio** through their social networking site **Meetup.com** to bring people together to campaign on local issues and then field candidates for elections.
- In 2013 it became the second-largest party and eventually coming to power in 2018.
- M5S marks the significance of the internet and social media that could spur a new kind of politics.
  - M5S used the internet to form a political party — one without organisation, money, ideology or headquarters.
  - Also, it adds a new dimension to populism.

Note:

- Populism is a political approach that strives to appeal to ordinary people who feel that their concerns are disregarded by established elite groups.

## Akademik Lomonosov

Akademik Lomonosov, a **Russian ship** that has floating nuclear units, started its **first journey from the Russian port of Murmansk** to the arctic town of Pevek despite opposition from environmental groups.

- It is the world's only floating power unit and the world's northernmost nuclear installation.
- Significance of a **floating nuclear plant**.
  - It is suited for powering remote areas and island states that require stable, green sources of energy.

- It will power the extraction of natural resources in the Arctic region.
- The portable nuclear plants will help to reduce emissions of carbon dioxide, thus help in mitigating climate change.
- China and the US are also working on sea-based nuclear power plants, and France has explored the possibility.
- However, the environmental group Greenpeace has called the plan "**Chernobyl on Ice**".
  - Chernobyl accident is the 1986 nuclear power plant meltdown in erstwhile USSR, which released large levels of nuclear radiation into the atmosphere, forced thousands to flee their homes and sparked long-term fears of health and environmental repercussions.



Note:



# Science and Technology

## Highlights

- Hope Probe
- Genome India Initiative
- Growing Human Organs in Animals
- Tardigrades
- Mexico's Prickly Pear Cactus
- First Contract for NSIL
- Mobile Application to Aid Farmers
- Gravitational Lensing
- Perseid Meteor Shower
- GramNet to Connect All Villages through Wi-Fi
- Nicotine as Class A Poison
- Biosimilar Medicine for Cancer
- Coprolite
- Chandrayaan-2 Scans Mitra Crater

## Hope Probe

The **United Arab Emirates (UAE)** has announced that it will launch the '**Hope Probe**', the **Arab world's first spacecraft to Mars, in July 2020**.

- The space programme, also known as the **Emirates Mars Mission (EMM)**, aims at collecting information on Mars, meteorological layers and study the causes of loss of hydrogen and oxygen gases – the two main constituents of water – from the upper layer of the Martian atmosphere.
- The mission, if successful, will become the **first space exploration programme** to take a picture of the Mars atmosphere.
- The 'Hope Probe' **will be launched** into orbit in **mid-July 2020**. The spacecraft is expected to reach Mars orbit in the first quarter of 2021, coinciding with the 50th anniversary of the founding of the UAE.

## Genome India Initiative

India is planning to launch its first **Human Genome Mapping project**.

- Project involves scanning of 20,000 Indian genomes (in the next five years) in order to develop **diagnostic tests** and effective therapies for **treating diseases** such as cancer.
- It is to be implemented by **The Department of Biotechnology (DBT), Ministry of Science and Technology**.

## Cancer Incidence in India

- According to the study, as India continues to age, cancer cases will **double every 20 years**.
- **Uttar Pradesh, Bihar, Jharkhand and Odisha**, will bear the biggest cancer burden in the next 10-20 years.
- According to **Epidemiological Transition Level concept (ETL)**, number of patients with cancer started to increase as the life expectancy of Indians started to increase.
- The States with high ETL have a better development index and higher cancer rates.
  - ETL is highest in Kerala and is lowest in Uttar Pradesh.
- Government should consider **Bhore committee** and **Mudaliar committee report** recommendations for cancer that include creation of a multidisciplinary cancer treatment unit in all medical colleges and setting up of a stand-alone cancer speciality hospital.
- The project is to be carried out in two phases:
  - The first phase of the project involves sequencing the **complete genomes** of 10,000 healthy Indians.
  - Second phase, involves **genome sequencing** of 10,000 diseased individuals.
- Data on human sequencing would be accessible to researchers through a proposed **National Biological Data Centre** envisaged in **Biological Data Storage, Access and Sharing Policy**.
- **National Centre for Cell Sciences** will collect samples of the microbiome from the human gut.

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### National Centre for Cell Science

- The National Centre for Cell Science is a national level, biotechnology, tissue engineering and tissue banking research center located at Savitribai Phule Pune University, Maharashtra.
- It is one of the premier research centers in India, which works on cell-culture, cell-repository, immunology, chromatin-remodelling.

### Significance

- **Healthcare:** For new advancements in medical science (like predictive diagnosis and precision medicine, genomic information) and in disease management, **genome sequencing** can play a crucial role.
  - Through genome sequencing methodology, researchers and clinicians can easily detect the disease related to **genetic disorder**.
- **Genetic Screening:** The genome project will lead to improved techniques of genetic **screening for diseases** prior to the birth.
- **Evolution Puzzle:** The genome project may answer questions regarding evolution by comparing human DNA with primate DNA.

### Concerns

- **Discrimination:** Discrimination based on genotype is a possible consequence of genome sequencing. For example, employers may obtain genetic information on employees prior to hiring them. If a certain employee is shown to be genetically susceptible to undesirable workforce traits they may be discriminated against their genotype.
- **Ownership and Control:** Apart from the issue of privacy and confidentiality, questions of ownership and control of genetic information becomes critical.
- **Fair Use of Genetic Data:** For insurance, employment, criminal justice, education, adoption, and military is necessary.

## Growing Human Organs in Animals

Scientists in **Japan** have received the **permission** of the government to try **growing human organs in animals**.

- The research led by **Hiromitsu Nakauchi**, a professor of genetics at Stanford University, is the first of its kind.

- The research involves generating **animal embryos** — **mice, rats or pigs** — that lack a particular organ such as a pancreas.
  - The modified embryos are then implanted with human "**induced Pluripotent Stem (iPS)**" cells that can grow into the missing pancreas.
  - The embryos would be transplanted into wombs where they could theoretically be carried to term with a functioning human pancreas.
- **Concerns:**
  - Implanting animal embryos with human cells creates what is known as a **chimera** — an entity with both animal and human cells.
  - The process throws up complex **ethical issues**, particularly over concerns that it may not be possible to completely control which organs are formed in the animal by the human iPS cells.
- **Benefit:** This experiment may lead to a future where human organs for transplant could be grown inside animals.

## Tardigrades

Microscopic Earthlings known as **Tardigrades**, likely survived a crash landing on the Moon surface by **Israel's Beresheet probe** in April, 2019.

**Beresheet** probe is a private mission to the Moon by **Israeli non-profit Spacell organisation**. It was successfully launched in February 2019, on board of **Falcon 9 rocket** from **Cape Canaveral (Florida, USA)** and arrived in lunar orbit in April 2019.



- Tardigrades are found in **terrestrial, marine, and freshwater environments** from the Arctic to the Antarctic, including great depths and altitudes.
- They **can withstand extreme radiation, sizzling heat, the coldest temperatures** of the universe, and decades without food.
- Also known as **water bears or moss piglets**, they are capable of surviving temperatures as high as 150° Celsius and as low as minus 272° Celsius albeit for a few minutes.

Note:

- The grub-like, **eight-legged animals** can come back from being dried out to a lifeless husk for decades, **withstand near zero pressure in outer space and the crushing depths** of the **Mariana Trench**.
- They are **microscopic, multicellular**, and one of the **most durable** forms of life on planet Earth.

## Mexico's Prickly Pear Cactus

Recently, researchers have found **Mexico's prickly pear cactus**, that can play a new and innovative role in the production of **biodegradable plastics**.

- The pulp for the cactus is strained to obtain a juice and is then mixed with non-toxic additives to produce sheets that can be used to form different types of packaging.
- It can provide a solution to one of the world's biggest pollution conundrums i.e., **Plastic pollution**.
- UN is committed to significantly reduce single-use plastics over the next decade. In pursuance of this India also seeks to ban single-use plastics.
  - Single-use plastics are disposable plastic items that are commonly used for packaging and include items intended to be used only once before they are thrown away or recycled.

## First Contract for NSIL

Recently, New Space India Limited (NSIL), the newly created second commercial arm of the **Indian Space Research Organisation**, has bagged its first contract.

- A private US space services provider: **Spaceflight**, has booked ISRO's **Small Satellite Launch Vehicle (SSLV)**, which is yet to be tested, for **launching a spacecraft**.

### Small Satellite Launch Vehicle

- The SSLV is the **smallest vehicle** weighing only 110-tonne.
- It would take only **72 hours to integrate**, unlike the 70 days taken for launch vehicles like **Polar Satellite Launch Vehicle (PSLV) or Geosynchronous Satellite Launch Vehicle (GSLV)**.
- **Cost-effective**: Its cost would be around Rs. 30 crores.
- It will be an **on-demand vehicle**.
- SSLV is perfectly suited for **launching multiple microsatellites** at a time and supports multiple orbital drop-offs.

- The SSLV can carry **satellites weighing up to 500 kg** to Low Earth Orbit while the PSLV can launch satellites weighing in the range of 1,000 kg.

- A **low Earth orbit (LEO)** is an orbit around Earth with an altitude above the Earth's surface of 2,000 kilometres (1,200 mi), and an orbital period between about 84 and 127 minutes.

- ISRO's SSLV was originally scheduled to have its first development flight on July 2019 but got delayed to end of 2019.

### New Space India Limited

- The establishment of NSIL was announced in **Budget 2019**.
- One of the mandates of NSIL is to **mass-produce and manufacture the SSLV and the more powerful PSLV** in partnership with the private sector in India through technology transfers.
- Its aim is to use research and development carried out by ISRO over the years for **commercial purposes through Indian industry partners**.
- It differs from ISRO's existing commercial arm Antrix Corporation:
  - Antrix will handle ISRO's commercial deals for satellites and launch vehicles with **foreign customers**.
  - NSIL will deal with **capacity building** of local industry for space manufacturing.

## Mobile Application to Aid Farmers

Government to launch a new mobile application, **"Uber for tractors"**, which will help in **hiring of expensive agricultural equipment**.

- **Customer Hiring Centres (CHCs)** will be connected with the help of this app, just like the Uber connects an individual with cabs.
  - There are now more than 38,000 custom hiring centres (CHCs) across the country, which rent out 2.5 lakh pieces of farm equipment every year.
- The app will show the CHCs which have the equipment available within **5, 20 and 50 km of location, with their rates**.

Note:

### Benefits

- **Informed Decisions:** Feedback from both the CHC and the farmers will allow customers to make informed decisions.
- **Database:** The app will also create an **invaluable database for policy-makers**, who can track the use and cost of equipment.
- **Promotion of New Technology:** The system would also help to **track the usage** of new technology that the government wants to promote, such as the **Happy Seeder** that aims to prevent stubble burning that causes air pollution, or solar dryers that can help farmers process and preserve their produce.

### Solar Dryers

- Solar dryers use solar energy in **drying applications**.
- They use air heated through **solar energy collectors**, which can be installed in modules according to the requirements of hot air.
- They have numerous applications in industries such as **textiles, food processing, paper, pharmaceutical, and agro-industries**.

### Customer Hiring Centres

- Customer Hiring Centres (CHCs) are basically a **unit comprising a set of farm machinery, implements and equipment meant for hiring by farmers**.
- **Marginal farmers** (Farmers whose land holdings are less than two hectares of land), by virtue of their economic condition are unable to own farm machinery on their own or through institutional credit.
  - Therefore in order to bring farm machinery available within the reach of small/marginal holdings, collective ownership or Custom Hiring Centres are being promoted in a big way.
- Ideally, the CHCs should be located **within a radius of 5 to 7 kms** of land holdings. This will reduce the transport cost and time of transport of agricultural machinery.

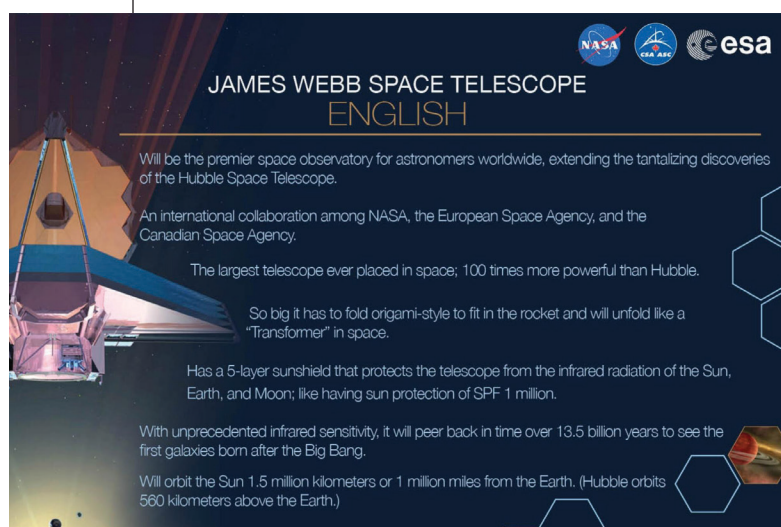
## Gravitational Lensing

USA's space agency NASA is planning to launch the **James Webb Space Telescope (JWST)** in 2021, which will use a natural phenomenon called "**gravitational lensing**" to carry out astronomical observations.

- JWST will study every phase in the **history of our Universe**, ranging from the first luminous glows after the Big Bang, to the **formation of solar systems** capable of supporting life on planets like Earth, to the evolution of our own Solar System, etc.
- For achieving this objective NASA has launched a program called **Targeting Extremely Magnified Panchromatic Lensed Arcs and Their Extended Star Formation, or TEMPLATES**.

### Gravitational Lensing

- The phenomenon of **gravitational lensing** occurs when a **huge amount of matter, such as a massive galaxy, cluster of galaxies or a black hole**, creates a gravitational field that **distorts and magnifies the light from objects behind it**.
- Gravitational lensing is based on Einstein's theory of **general relativity (Mass bend light)**.
- Normal lenses such as the ones in a magnifying glass work by bending light rays that pass through them in a process known as refraction, in order to focus the light somewhere else.
- Similarly, the gravitational field of a massive object causes light rays passing close to that object to be bent and refocused somewhere else.
- The more massive the object, the stronger its gravitational field and hence the greater the bending of light rays - just like using denser materials to make optical lenses results in a greater amount of refraction.
- In effect, **gravitational lenses act like natural cosmic telescopes**.



Note:



- The effect allows researchers to **study the details of early galaxies too far away** to be seen otherwise with even the most powerful space telescopes.
- However, gravitational lensing is very rare as it requires a distant star, black hole and the observer on earth to be well-aligned.
- Also, it can help astronomers to know about **black holes, dark matter**, etc.

## Perseid Meteor Shower

The Perseid Meteor Shower, which has been active from 17<sup>th</sup> July 2019 onward, can be seen until 26<sup>th</sup> August, 2019.

- The Perseids occur as the Earth runs into pieces of cosmic debris left behind by **the comet Swift-Tuttle**.
- The cloud of debris is about 27 km wide — and at the peak of the display, between 160 and 200 meteors streak through the Earth's atmosphere every hour as the pieces of debris, travelling at some 2.14 lakh km per hour, burn up a little less than 100 km above the Earth's surface.
- The Perseids currently visible in the night sky are **not due to the debris left behind** by the comet Swift-Tuttle during its most recent pass, which happened in 1992.
  - This **particular comet goes around the Sun once every 133 years**, and the meteors now visible were left behind by the pass before the last one — or perhaps even earlier.

### Meteor Shower

- The cosmic debris are the **remnants of comets** — great frigid chunks of matter that leave behind dirty trails of rocks and ice that linger long after the comets themselves have passed.
- As the Earth wades through this cloud of comet waste, the bits of debris create what appears from the ground to be a fireworks display in the sky — **known as a meteor shower**.
- Meteor showers take their name from the location of the radiant.
  - The Perseid radiant is in the constellation Perseus. The Geminid meteor shower, which is observed each December, is named for a radiant in the constellation Gemini.

## GramNet to Connect All Villages through Wi-Fi

The Government has reiterated its commitment to provide **Wi-Fi in all the villages through GramNet with connectivity between 10 Mbps to 100 Mbps speed**.

- During the **36th Foundation Day celebrations of Centre for Development of Telematics (C-DOT)**, Minister of State for Communications announced that BharatNet also plans to provide 1 GBPS connectivity, which can be expanded up to 10 GBPS.
- C-DOT also launched **three latest innovations** during Foundation Day Celebration, which are as follows:
  - **XGSPON (10 G Symmetrical Passive Optical Network)**
    - It can fulfil the increasing demands of high network speeds emanating from the new dimensions of user applications like IPTV, HD Video Streaming, Online Gaming.
    - It can also be a host of other cloud-based services that necessitate the seamless availability of high bandwidth.
  - **C-Sat-Fi (C-DOT Satellite WiFi)**
    - It is based on the optimal utilization of wireless and satellite communication to extend connectivity.
    - It offers the ease of deployment, which is ideally suited to addressing disasters and emergencies when no other means of communication are available.
    - It does not require the expensive Satellite Phones and can work on any WiFi-enabled phone.
  - **CiSTB (C-DOT's Interoperable Set-Top Box)**
    - Based on a portable smart card like a mobile SIM, this solution will revolutionize the experience of the Cable TV operators by offering them a high degree of choice, ease and convenience without having to replace the once installed STB.
- The above innovations seek to address the **challenges in the Telecom Sector** and empower Indian people especially in rural and remote areas as connectivity will bind people from all corners of the country.
- GramNet is a part of **National Broadband Mission (Rashtriya Broadband Abhiyan)** to secure universal broadband access. Apart from this, **there are other initiatives being taken** under the same. Few being:

Note:



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**Centre for Development of Telematics (C-DOT)**

- It was established in 1984.
  - It is an autonomous Telecom R&D centre of DoT, Government of India.
  - It is a registered society under the **Societies Registration Act, 1860**.
  - It is a registered public-funded research institution with the Department of Scientific and Industrial Research (DSIR), Government of India.
  - Currently, C-DOT is working towards realising the objective of various flagship programmes of Govt. of India which include **Digital India**, **BharatNet**, Smart Cities etc.
- **BharatNet** – Providing 1 Gbps to Gram Panchayats upgradeable to 10 Gbps
  - **NagarNet** – Establishing 1 Million public Wi-Fi Hotspots in urban areas
  - **JanWiFi** – Establishing 2 Million Wi-Fi Hotspots in rural areas

**Nicotine as Class A Poison**

Karnataka has amended Poisons (Possessions and Sale) Rules 2015 by notifying **nicotine** as Class A poison.

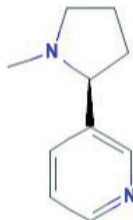
- The move aims at strengthening the enforcement of the ban on production and sale of electronic cigarettes.

**Background**

- In August 2018, the **Union Health Ministry** had instructed all the States to put a ban on the sale of e-cigarettes and other **Electronic Nicotine Delivery Systems (ENDS)** under their jurisdiction.
- Though Karnataka had banned the sale and production of e-cigarettes in June 2016, but illegal sale and smuggling of nicotine cartridges and **e-cigarettes** is rampant in the State.

**Nicotine**

- Nicotine is a plant alkaloid that contains nitrogen, which is found in several types of plants, including the tobacco plant and can also be produced synthetically.
- Nicotine is both a **sedative and a stimulant**.
- Nicotine is used as a direct substance in e-cigarettes and the content ranges



up to **36 mg/mL**. Although regular cigarettes have nicotine, but it ranges between **1.2 to 1.4 mg/mL**.

- Chewing or snorting tobacco products usually releases more nicotine into the body than smoking.

**Harmful Effect of Nicotine**

- Nicotine on direct application in humans causes irritation and burning sensation in the mouth and throat, increased salivation, nausea, abdominal pain, vomiting and diarrhea.
- It also increases pulse rate and blood pressure.

**Classification of Poison**

US Department of Transport divides poisons in two classes.

- **Class-A:** Highly toxic chemicals which even in very small quantities as gas or vapor in air are dangerous to life such as cyanogen, hydrocyanic acid, nitrogen peroxide, and phosgene.
- **Class-B:** Chemicals other than those included in Class-A and comparatively less toxic but considered dangerous.

**Biosimilar Medicine for Cancer**

Pharma major Dr. Reddy's Laboratories Ltd has launched '**Versavo (bevacizumab)**', a biosimilar of Roche's Avastin in India. The drug is for the treatment of several types of cancers.

- A **biosimilar** is exactly what its name implies — it is a biologic that is "**similar**" to another **biologic medicine** (known as a reference product).
  - **Biologics or biological products** are medicines made from living organisms through highly complex manufacturing processes and must be handled and administered under carefully monitored conditions.
  - Biologics are used to prevent, treat or cure a variety of diseases including cancer, chronic kidney disease, diabetes, cystic fibrosis, and autoimmune disorders.
- **Biosimilars are highly similar to the reference product in terms of safety, purity and potency**, but may have minor differences in clinically inactive components.
- **India is one of the leading manufacturers** of similar biologics. India developed a new guideline in 2012 for the pre- and post-marketing approval of similar biologics. The guidelines also address the regulation of manufacturing process as well as quality, safety, and efficacy of similar biologics.

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## Coprolite

The scientists have found the oldest parasite **DNA (Deoxyribonucleic Acid)** in the Coprolite of a prehistoric **Puma in Argentina**.

- Coprolites are **fossilised faeces belonging to animals** that lived millions of years ago.
- Scientists can analyse and study the shape and size of coprolites and depending on the location they were found in, scientists can figure out the animal from which they came as well as uncover what those animals ate.
- For instance, if there are bone fragments in the faeces, it tells scientists that the animal might have been a carnivore. Tooth marks can reveal how the animal ate.

## Chandrayaan-2 Scans Mitra Crater

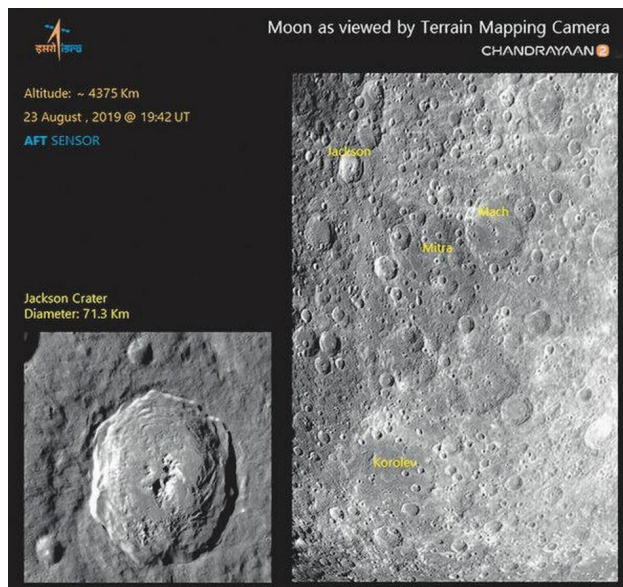
Recently, the Chandrayaan-2's orbiter has scanned a crater on the moon named after 20th century's acclaimed radio physicist Sisir Kumar Mitra.

- The set of images taken by the **Chandrayaan-2**, also include the images of impact craters namely:
  - **Jackson:** Named after a Scottish astronomer.
  - **Mach:** Named after an Austrian physicist and philosopher.
  - **Korolev:** Named after the father of the space programme of the erstwhile USSR.
- The **Working Group for Planetary System Nomenclature of the International Astronomical Union (IAU)**—the global authority for naming planetary features in the solar system— had named the impact based crater after **Professor Sisir Kumar Mitra** in 1970.

### Sisir Kumar Mitra

- Sisir Kumar Mitra was an **Indian physicist** who led the research in the ionosphere – the upper region of the atmosphere and **radiophysics**.
- He was the first to introduce the teaching of radio communication in India.
- His book, 'Upper Atmosphere' is considered as the Bible for research workers in the field of the ionosphere.

- In the 1950s, he advocated space research and high altitude rocket research programmes which had been successfully conducted by the US and USSR.



### Lunar Craters

- Lunar Craters are bowl-shaped landforms created by **Volcanism and Cratering**.
- There are hundreds of thousands of moon craters ranging from less than a mile across to giant basins.
- The **largest crater** on the Moon is called **South Pole-Aitken Basin**.
- Due to Moon's lack of water, atmosphere, and tectonic plates, there is little erosion, and craters are found that exceed **two billion years in age**.

### Chandrayaan-2

- It will attempt to soft-land the **lander – Vikram** and **rover – Pragyan** in a high plain between two craters, **Manzinus C** and **Simpelius N**.
- It is the first Space Mission to conduct a soft landing on the Moon's south polar region.
- It is the First Indian expedition to attempt a soft landing on the lunar surface with home-grown technology.
- India is the fourth country ever to soft-land on the lunar surface.



Note:

# Environment and Ecology

## Highlights

- Komodo Dragon
- Economic Valuation of Tiger Reserves
- Integrated Coastal Zone Management Plan
- Solar Thermal Energy Technology
- World Biofuel Day
- Wild Buffalo
- New Frog Species in Aravalis
- Rare Tarantula Sighted in Tamil Nadu
- Rules Eased for Development in Buffer Zones
- Preservation of Sundarban
- Clouded Leopards and Their Habitats
- Higher Protection to Star Tortoise and Otters
- Two New Species of Eels
- BASIC Meeting on Climate Change
- Kutch Desert
- India Fights to Get Rosewood Delisted from CITES
- Amazon Rainforest
- Ocean Energy as Renewable Energy
- Composite Water Management Index 2.0
- Land Degradation
- Compensatory Afforestation Fund

## Komodo Dragon

Recently, the **Indonesian government** ordered to **relocate** the residents of an island in eastern Indonesia called the **island of Komodo** in a bid to conserve rare Komodo dragons.

- This eviction has been ordered with a view for the recovery of the reptiles and the **Komodo National Park (the only habitat for the world's largest lizard species)**.
- The recovery effort of this national park was needed due to the deterioration caused by excessive tourism.
- However, shutting down of such ecological sites is not the right approach unless it is an **ecological emergency** as the relocation of the residents may lead to loss of livelihood.
- Instead, the system could be revamped to build local communities into the revenue generation process and manage tourism flows.

### Komodo Dragon

- The Komodo dragon is the largest living species of lizard.
- They are listed as **Vulnerable by the IUCN**.
- Komodo dragons hunt and prey including invertebrates, birds, and mammals.
- Comparison of Komodo's venom with Snake's venom:



- It is claimed that Komodo's have a venomous bite, which has been shown to secrete an anticoagulant.
  - An anticoagulant is a compound that prevents the victim's blood from clotting, causing it to bleed to death.
- Snake venoms are composed of a complex collection of toxins, enzymes, and non-toxic substances. It can be classified into three main types: **Neurotoxins, Hemotoxins, and Cytotoxins**.
  - **Neurotoxins** are chemical substances that are poisonous to the **nervous system**. Neurotoxins work by disrupting chemical signals (neurotransmitters) sent between neurons. E.g.: King Cobra
  - **Hemotoxins** are blood poisons that disrupt normal **blood coagulation processes**. They work by causing **Red Blood Cells (RBCs)** to burst open, by interfering with blood clotting

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factors, and by causing tissue death and organ damage. **E.g.: Vine snake**

- **Cytotoxins** are poisonous substances that **destroy body cells**. Cytotoxins lead to the death of most or all of the cells in a tissue or organ. **E.g.: Puff adders, Mozambique spitting cobras**
  - Cytotoxins help to **partially digest** the prey before it is even eaten.
  - Cytotoxins are usually specific to the type of cell they impact. **E.g.:** Cardiotoxins are cytotoxins that **damage heart cells**. Mycotoxins target and dissolve muscle cells.

## Economic Valuation of Tiger Reserves

The **National Tiger Conservation Authority (NTCA)** has released a study titled “**Economic Valuation of Tiger Reserves in India: A Value + Approach**”.

- The study, authored by the **Centre for Ecological Services Management at the Indian Institute of Forest Management (Bhopal)**, estimated the **economic valuation**, based on ecosystem services, of ten tiger reserves in the country. The ten Tiger Reserves are:
  - Anamalai (Tamil Nadu),
  - Bandipur (Karnataka),
  - Dudhwa (Uttar Pradesh),
  - Melghat (Maharashtra),
  - Nagarjunsagar-Srisailem (Andhra Pradesh/Telangana),
  - Pakke (Arunachal Pradesh),
  - Palamau (Jharkhand),
  - Panna (Madhya Pradesh),
  - Similipal (Odisha), and
  - Valmiki (Bihar)
- **Objective:** The objective behind the report is to enhance tiger conservation by highlighting the holistic economic benefits of protected areas.
- **Approach:** The “Value +” approach was used in the study, where the “**VALUE**” represents all the benefits in monetary terms for those services where monetary economic valuation is possible and derived based on the available knowledge, tools and methods.
  - **The “+” represents** all those benefits for which **economic valuation** is currently not possible

on account of lack of accepted methodologies, knowledge, available technology, current resources and/or understanding of the system.

### Ecosystem Services and Tiger Reserves

- Ecosystem Services can be defined as benefits in terms of goods or services provided by nature which are of fundamental importance to human well-being, for health, livelihoods, and survival.
- In the context of natural resource development, Tiger Reserves are the primary repositories of forests and other natural ecosystems.
- A range of ecosystem services emanate from tiger reserves such as **Non Timber Forest Products (NTFPs)** provisioning, employment generation, carbon sequestration, biological control, habitat for species, genepool protection, gas regulation, pollination, fuelwood, fodder grazing, watershed protection, increased soil fertility, physical and mental well being, spiritual tourism etc.

### Economic Value of Tiger Reserves

- The study findings indicate that the **natural ecosystems** in the **Tiger Reserves (TRs)** provide adequate resources to humans in the range of Rs. 1643-7042 crore.
- **TRs offer protection from disease, predators, and parasites**, which is an avoided cost in the range of Rs. 7.7 crore to Rs. 24.15 crore.
- They also help in maintaining a benign physical and chemical environment for amenable living conditions by providing necessary infrastructure and ecosystem services worth Rs. 2567-8260 crore.
- The tiger reserves play a **significant role in the lives of local communities** and conserve a range of traditional values apart from providing recreation and leisure. Thus the socio-cultural fulfilment benefits from these TRs range from 0.3 crore to 62.144 crore.
- They conserve ecosystems and natural assets worth Rs. 15310-98530 crore.

### Suggestions

- **Ecosystem services** should be kept as a focal area in Tiger management.
- Comprehensive analysis of **ecosystem services** may result in establishing partnerships with relevant stakeholders, effective policies and mechanisms for incentivizing conservation.

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- **Adequate investment in natural capital** contained in tiger reserves is essential to ensure the flow of ecosystem services in the future.

**Note:**

The Indian Institute of Forest Management is an autonomous institute of Ministry of Environment, Forest and Climate Change, established in 1982.

## Integrated Coastal Zone Management Plan

The Ministry of Environment, Forest and Climate Change (MoEFCC) has unveiled the **draft Environmental and Social Management Framework (ESMF)** for Integrated **coastal** management.

- The draft plan will dictate how prospective infrastructure projects situated along the coast would be assessed before they can apply for clearance by laying out guidelines for coastal States to adopt when they approve and regulate projects in coastal zones.
- The ESMF draft plan as a part of a World Bank-funded project seeks to assist the Government of India in **enhancing coastal resource efficiency and resilience, by building collective capacity** (including communities and decentralised governance) for adopting and implementing **Integrated Coastal Zone Management Plan**.
- The MoEFCC had launched an Integrated Coastal Zone Management Project (ICZMP) by establishing a **Society of Integrated Coastal Management (SICOM)**.

### Draft Environmental and Social Management Framework

- Draft ESMF has been prepared in support of a project proposal for “Enhancing climate resilience of India’s coastal communities” by the Government of India (GoI) to the Green Climate Fund (GCF).
- The **objective of the draft ESMF project** is to enhance the resilience of the lives and livelihoods of the most vulnerable populations, particularly women, in the coastal areas of India.
- The project will work at national, state, and community levels to enhance capacity for the ecosystem and community-based approaches to adaptation.

### Society of Integrated Coastal Management

- Society of Integrated Coastal Management (SICOM) has been established under the aegis of the Ministry of Environment, Forests and Climate Change.
- It has a vision for vibrant, healthy and resilient coastal and marine environment for the continuous and enhanced outflow of benefits to the country and the coastal community.
- SICOM is the national project management unit of India in strategic planning, management, execution, monitoring and successful implementation of the ICZMP-Phase-I.

### Integrated Coastal Zone Management Plan

- (ICZM) is a process for the management of the coast using an integrated approach, regarding all aspects of the coastal zone, including geographical and political boundaries, in an attempt to achieve sustainability.
- The concept was born in 1992 during the Earth Summit of Rio de Janeiro.
- The specifics regarding ICZM is set out in the proceedings of the summit within Agenda 21.

### Implementation

- It is a **World Bank** assisted project and is being implemented by the Department of Forests and Environment with assistance from the **Union Ministry of Environment, Forests and Climate Change (MoEFCC)**.
- The **National Centre for Sustainable Coastal Management (NCSCM)**, Chennai, is providing scientific and technical inputs.

### Objective

- Formulation of Integrated Coastal Zone Management Plan for the State
- Lessen the coastal erosion
- Reduce vulnerability to disaster
- Biodiversity conservation
- Livelihood security
- Pollution/ environmental quality management
- Improvement and conservation of cultural/ archaeological assets

### Components

- Society of Integrated Coastal Management (SICOM) would be implementing the project at national level and state level.

Note:



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- Till now three coastal states namely West Bengal, Gujarat and Orissa have been selected under the ICZM plan.
- Four main components of the plan include National Coastal Zone Management Programme, ICZM-West Bengal, ICZM-Orissa and ICZM-Gujarat:
  - National Coastal Zone Management Programme: The national component will include **mapping, delineation and demarcation** of the hazard lines, and delineation of coastal sediment cells all along the mainland coast of India.
  - **ICZM approaches in Gujarat, Orissa and West Bengal:** will support capacity building of the state-level agencies and institutions, including preparation of an ICZM plan for the coastal sediment cell, regional coastal process studies, and pilot investments.

## Solar Thermal Energy Technology

The **National Institute of Solar Energy (NISE)** and the **United Nations Industrial Development Organization (UNIDO)** have signed an agreement to initiate a skill development programme for different levels of beneficiaries in the solar thermal energy sector.

- The agreement is part of the ongoing **MNRE-GEF-UNIDO** project which aims to support capacity building and skill development of technical manpower in the Concentrated **Solar Thermal Energy Technologies (CST)** which are being used to replace conventional fossil fuels e.g. coal, diesel, furnace oil etc.
  - The **GEF-UNIDO's project** is designed to complement MNRE's support programme by helping to remove barriers associated with **CST technology**, its awareness, capacity building, market and financial barriers.
  - The duration of the project is from January 2015 to December 2019.
  - Different concentrating technologies have been developed or are currently under development for various **commercial and industrial applications**.
  - For industrial processes where temperatures above 80°C are required, concentrating solar collectors such as parabolic trough or dish collectors, non-imaging concentrators or a Linear Fresnel system are required to be used.

- The industries showing good potential for implementation of solar concentrators are food processing, paper and pulp, fertilizer, breweries, electroplating, pharmaceutical, textiles, refineries, rubber and desalination sectors.

### United Nations Industrial Development Organization

- The United Nations General Assembly passed the resolution for establishing the UNIDO in the year 1966.
- It is a specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability.
- As of 1st April 2019, 170 States are members of UNIDO.
- It is headquartered in Vienna, Austria.

### National Institute of Solar Energy

- National Institute of Solar Energy (NISE), an autonomous institution of the Ministry of New and Renewable (MNRE), is the apex National R&D institution in the field of Solar Energy.
- The Government of India converted 25 year old Solar Energy Centre (SEC) under MNRE to an autonomous institution in September, 2013 to assist the Ministry in implementing the National Solar Mission and to coordinate research, technology and other related works.
- It is located in Gurugram, Haryana.

## World Biofuel Day

- The **World Biofuel Day** is observed every year on August 10 to create awareness about the importance of non-fossil fuels as an alternative to conventional fossil fuels.
  - It is being observed by the **Ministry of Petroleum & Natural Gas**.
- The theme of the World Biofuel Day, 2019 is "Production of Biodiesel from **Used Cooking Oil (UCO)**".
- The **National Policy on Biofuels**, released by the Government of India in 2018, envisages production of biofuel from UCO. **Food Safety and Standards Authority of India (FSSAI)** is implementing a strategy to divert UCO from the food value chain and curb current illegal usage.

Note:

- The benefits of transformation of UCO will help bring health benefits as there would be no recycling of the UCO, employment generation, infrastructural investment in rural areas & cleaner environment with reduced carbon footprint.

### ***Scheme for Used Cooking Oil***

On the occasion of **World Biofuel Day**, the Minister of Petroleum and Natural Gas released the **Expression of Interest (EOI)** for procurement of **biodiesel** made from **Used Cooking Oil (UCO)**.

- The entrepreneurs setting up **biodiesel plants (using used cooking oil as their raw material)** to get remunerative price and assurance of complete offtake of production by the oil companies for the purpose of blending with normal diesel.
- The Minister also launched a '**Repurpose Used Cooking Oil (RUCO)**' sticker and a phone app to enable the collection of used cooking oil.
  - Restaurants and hotels interested in supplying used cooking oil can affix the sticker to show availability.

### ***Background***

- The announcement comes just a day after the **Food Safety and Standards Authority of India (FSSAI)** directed Food Safety Commissioners to ensure that Food Business Operators (FBOs), whose consumption of **edible oils for frying is more than 50 litres per day, stop reusing the oil more than three times**.
  - FSSAI is planning to launch a **mobile app for tracing and tracking used cooking oil**.
  - FSSAI is also planning to ask cooking oil manufacturers to come out with colour charts (either on the product or in a booklet along with the product) that will help people to identify if the oil is fresh or re-used.
- The order is aimed at ensuring that reused cooking oil is neither directly used in food preparation nor re-enters the food chain i.e. to set in safety standards in the food industry.
  - When used multiple times, cooking oil becomes acidic and darkens in colour. This may alter the fatty acid composition of the oil.

### ***Other Initiatives Taken for Boosting Production of Biofuels***

- The Ministry of Petroleum and Natural Gas is working on a four-pronged strategy in this regard-promoting

Ethanol, 2-G ethanol, Compressed Biogas (CBG) and Bio-diesel.

- The ethanol blending in Petrol has gone up from 1% to about 8% and is likely to touch 10%.
- **The Budget 2019-20** underlined the transformation of farmers from **Annadata to Urjadata**.
  - The Government is **planning to allow production of ethanol from surplus food grains** which sometimes go waste and also entail expenditure on storage.
- The **City Gas Distribution (CGD)** network is being set up in over 400 districts which will give a big fillip to the use of CBG.
  - Biogas is purified to remove carbon dioxide and hydrogen sulphide gases to prepare CBG.
  - CBG has calorific value and other properties similar to **Compressed Natural Gas (CNG)** and hence can be utilized as green renewable automotive fuel.

## **Wild Buffalo**

Recently, the government has decided to translocate five female wild buffaloes from **Manas National Park** in Assam to **Udanti Wildlife Sanctuary in Raipur district, Chhattisgarh**.

- This will be the **longest such translocation** in the country ever, that seeks to revive the waning population of **Chhattisgarh's State animal**.
- **The survival hazard of inbreeding, poaching for horns and increasing male population** have necessitated the translocation.
- The Central India Wild Buffalo Recovery Project aims to stabilise the wild buffalo population in Udanti-Sitanadi Tiger Reserve.

### ***Wild Buffalo (Bubalus arnee)***

- The wild buffalo is mainly found in the alluvial grasslands, marshes, swamps and river valleys. They are generally found in areas that have plenty of water holes and resources
- The estimated population of the wild buffaloes in the Northeast is around 3,000-4,000, the largest in the country and accounting for **92% of the world population**.
- It is listed under **Schedule 1** of the **Wild Life (Protection) Act, 1972**.
- It is classified as **endangered** in the **IUCN Red List** of Threatened Species.

Note:



## New Frog Species in Aravalis

An **amphibian survey conducted by Delhi University professor** has found four new species of frogs in the Aravalli biodiversity area.

- The survey has found the presence of eight frog species in **Aravalli biodiversity park**.
  - The four species reported earlier are **Bull frog** (largest frog in India), **Indian skipper frog**, **Narrow-mouthed frog** (smallest land vertebrate from Delhi) and **Pierrei's wart frog**.
  - The four new species found this year are **Nepal's Wart Frog**, **Indian Toad**, **Indus Valley Toad** and **Indian burrowing Frog**.
- Since frogs are an environmental indicator, their presence indicates a relatively healthy ecosystem.

### Indian Skipper Frog

- The species is widely distributed in **South Asia and South-east Asia**, from **southeastern Iran**, **southern Afghanistan**, **Pakistan**, **Nepal** and eastern India at low to moderate elevations.
- They are often seen **at the edge of bodies of water** with their eyes above the water. They noisily move away from the shore when disturbed, giving them their common name.
- It is classified as **least concern** by the **IUCN**.

### Pierrei's Wart Frog

- It is found in India and its adjacent countries **Nepal**, **Bangladesh** and **Bhutan**.
- It is a common species associated with paddy fields.
- It is classified as **least concern** by the **IUCN**.

### Nepal's Wart Frog

- It is a small-sized frog native to northern and northeastern **India**, **Bangladesh**, and **Nepal**.
- It is classified as **least concern** by the **IUCN**.

### Indian Toad

- It is found **widely from northern Pakistan through Nepal**, **Bangladesh**, **India** including the **Andaman and Nicobar Islands** and other southeast Asian countries.
- It lives mostly in **disturbed lowland habitats**, from upper beaches and riverbanks to human-dominated

agricultural and urban areas but uncommon in closed forests.

- It is classified as **Near Threatened** by the **IUCN**.

## Rare Tarantula Sighted in Tamil Nadu

The spider belonging to the **Genus Poecilotheria**, commonly known as the **Peacock Parachute Spider** or **Gooty Tarantula** was spotted in the **Pakkamalai Reserve Forests** in **Villupuram District**, **Tamil Nadu**.

- **Peacock Parachute Spider (Gooty Tarantula)**
  - **The International Union for Conservation of Nature (IUCN)** has categorised it as **Critically Endangered**.
  - It is **endemic to India**.
  - The known habitat of this species is in the **Eastern Ghats** especially degraded forests near **Nandyal in Andhra Pradesh**.
  - Species of this genus can be identified based on the banding patterns on the underside of the legs.
- Tarantulas are **biological pest controllers** and there is a huge demand for them by collectors in the pet trade. There is an urgent need to protect them.



## Rules Eased for Development in Buffer Zones

The Union Ministry of Environment, Forest and Climate Change has relaxed the procedure for environmental clearances of developmental activities in the **buffer zone**.

- Buffer Zone is an area supposed to reinforce conservation of protected area. This move is likely to weaken the protection offered to **wildlife sanctuaries and national parks**.
- As per an office memorandum (OM), the projects outside the boundary of the notified **Eco-Sensitive Zone (ESZ)** of a sanctuary or national park **but within 10 km radius of the park will not need prior clearance from the National Board for Wildlife (NBWL)**.
  - The **Wildlife Conservation Strategy of 2002** recommends a **buffer of 10 km** around sanctuaries.

Note:



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- ESZ are formed to serve as “**shock absorber**” for protected areas. The basic aim here is to regulate certain activities around national parks and wildlife sanctuaries to minimise negative impact on the fragile ecosystem around.
- Such proposals will now get **environmental clearance** from the ministry’s **Expert Appraisal Committee (EAC)**, which will ensure “appropriate conservation measures in the form of recommendations”.
- **Projects within the notified ESZ** will require the NBWL’s nod, which can be applied for together with the initial “terms of reference” application.
- **Mining** will be prohibited within the notified ESZ or within only one km from the boundary of the park, whichever is higher according to the new OM.
- It nullifies previous OMs dated February 27, 2007 and Dec 2, 2009, which made the NBWL’s approval mandatory for projects within a 10 km radius of the park.

### National Board for Wildlife

As per the amendment of the **Wildlife (Protection) Act, 1972 in 2002**, a provision was incorporated for the constitution of the **National Board for Wildlife (NBWL)**, replacing the Indian Board for Wildlife.

- The National Board for Wildlife has 47 members with the **Prime Minister in the Chair**.
- The Minister in charge of the Ministry of Environment & Forests in the Central Government is the Vice-Chairperson.
- The Board is responsible for promotion of conservation and development of wildlife and forests.

### Concerns

- This completely defeats the purpose of recognising 10 km around protected areas as areas that need to be recognised for their conservation value.
- It also reads down the importance of ensuring wildlife related scrutiny at the time of environment clearances.

### Issues and loopholes

- In many states, **protected areas** do not have an ESZ of 10 km as specified by the Supreme Court. Some have a buffer zone of a few hundred metres to one-km radius, while other states still have not notified an **ESZ**.
- In cases where the ESZ notification is in the draft stage, a nod from NBWL is needed and can be applied for along with environmental clearance.

- For example, the Jim Corbett National Park has not notified its ESZ, but its draft notification provides a buffer of 1 km, while Bandipur Tiger Reserve has notified an ESZ of 7.7 km radius. ESZ for other tiger reserves like Nagarhole, Biligiriranga Temple Sanctuary and Ranthambore haven’t been notified.
- The SC had directed states and the Centre on several occasions to enforce the ESZ .
  - The SC in its September 2017 order, in the context of reduction of 10 km ESZ to 100m, had strongly observed that since an order of this nature is capable of destroying national parks and wildlife sanctuaries in the country.
- The real worry, therefore is that ESZs around parks and sanctuaries may not achieve the envisioned goal of acting as shock absorbers and protection of corridors.

## Preservation of Sundarban

**Discovery India** and **World Wide Fund (WWF)** India have partnered with the **Government of West Bengal** and local communities in the Sundarban to help save the world’s only mangrove **tiger habitat**.

- They are working with a vision to create **climate-smart villages** in the Sundarbans.
  - Climate Smart Villages are sites where farmers, researchers, local government and the private sector come together to understand which climate smart agriculture practices are best suited for a particular location.
- The project will use technology to solve several of the issues faced in the region. This includes building datasets on impacts of climate change on estuarine ecosystem.
  - Through this project, in partnership with the **West Bengal Forest Directorate** and **Indian Institute of Science Education and Research (IISER) Kolkata**, two Sundarbans ecological observatories will be set up, each featuring data loggers, monitoring buoys and an onsite laboratory.
- **Farmland productivity:** The initiative also focuses on enhancing farmland productivity through low-cost measures and adjusting crop calendars to deal with climate change.
- The initiative will also include work towards securing habitats for tigers and prey species.

Note:

- The project at Sundarbans is part of a global movement, **Project CAT (Conserving Acres for Tigers)**, aimed at building healthy habitats for Tigers by conserving six million acres of protected land across four countries.

### **Project CAT (Conserving Acres for Tigers)**

- **Discovery Communications** is working with World Wildlife Fund and others to support a worldwide effort to double the number of tigers in the wild by 2022.
- It is a mission to ensure a future for tigers and other endangered wildlife by conserving nearly a million acres of protected land on the border of India and Bhutan.
- Tigers face multiple threats from **poaching, habitat loss and fragmentation, conflict with humans and overhunting of their prey species**.
- As a large predator, tigers are an umbrella species. They play a key role in maintaining a healthy ecosystem.
  - By protecting tigers and their habitat, the others risk animals that share this habitat, like Asian elephants, greater one-horned rhinos, clouded leopards and important prey species are also getting protected.

#### **Umbrella Species and Keystone Species**

- **Umbrella Species** are species that are selected for conservation-related decisions because the conservation and protection of these species indirectly affect the conservation and protection of other species within their ecosystem.
- Umbrella species help in the selection of potential reserve locations, as well as the determination of the composition of the reserve.
- These species usually have a large area requirement for which the conservation of the species extends the protection to other species sharing the same habitat.
- Umbrella species are representative of other species in their habitat since they are known species, and they also determine the area of conservation.
  - **For example:** The protection of the Bay checkerspot butterfly automatically leads to the protection of the grassland while the conservation of the Amur tiger in the Russian Far East also means automatic conservation and protection of the deer and boar in their habitat.
- A **keystone species** is an organism that helps define an entire ecosystem. Without its keystone species,

the ecosystem would be dramatically different or cease to exist altogether.

- Keystone species have low functional redundancy.
  - This means that if the species were to disappear from the ecosystem, no other species would be able to fill its ecological niche.
  - The ecosystem would be forced to radically change, allowing new and possibly invasive species to populate the habitat.
- Any organism, from plants to fungi, may be a keystone species; they are not always the largest or most abundant species in an ecosystem.

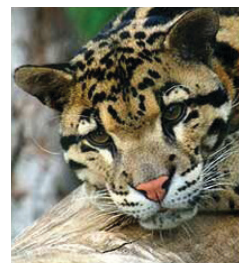
### **The Sundarbans Mangrove Forest**

- The Sundarbans mangrove forest, one of the largest such forests in the world, lies across India and Bangladesh on the delta of the **Ganges, Brahmaputra and Meghna rivers on the Bay of Bengal**.
- It is adjacent to the border of India's Sundarbans **World Heritage site inscribed in 1987**.
- The site is intersected by a complex network of tidal waterways, mudflats and small islands of salt-tolerant **mangrove forests**, and presents an excellent example of ongoing ecological processes.
- The area is known for its wide range of fauna, including 260 bird species, the Bengal tiger and other threatened species such as the estuarine crocodile and the Indian python.
  - It is home to many rare and globally threatened wildlife species such as the estuarine crocodile, Royal Bengal Tiger, Water monitor lizard, **Gangetic dolphin** and **olive ridley turtles**.

### **Clouded Leopards and Their Habitats**

Recently a study conducted in nine countries (Bhutan, Nepal, India, Peninsular Malaysia, Thailand, Vietnam, Cambodia, Laos, Myanmar) suggested that only 9.44% of the studied region was 'highly' suitable for clouded leopards (*Neofelis nebulosa*).

- In India, the **Dampa tiger reserve in Mizoram** was chosen as the study site.



Note:



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- Dampa had one of the highest population densities of clouded leopards, among the sites surveyed.
- **Clouded leopard:**
  - Named after cloud shaped pattern on its skin.
  - It is listed as Vulnerable on the IUCN Red List.
  - It is the State animal of Meghalaya.
  - It has been added to India's Recovery Programme for Critically Endangered Species to aid more research and strengthen conservation efforts.
- **Habitat:**
  - Clouded Leopard prefers **grassland, shrubs, subtropical and dense tropical forest up to a height of 7,000 feet** occurring from the Himalayan foothills through mainland Southeast Asia into China.
  - In India, it occurs in Sikkim, northern West Bengal, Meghalaya subtropical forests, Tripura, Mizoram, Manipur, Assam, Nagaland and Arunachal Pradesh.
  - Clouded leopard's presence is positively related to:
    - Dense forest cover
    - High rainfall
    - Hard terrain
    - Low human presence
- **Factors affecting Clouded leopards distribution:**
  - Deforestation
  - Changing rainfall patterns
  - Human-animal conflict
  - Development projects

Thus, steps should be taken to make land-use and development policy to facilitate coexistence of people alongside **clouded leopards** as umbrellas for wider nature.

#### Dampa Tiger Reserve

- It is located in **Mizoram**.
- It received the status of a tiger reserve under **Project Tiger**.
- Recently in the news, as the tigers were estimated to be zero as part of the **latest all India tiger estimation exercise**.

#### Integrated Development of Wildlife Habitat (IDWH)

- It is a **centrally sponsored scheme** launched to provide technical and financial assistance to States/UTs for protection of wildlife habitat.
- The activities covered under the scheme include
  - Staff development and capacity building,

- Wildlife research and evaluation
- Anti-poaching activities
- Wildlife veterinary care
- Addressing man-animal conflict
- Promoting eco-tourism.
- **Financial assistance** is also provided to States for the **relocation of communities from within protected areas to other areas**.
- The scheme includes three components:
  - **Support to Protected Areas (National Parks, Wildlife Sanctuaries, Conservation Reserves & Community Reserves).**
    - All Protected Areas (PAs) in different states are eligible for assistance, except those areas which receive assistance under Project Tiger.
  - **Protection of Wildlife outside Protected Areas** **Many wildlife habitats fall outside the network of protected areas.**
    - Under this component, funds are granted against Biodiversity Plans prepared by Chief Wildlife Wardens of the respective States. Priority is given to regions contiguous to the Protected Areas.
  - **Recovery Program** for critically endangered habitats and species
    - 16 species have been identified for recovery under this component. These are **snow leopard, Bustard, dolphin, hangul, Nilgiri Tahr, marine turtles, dugongs, edible nest swiftlet, Asian wild buffalo, Nicobar Megapode, vultures, Malabar Civet, Indian rhino, Asiatic lions, Swamp deer, Jerdon's Courser and Brown antlered deer**. A scientific Recovery Plan has to be prepared by the Chief Wildlife Warden in each state.

## Higher Protection to Star Tortoise and Otters

India's **proposal to upgrade the protection status** of Star Tortoise, the Smooth-coated Otter & Small-clawed Otter has been approved in the **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**.

- The species are now listed under **Appendix I of the CITES** & enjoy highest degree of protection.

Note:



- Henceforth, complete International ban will be enforced on their trade, as an effort to boost their numbers.
- The upgradation was approved at **Conference of Parties (COP18)** held at **Geneva**.
- According to Deputy Director, **Wildlife Crime Control Bureau**, "90% of the trade of **Star Tortoise** occurs as part of the International pet market."
  - If their exploitation had continued at a similar pace or had expanded, a decline of greater than 30% was predicted by 2025.

## Two New Species of Eels

Recently, two new species of Marine Eels have been discovered by Estuarine Biology Regional Centre (EBRC) of the **Zoological Survey of India (ZSI)**.

- One of them, a short brown un-patterned Moray Eel, named **Gymnothorax andamanensis**, is found near the south Andaman coast.
  - 10 species of short brown unpatterned moray eels have been discovered in the world, out of which **two were found in Indian waters**.
- Another is a new white-spotted Moray Eel, now named **Gymnothorax smithi**.

### Moray Eels

- Moray Eels occur in all **tropical and subtropical seas**, they live in shallow water among reefs and rocks.
- They are known for two types of jaws: one is **regular (oral) jaws** with big teeth and the second jaw is called the **pharyngeal jaw** (which drags prey inside the eels stomach).
- There **IUCN red list** status is **Least Concern**.

#### Zoological Survey of India

- The Zoological Survey of India (ZSI), a subordinate organization of the **Ministry of Environment and Forests** was established in **1916**.
- It is a **national centre for faunistic survey and exploration** of the resources leading to the advancement of knowledge on the exceptionally rich faunal diversity of the country.
- It has its **headquarters at Kolkata** and 16 regional stations located in different geographic locations of the country.

## BASIC Meeting on Climate Change

The BASIC countries held their **28<sup>th</sup> ministerial meeting** on Climate Change from 14<sup>th</sup> to 16<sup>th</sup> August 2019 in **Sao Paulo, Brazil**.

- The countries expressed their concern about climate change and its adverse effects, and reaffirmed their commitment to the successful implementation of the **United Nations Framework Convention on Climate Change (UNFCCC)**, its Kyoto Protocol and its Paris Agreement, in accordance with the principles of Equity and **Common But Differentiated Responsibilities and Respective Capabilities (CBDR-RC)**, in the light of different national circumstances.
- The Ministers stated the importance of responsible, comprehensive, urgent and ambitious actions against climate change, including in the urban environment.
- The group noted with concern the **trend of developing countries being denied their right to support in different fora, including the Green Climate Fund (GCF) and the Global Environment Facility (GEF)**. It stressed in this regard that climate finance should not be a vehicle for increasing the indebtedness of developing countries.
- The BASIC Ministers **urged developed countries** to fulfill their climate finance commitments of mobilizing USD 100 billion annually by 2020 for developing countries in a transparent manner and on a grant basis.
- The Ministerial meeting was held in the **run-up to the UNFCCC Conference of Parties (COP-25)** meet to be held in Chile from 2<sup>nd</sup>-3<sup>rd</sup> December, 2019.

### BASIC

- The BASIC group was formed as the result of an agreement signed by the four countries (Brazil, South Africa, India and China) on 28th November, 2009.
  - The signatory nations committed to acting together at the upcoming United Nations Climate Change Conference, commonly known as the Copenhagen Summit, scheduled in Copenhagen, Denmark from December 7-18 of that year.
- BASIC is one of several groups of nations working together to fight climate change and carry out negotiations within the UNFCCC.

Note:

- Other than BASIC, there are the **Organisation of Petroleum Exporting Countries (OPEC)**, the group of countries of Central Asia, Caucasus, Albania and Moldova (CACAM), etc.
- Brazil, South Africa, India and China put together has one-third of the world's geographical area and nearly 40% of the world's population.
- **China will host the next meeting** of the BASIC Ministers. The **27<sup>th</sup> BASIC Ministerial Meeting** on Climate Change was held on 19<sup>th</sup>-20<sup>th</sup> November, 2018 in New Delhi, India.

## Kutch Desert

The study of fossils from Kutch in Gujarat has revealed that the hot arid desert of Kutch was once a humid subtropical forests.

- **Findings of Study:** The fossil from Palasava suggest that a rich diversity of fauna and flora sustained in warm, humid/wet, tropical to sub-tropical environmental conditions during the Middle Miocene.
  - The bulk of fossils unearthed in Kutch have so far been mainly marine organisms, due to their proximity to the Arabian Sea. Geological changes eventually closed off the salt-flats' connection to the sea and the region turned into a large lake, eventually becoming salty wetlands.
  - It points to clues on how mammals dispersed between Africa and the Indian subcontinent when part of India was in the **Gondwanaland supercontinent that existed nearly 300 million years ago**.

### Kutch Desert

- Kutch Desert covers a vast area of 45,612 sq. km and is bounded to the north and northwest by Sindh (Pakistan), west and southwest by the Arabian Sea, and to the northeast by Rajasthan.
- The Rann of Kachchh comprises a unique example of **Holocene sedimentation**. It covers a large tracts of 23,000 sq. km and has been arbitrarily divided into two parts namely the Great Rann and Little Rann.
- Kachchh furnishes an interesting example of four diverse geomorphic type of terrain namely (i) the Rann, (ii) the low lying Banni plains, (iii) the hilly region, and (iv) the coastal plains.



- Such physiographic diversity is a reflection of geology, climate and sea level changes in this region
- It is connected to the Arabian Sea through **Kori Creek** in the west and the **Gulf of Kachchh** in the east, and is very close to sea level.
- The **Wild Ass Wildlife Sanctuary**, situated in the Indian state of Gujarat, is the largest wildlife sanctuary in the country. It is spread in the entire area of the **little Rann of Kutch** where small grass-covered areas, known as baits, forms the flora and is an important source to support the fauna of the region.

### Holocene Epoch

- Holocene Epoch, is the latest interval of geologic time, covering approximately the last 11,700 years of Earth's history.
- The sediments of the Holocene, both continental and marine, cover the largest area of the globe of any epoch in the geologic record.
- The Holocene is unique because it is coincident with the late and post-Stone Age history of humankind. The influence of humans is of world extent and is so profound that it seems appropriate to have a special geologic name for this time.

### Miocene Epoch

- The Miocene epoch is a major division of the geologic timescale and extends from about 23.03 to 5.332 million years before the present.

Note:

## India Fights to Get Rosewood Delisted from CITES

India, with the help of Bangladesh and Nepal, is trying to de-list '**Dalbergia sissoo**', from the list of **threatened varieties** in order to protect the livelihood of handicraft manufacturers and farmers in the Sub-continent.

- **Dalbergia sissoo** is commonly known **Rosewood, Shisham** and is a medium to large deciduous tree, native to India, with a slight crown.
- **Distribution:** It is native to the foothills of the Himalayas. It is primarily found growing along river banks below 900 metres (3,000 ft) elevation, but can range naturally up to 1,300 m (4,300 ft).
  - The temperature in its native range averages 10–40°C (50–104°F), but varies from just below freezing to nearly 50°C (122°F).
  - It can withstand average annual rainfall up to 2,000 millimetres (79 in) and droughts of 3-4 months.
  - Soils range from pure sand and gravel to rich alluvium of river banks; shisham can grow in slightly saline soils.
- **Use:** It is used as firewood, timber, poles, posts, tool handles, fodder, erosion control and as a windbreak. Oil is extracted from the seed and tannin from the bark.
- It is best known internationally as a premier timber species of the rosewood genus. However, Shisham is also an important fuel wood, shade, and shelter.
  - With its multiple products, tolerance of light frosts and long dry seasons, this species deserves greater consideration for tree farming, reforestation and agroforestry applications.
  - After teak, it is the most important cultivated timber tree in India, planted on roadsides, and as a shade tree for tea plantations.

### CITES Status

- **Dalbergia sissoo** is currently part of **Appendix II** of the **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**, a multilateral treaty to protect endangered plants and animals.
- It says that the species is not necessarily threatened with extinction, but the trade must be controlled to avoid utilisation incompatible with their survival.

## Amazon Rainforest

According to data from Brazil's National Institute for Space Research (INPE), **the Amazon Forests in Brazil has experienced 74,155 fires since January 2019.**

- This is an **85% increase from the last year (2018)** and significantly higher than that in the year 2016, when there were severe drought conditions in the region associated with a strong **El Nino** event.
- Moreover, there is **nothing abnormal about the climate this year** or the rainfall in the Amazon region, which is just a little below average.

### Amazon Rainforests

- These are **large tropical rainforest** occupying the drainage basin of the Amazon River and its tributaries in northern South America and covering an area of 6,000,000 square km.



- **Tropical forests** are **closed-canopy forests** growing within 28 degrees north or south of the equator.
- They are very wet places, receiving more than 200 cm rainfall per year, either seasonally or throughout the year.
- Temperatures are uniformly high - between 20°C and 35°C.
- Such forests are found in Asia, Australia, Africa, South America, Central America, Mexico and on many of the Pacific Islands.
- Comprising about 40% of Brazil's total area, it is bounded by the Guiana Highlands to the north, the

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Andes Mountains to the west, the Brazilian central plateau to the south, and the Atlantic Ocean to the east.

### Reason Behind the Fires

- **Natural Cause:** The dry season creates favourable conditions for the use and spread of fire.
- **Man-made causes:** Since the 1960s, the Amazon has witnessed large-scale deforestation because of cattle-ranching, logging, power projects, mining and farming.
  - The Amazon has large reserves of gold and other minerals.
- **Immediate Cause:** Environmentalists have blamed farmers setting the forest alight to clear land for pasture.
  - The President of Brazil has repeatedly said that he believes that Brazil should open the Amazon up to business interests, to allow mining, agricultural and logging companies to exploit its natural resources.

### Concerns

- The Amazon rainforest is a **repository of rich biodiversity** and produces approximately 20% of oxygen in the Earth's atmosphere.
- It is home to many indigenous communities, their life depends on the forests.
- **Additional Carbon Emissions:** Carbon intake by the Amazon basin matches the emissions released by nations in the basin. The burning of forests, therefore, implies additional carbon emissions.
  - Further deforestation could lead to Amazon's transformation from the world's largest rainforest to a savanna, which would reverse the region's ecology.
  - **Savanna** is a vegetation type that grows under hot, seasonally dry climatic conditions and is characterized by an open tree canopy (i.e., scattered trees) above a continuous tall grass understory (the vegetation layer between the forest canopy and the ground).
  - The largest areas of savanna are found in Africa, South America, Australia, India, Myanmar (Burma)—Thailand region in Asia, and Madagascar.
- **Impact on Water Cycle:** Amazon rainforest has the ability to produce at least half of the rain it receives. The rain produced by the Amazon travels through the region and even reaches the Andes mountain range.
- The **United Nations** and the international community need to **take serious measures** to save the forests.

## Ocean Energy as Renewable Energy

The **Ministry of New and Renewable Energy** has declared Ocean Energy as renewable energy.

- It has clarified to all the stakeholders that energy produced using various forms of ocean energy such as tidal, wave, ocean thermal energy conversion among others shall be considered as renewable energy and shall be eligible for meeting the non-solar **Renewable Purchase Obligations (RPO)**.

### Renewable Purchase Obligation

- This is a mechanism by which the State Electricity Regulatory Commissions are obliged to purchase a certain percentage of power from renewable energy sources.
- RPO is being implemented throughout the country to create demand for renewable energy.

### Potential

- According to MNRE, the total identified potential of tidal energy is about 12,455 MW, with potential locations identified at **Khambhat & Kutch regions (Gujrat)** and large backwaters, where barrage technology could be used.
- The total theoretical potential of wave energy in India along the country's coast is estimated to be about 40,000 MW.
- **Ocean Thermal Energy Conversion (OTEC)** has a theoretical potential of 180,000 MW in India subject to suitable technological evolution.
- The sector has the potential to grow, fuelling economic growth, reduction of carbon footprint and creating jobs not only along the coasts but also inland along its supply chains.

### Ocean Energy

- Oceans cover 70% of the earth's surface and represent an enormous amount of energy in the form of wave, tidal, marine current and thermal gradient. India has a long coastline with the estuaries and gulfs.
- Ocean energy is used in the form of Tidal, Wave, Current Energy and Ocean Thermal Energy.
  - **Tidal Energy:** The tidal cycle occurs every 12 hours due to the gravitational force of the moon. The difference in water height from low tide and high

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tide is stored in the form of potential energy. Similar to traditional hydropower generated from dams, tidal water can be captured in a barrage across an estuary during high tide and forced through a hydro-turbine during low tide.

- The capital cost for tidal energy power plants is very high due to the high construction cost and high power purchase tariff.
  - To capture sufficient power from the tidal energy potential, the height of high tide must be at least five meters (16 feet) greater than low tide.
  - The Gulf of Cambay and the Gulf of Kutch in Gujarat on the west coast have few ideal locations in the country where potential exists.
- **Wave Energy:** Wave energy is generated by the movement of a device either floating on the surface of the ocean or anchored to the ocean floor.
- Wave conversion devices that float on the surface have joints hinged together that bend with the waves. This kinetic energy pumps fluid through turbines and creates electricity.
  - Stationary wave energy conversion devices use pressure fluctuations produced in long tubes from the waves swelling up and down.
- **Current Energy:** Marine current is ocean water moving in one direction. Few examples being the Gulf Stream, North Atlantic Drift, etc. Tides also create currents that flow in two directions.
- Kinetic energy can be captured from the Gulf Stream and other tidal currents with submerged turbines.
- **Ocean Thermal Energy Conversion (OTEC):** Ocean Thermal Energy Conversion uses ocean temperature differences from the surface to depths lower than 1,000 meters, to extract energy. A temperature difference of only 20°C can yield usable energy.

## Composite Water Management Index 2.0

NITI Aayog in association with **Ministry of JAL Shakti** and **Ministry of Rural Development** released Composite Water Management Index 2.0.

### Background to CWMI

- India is experiencing a very significant water challenge, approximately 820 million people of India - living in

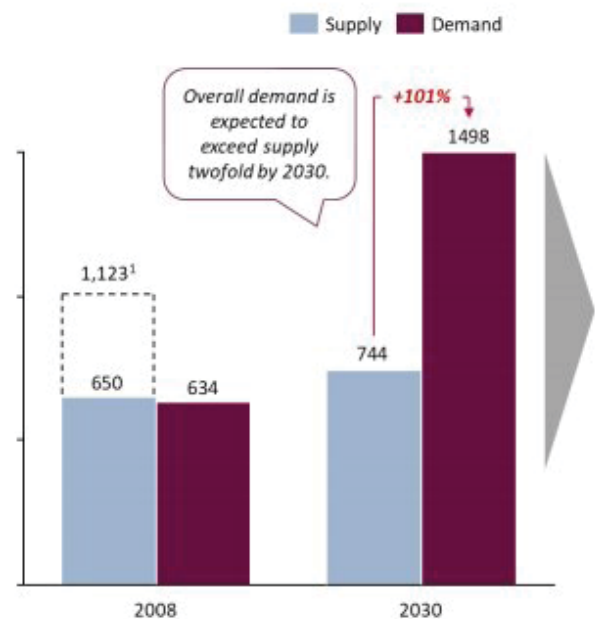
twelve river basins across the country have per capita water availability close to or lower than 1000m<sup>3</sup> – the official threshold for water scarcity as per the Falkenmark Index.

### About Report

- NITI Aayog **first launched and conceptualized the Composite Water Management Index in 2018** as a tool to instil a sense of **cooperative and competitive federalism** among the states.
- It provided actionable guidance to States on where they were doing well absolutely and relatively and what they needed to focus on to secure their water
- The index comprises 9 themes.

### Demand and supply of water in India

km<sup>3</sup> (2008 – 2030)



### Indicator Themes and Weights

No.	Themes	Weights
1	Source augmentation and restoration of water bodies	5
2	Source augmentation (Ground water)	15
3	Major and medium irrigation – Supply side management	15
4	Watershed development – Supply side management	10
5	Participatory irrigation practices – Demand side management	10

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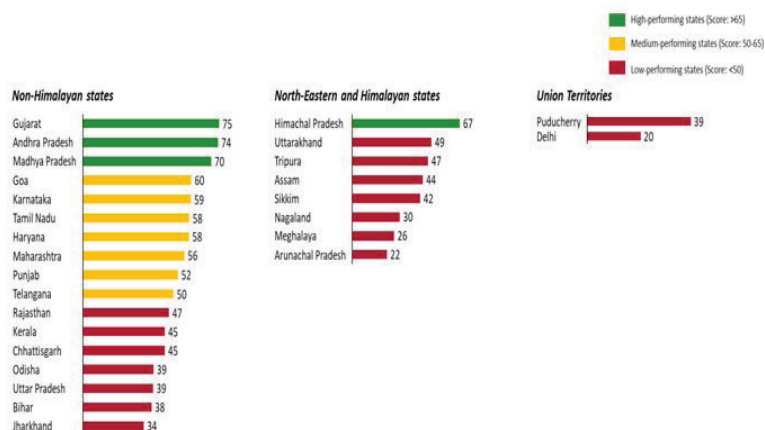
6	Sustainable on-farm water use practices – Demand side management	10
7	Rural drinking water	10
8	Urban water supply and sanitation	10
9	Policy and governance	15
<b>Total</b>		<b>100</b>

#### Falkenmark Indicator or Water Stress Index

- It is one of the most commonly used measures of water scarcity.
- It defines water scarcity in terms of the total water resources that are available to the population of a region; measuring scarcity as the amount of renewable freshwater that is available for each person each year.
- If the amount of renewable water per person per year in a country is
  - below 1,700 m<sup>3</sup>, the country is said to be experiencing water stress.
  - below 1,000 m<sup>3</sup>, it is said to be experiencing water scarcity.
  - below 500 m<sup>3</sup>, it is experiencing absolute water scarcity.

#### Key Findings

- CWMI 2.0 ranks various states for the reference year 2017-18 as against the base year 2016-17.
- **Gujarat** (continues to hold on to its rank one in the reference year (2017-18), followed by Andhra Pradesh, Madhya Pradesh, Goa, Karnataka and Tamil Nadu.
- In North-Eastern and the Himalayan States, Himachal Pradesh has been awarded rank 1 in 2017-18 followed by Uttarakhand, Tripura and Assam.



- For the first time, Union Territories have submitted their data and Puducherry has been declared the top performer.
- 80% of the states have shown improvement in their water management scores over the last three years.

## Land Degradation

India is facing a severe **problem of land degradation** i.e. soil becoming unfit for cultivation. **About 29% or about 96.4 million hectares are considered degraded.**

- To fight this menace, India will convert degraded land of nearly 50 lakh (5 million) hectares to fertile land in the next 10 years (between 2021 and 2030).
- 5 million hectares are part of the **Bonn Challenge** commitment.
  - “Bonn Challenge” is a global effort to bring 150 million hectares of the world’s deforested and degraded land into restoration by 2020, and 350 million hectares by 2030.
  - At the **United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP) 2015** in Paris, India joined the voluntary Bonn Challenge and pledged to bring into restoration 13 million hectares of degraded and deforested land by 2020, and an additional 8 million hectares by 2030. India’s pledge is one of the largest in Asia.
- The government sees schemes such as the **Pradhan Mantri Fasal Bima Yojana, Soil Health Card Scheme, and Pradhan Mantri Krishi Sinchayee Yojana** as tools to tackle the problem of land degradation.
- Also, India, for the first time, will be hosting the **14<sup>th</sup> session of the Conference of Parties (COP-14)** of the **United Nations Convention to Combat Desertification (UNCCD)** from 2<sup>nd</sup>-13<sup>th</sup> September 2019 in Greater Noida.

- The UNCCD was entered into force in December 1996. It is one of the three Rio Conventions along with United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD).
- India became a signatory to the UNCCD on 14<sup>th</sup> October 1994 and ratified it on 17<sup>th</sup> December 1996.

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- The main objective of the convention is to **combat desertification** and mitigate the effects of drought in countries experiencing serious drought and/or desertification.

## **Compensatory Afforestation Fund**

The Union Environment Ministry has transferred ₹47,436 crore to 27 States for afforestation. The funds are long-pending dues, part of the **Compensatory Afforestation Fund (CAF)**, that has been collected for nearly a decade as environmental compensation from industry.

- The funds transferred are in addition to State Budget. The centre expects that states will utilize the funds towards forestry activities to achieve the **objectives of the Nationally-Determined Contributions (NDCs)** of increasing forest & tree cover.
- The Fund will be used as per provisions of the CAF Act and Rules.

### **Compensatory Afforestation Fund**

- The CAF Act was passed by the centre in 2016 and the related rules were notified in 2018.
- The CAF Act was enacted to manage the funds collected for compensatory afforestation which till then was managed by **ad hoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**.
  - **Compensatory afforestation** means that every time forest land is diverted for non-forest purposes such as mining or industry, the user agency pays for planting forests over an equal area of non-forest land, or when such land is not available, twice the area of degraded forest land.
- As per the rules, **90% of the CAF money is to be given to the states while 10% is to be retained by the Centre.**
- The funds can be **used for treatment** of catchment areas, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood saving devices and allied activities.



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# Art & Culture

## Highlights

- *Deciphering Indus Script*
- *Adarsh Smarak Scheme*
- *A 3600 Years Old Site Found*
- *Virasat-e-Khalsa Museum*
- *77<sup>th</sup> Anniversary of Quit India Movement*
- *India's First and Longest Sea Ropeway*
- *Aadi Mahotsav*
- *Maharshi Badrayan Vyas Samman*
- *Kondapalli Toys*
- *Geographical Indication Tag*

## Deciphering Indus Script

According to the research paper titled '**Interrogating Indus inscription to unravel their mechanism of meaning conveyance**', the Indus inscriptions can be compared to the structured **messages found on stamps, coupons, tokens and currency coins of modern times**.

- The Indus inscriptions have not been deciphered due to the absence of bilingual texts, extreme brevity of the inscriptions, and ignorance about the language(s) encoded by Indus script.

### Findings

- The majority of the **Indus Valley inscriptions** were written **logographically** (by using word signs) and not by using **phonograms** (speech sounds units), claims a recent research paper published in Palgrave Communications, a Nature group journal.
- The paper mainly focuses on understanding how Indus inscriptions conveyed meanings, rather than on deciphering what they conveyed.
- The inscribed seals and tablets were **used in some administrative operation** that controlled the commercial transactions of the ancient Indus Valley Civilisation.
- According to paper, though many ancient scripts use **rebus methods** to generate new words, the inscriptions found on the Indus seals and tablets have not used rebus as the mechanism to convey meaning.
- The researcher also rejected the popular hypothesis that the seals were inscribed with Proto-Dravidian or Proto-Indo-European names of the seal-owners.

### Rebus Method

- A common perception among some scholars is that the Indus script is logo-syllabic, where one symbol can be used as a word sign at one time and as a syllable-sign at another.
- This method, where a word-symbol also gets sometimes used only for its sound value, is called the rebus principle. **E.g.:**
  - The pictures of a honey bee can be combined with a leaf to signify the word "belief" (bee+leaf).

## Adarsh Smarak Scheme

Recently, the **Union Ministry of Culture** has released its **100-day agenda** which also includes digging rainwater harvesting pits at over 100 major monuments covered under the **Adarsh Smarak scheme**.

- The other initiatives include installing big screens and audio systems at two dozen spots where a large number of devotees gather for prayers or aarti, rolling out 25 science museums on wheels to reach out to rural students.

### Adarsh Smarak Scheme

- The scheme was launched in 2014 for providing improved visitor amenities, especially for the physically challenged.
- The scheme comes under the Ministry of Culture.
- A total of **100 Monuments** protected by the **Archaeological Survey of India (ASI)** are being developed and maintained as Adarsh Monuments under the scheme.
- The **civic amenities** are being augmented at these sites.

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### Objectives of the Scheme

- To make monument **visitor friendly**.
- To **upgrade/provide washrooms**, drinking water, signages, cafeteria, and wi-fi facility.
- To provide **interpretation and audio-video centers**.
- To **streamline wastewater, garbage disposal and a rainwater harvesting system**.
- To make the monument **accessible to differently-abled**.
- To implement **Swachh Bharat Abhiyan**.

## A 3600 Years Old Site Found

As per the **Archaeological Survey of India (ASI)**, a **rural settlement had thrived at Bharati Huda in Jalalpur village in Odisha's Cuttack district, about 3600 years ago**.

- This is based on the ancient artefacts and grain discovered by the ASI from the mentioned site in the year 2018.
- The age of the settlement was arrived at after **radiocarbon dating of charcoal samples** found at the site by the **Inter University Accelerator Centre (IUAC)** in New Delhi using **Accelerator Mass Spectrometry (AMS)**.

### Other Findings

- **Chalcolithic Culture:** The excavated remains indicate the existence of Chalcolithic culture in the valley as attested by the presence of mud structural remains, large quantity of potsherds, ground and polished stone tools, bone tools, beads of semi-precious stones, terracotta objects, huge quantity of faunal remains and carbonized grains.
  - The site has cultural similarity with **Golabai Sasan, Suabarei** and other excavated and explored sites in the **Mahanadi delta** and **partial similarity** with the chalcolithic sites of middle **Mahanadi valley** and sites of central and eastern India.
- **Economy:** The inhabitants practised **agriculture and animal husbandry** as attested by the findings of **domesticated varieties of rice and jute** and evidence of domesticated cattle among the faunal remains as well as terracotta bull figurine.
- **Worship:** A new religious belief emerged in the form of **nature worship** as evident from a single specimen of the **Sun motif** found arrayed in chocolate-slipped pottery.

- **Sun worship** dated back to 1099 BCE in the Prachi Valley. Devotees from different parts of Odisha as well as the neighbouring states congregated at Chandrabhaga on the shore of the Bay of Bengal on the occasion of Magha Saptami to pay homage to Sun God.
- The world famous **Sun temple of Konark**, located some 30 kilometres from the excavation, was built in the 13<sup>th</sup> century CE. The **tradition of Sun worship seems to have evolved with human settlements in the region**.

- **Co-existence:** The excavation confirmed that a **separate ethnic group** that was using **non-black-and-red ware** might have existed during the early chalcolithic cultural horizon and a new class of ethnic group might have come into contact with the rural settlers at **Bharati Huda** during the mature phase of chalcolithic culture.

## Virasat-e-Khalsa Museum

The **Asia Book of Records** has listed the **Virasat-e-Khalsa** Museum in **Punjab's Anandpur Sahib** as the most visited museum in the Asian sub-continent (on a single day).

- The museum had witnessed a **record footfall** of 20,569 visitors on a single day on March 20.
- The **Limca Book of Records and India Book of Records** had also listed 'Virasat-e-Khalsa' as the country's top-ranked museum in terms of the number of visitors.
- The museum has been conferred an award by the **Punjab Energy Development Agency** in state-level energy conservation competition, for cutting down electricity consumption.
- The Virasat-e-Khalsa Museum (the second most important Sikh shrine in Anandpur Sahib, after the Golden Temple complex) was built to commemorate **300 years** of the founding of the '**Khalsa Panth**' by the Guru Gobind Singh (10<sup>th</sup> Sikh guru).
- Museum also helped grow the economy of Anandpur Sahib in Punjab.

## 77<sup>th</sup> Anniversary of Quit India Movement

The 77<sup>th</sup> anniversary of the **August Kranti Din**, which is considered as one of the important milestones in the

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history of freedom struggle of our country, was observed on **August 8, 2019**.

- On **8<sup>th</sup> August 1942**, **Mahatma Gandhi** gave a clarion call to end the British rule and launched the Quit India Movement at the session of the All-India Congress Committee in Mumbai.
- The movement had begun from **Gawalia Tank Maidan** in Mumbai and the day is observed as **August Kranti Day** every year.
  - After the failure of the **Cripps Mission**, Gandhiji gave the call "**Do or Die**" in his speech delivered at the Gowalia Tank Maidan, now popularly known as August Kranti Maidan.
- Gandhiji was soon imprisoned at **Aga Khan Palace** in Pune and almost all leaders were arrested.
- New leaders like **Aruna Asaf Ali** emerged out of the vacuum of leadership.
- The Britishers declared the INC to be an unlawful association.
- Over 100000 people were arrested and the **government resorted to violence** in order to crush the agitation.
- Gandhiji was released in 1944 on health grounds. However, in the absence of any central leadership, there were some **incidents of violence**.
- **Muslim League, the Communist Party of India and the Hindu Mahasabha did not support the movement.**
  - The League was not in favour of the British leaving India without partitioning the country first.
  - The Communist party supported the British since they were allied with the Soviet Union.
- Meanwhile, Subhas Chandra Bose organised the **Indian National Army** and the Azad Hind government from outside the country.
- As **C Rajagopalachari** was not in favour of complete independence he resigned from the INC.
- There were **strikes and demonstrations** all over the country and workers provided support by not working in the factories.
- At some places (Ballia, Tamluk, Satara etc.) **parallel governments** were also set up.
- Women took active participation in the movement. Female leaders like **Usha Mehta** has helped set up an underground radio station which led to the awakening about the movement.

- **Aruna Asaf Ali** popularly known as the 'Grand Old Lady' of the Independence Movement is known for hoisting the Indian flag at the Gowalia Tank Maidan in Mumbai during the Quit India Movement.
- While the Quit India campaign was **crushed in 1944**, with the British refusing to grant immediate independence, saying it could happen only after the war had ended, they came to the important realization that India was **ungovernable in the long run due to the cost of World War II**.

#### Cripps Mission

- **Japanese aggression** in South-East Asia, keenness of British Government to secure the full participation of India in the war, mounting pressure from China and the United States, as well as from the **Labour Party in Britain**, led British Prime Minister **Winston Churchill** to send Cripps Mission to India in March 1942.
- Under Stafford Cripps, the mission was sent to **resolve the Indian question of a new constitution and self-government**.
- Main proposals of the mission were:
  - An Indian Union with a **dominion status** would be set up; it would be free to decide its relations with the Commonwealth and free to participate in the international bodies.
  - A constituent assembly would be convened after the war to frame a new constitution.
  - Members of the assembly partly elected by the provincial assemblies and partly nominated by the princes.
  - Any province not willing to accept the constitution would be given '**the same full status as the Indian Union**' – designed to appease the Muslim League's call for Pakistan.
  - The constitution making body and the British Government would negotiate a treaty to effect the transfer of power and to safeguard racial and religious minorities.
- The Indian National Congress, however, was not satisfied as its **demand for immediate complete independence had been rejected**.
- Mahatma Gandhi said that Cripps offer of Dominion Status after the war was a "**post-dated cheque drawn on a failing bank**".

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## India's First and Longest Sea Ropeway

India's first and longest sea ropeway project that will **connect Mumbai with the Elephanta Caves**, is scheduled to start by the end of the year 2019.

- The **8 km ropeway** will begin from **Sewri** in Mumbai's east coast and end at **Raigad** district's Elephanta Island.
- **Need:** The caves see an annual footfall of nearly seven lakh visitors and are one of the must-visit places around Mumbai. Presently, it takes around an hour for the 10-km cruise from Mumbai and vice versa.
- The **14-minute ride by 30-seater cable cars** will give a major boost to tourism.
- It is Rs. 700 crore **PPP (Public-Private Partnership) project** which will be executed by the Mumbai Port Trust, under the **Ministry of Shipping**.

### Elephanta Caves

- The Elephanta caves, located on the **Elephanta Islands (in the Arabian Sea)**, off Mumbai, was declared a **world heritage site** by UNESCO in 1987.
- Known locally as **Gharapuri Caves**, these were constructed about the **mid-5<sup>th</sup> to 6<sup>th</sup> centuries AD**.
- The **seven caves** constitute one of the most striking collections of rock-art in India.
  - There are two groups of caves. To the east, Stupa Hill (named because of a small brick Buddhist monument at the top) contains two caves, one of which is unfinished, and several cisterns.
  - To the west, the larger group consists of five rock-cut Hindu shrines.
- The main cave is universally famous for its **carvings to the glory of Shiva**, who is exalted in various forms and actions. The cave consists of a square plan mandapa whose sides measure about 27m.



## Aadi Mahotsav

The Aadi Mahotsav, a **nine-day tribal festival** and the Centre's first official function in Ladakh after the government decided to make it a Union Territory, to start in Leh on the evening of 17<sup>th</sup> August, 2019.

- This is the **first time that the Aadi Mahotsav is being held in Ladakh** as earlier, the Tribal Ministry never got a response from the J&K administration.
- Aadi Mahotsav is a **national tribal festival and a joint initiative of Ministry of Tribal Affairs**, Government of India & **Tribal Cooperative Marketing Development Federation of India (TRIFED)**.
  - TRIFED came into existence in **1987**. It is a **national-level apex organization** functioning under the administrative control of Ministry of Tribal Affairs, Govt. of India.
  - TRIFED has its registered and **Head Office** located in New Delhi and has a network of 13 Regional Offices located at various places in the country.
  - The ultimate objective of TRIFED is **socio-economic development of tribal people** in the country by way of marketing development of the tribal products.
- The festival showcases traditional art and handicrafts and cultural heritage of the country.
- **The theme of the festival is: "A celebration of the spirit of Tribal Craft, Culture and Commerce"**. An effort is being made to take tribal commerce to the next level of digital and electronic transactions.
- Mahotsav will identify:
  - Food and Forest Produces, which can be processed, value-added and marketed under the **Van Dhan Scheme** of the Ministry of Tribal Affairs.
  - Artisans and master craftsmen and women of Ladakh for empanelling them as suppliers of **TRIBES India, a brand under the TRIFED**. The products can then be marketed all over the country through the 104 retail outlets run by TRIBES India across the country and 190 countries across the world through Amazon, with whom TRIBES India has an agreement.
- In line with the national aspiration to go cashless, **for the first time, the tribal artisans will be accepting payment through major credit/debit cards** for which Point of Sale (POS) machines have been provided in each stall.

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## Maharshi Badrayan Vyas Samman

The President of India has awarded the selected scholars with the Maharshi Badrayan Vyas Samman for the year 2019.

- The Maharshi Badrayan Vyas Samman was instituted by the Government of India to honour young scholars, aged 30-45 years, in recognition of their significant contribution in the field of Persian, Arabic, Pali, Prakrit and Classical Indian languages.
  - As of now, six languages i.e. Tamil, Sanskrit, Telugu, Kannada, Malayalam and Odia have been given the status of classical languages.
  - The criteria evolved by the Government to determine declaration of a language as a Classical language is as under:
    - High antiquity of its early texts/recorded history over a period of 1500-2000 years.
    - A body of ancient literature/texts, which is considered a valuable heritage by generations of speakers.
    - The literary tradition is original and not borrowed from another speech community.
    - The classical language and literature being distinct from modern, there may also be a discontinuity between the classical language and its later forms or its offshoots.

## Kondapalli Toys

Kondapalli toys, **cultural icons of Andhra Pradesh**, are one of the most sold handicrafts in India and abroad, across online, wholesale, and retail platforms.

- The '**Tella Poniki**' wood gives the toys a unique character. No other wood can be a replacement to make these toys as Tella Poniki is malleable and can be easily chiselled into the desired shape.

- Kondapalli Toys have been granted the **Geographical Indications (GI)** tag.

## Geographical Indication Tag

The government has allotted Geographical Indication (GI) tags to four new products from the states of **Tamil Nadu, Mizoram and Kerala**.

- These products are:
  - **Palani Panchamirtham**, is one of the main religious offerings to Lord Dhandayuthapani Swamy, the presiding deity of Arulmigu Dhandayuthapani Swamy Temple, situated in Palani hills in Dindigul District of Tamil Nadu.
    - It is a combination of five natural substances, namely, bananas, jaggery sugar, cow ghee, honey and cardamom in a definite proportion.
    - This is the first time a temple '**prasadam**' from **Tamil Nadu** has been bestowed with the GI tag.
  - **Tawlhlohpuan**, a medium to heavy, compactly woven, good quality fabric from Mizoram is known for warp yarns, warping, weaving & intricate designs that are made by hand.
  - **Mizo Puanchei**, a colourful Mizo shawl/textile, from **Mizoram**, is considered as the most colourful among the Mizo textiles.
    - It is an essential possession for every Mizo lady and an important marriage outfit in the state. The weavers insert the designs and motifs by using supplementary yarns while weaving to create this beautiful and alluring textile.
  - **Tirur betel vine** from **Kerala**, which is mainly cultivated in Tirur, Tanur, Tirurangadi, Kuttippuram, Malappuram and Vengara block panchayats of Malappuram District, is valued both for its mild stimulant action and medicinal properties.



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# Social Issues

## Highlights

- Census 2021
- TechEx: Technology and Innovation Platform
- Urkund Software
- World Breastfeeding Week
- Sabki Yojana Sabka Vikas Campaign
- Inverted-J Pattern in Education and Fertility
- Improvement in Sex Ratio at Birth
- NISHTHA: Teachers' Training Programme
- Population Explosion and Fertility Rates
- National Essential Diagnostics List
- Free Medicine Scheme of Rajasthan
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- HIV/AIDS Outreach
- Scheme to Screen Children for Leprosy & TB
- TB Drug Pretomanid

## Census 2021

The next census of India to be conducted in 2021 with March 1, 2021 as the reference date, except for the states of Jammu & Kashmir, Himachal Pradesh and Uttarakhand.

- The Census 2021 **will be conducted in 18 languages out of the 22 scheduled languages (under 8<sup>th</sup> schedule) and English**, while Census 2011 was in 16 of the 18 scheduled languages declared at that time.
- It also **will introduce a code directory** to streamline the process
- The option of "Other" under the gender category will be changed to **"Third Gender"**.
  - There were roughly 5 lakh people under "other" category in 2011.
- For the first time in the 140 year history of census in India, data is proposed to be collected through a mobile app by enumerators and they will receive an additional payment as an incentive.
- The Census data would be **available by the year 2024-25** as the entire process would be conducted digitally and data crunching would be quicker.
  - Data from the Census 2011 is still being released. **E.g.:** The **dataset on migration was published recently**.

### Issue of Caste Data Collection

- Earlier in 2018, the Ministry of Home Affairs had declared that the Other Backward Class (OBC) category would be included in the Census 2021.

- However, the Registrar-General of India (RGI) has said that only SC/ST will be included as the unreliable nature of caste data collection decreases the credibility of the results. **E.g.:** A person belonging to the Yadav caste writes Yadu, Yaduvanshi, etc. in the form; there is no standardisation. People sometimes even confuse caste with gotra.
- The 2011 caste data, collected as part of the Socio Economic Caste Census (SECC), is yet to be released by the Centre.
  - Even a committee formed under former vice-chairman of NITI Aayog, Arvind Panagariya to find a way to publish the 2011 Socio-economic and Caste Census data failed to provide any tangible outcome.
- The last caste-based census was conducted by the British in 1931.

### Census

- The census provides information on size, distribution and socio-economic, demographic and other characteristics of the country's population.
- **'Rig-Veda'** reveals that some kind of population count was maintained during 800-600 BC in India.
- **Arthashastra by 'Kautilya' written in the 3<sup>rd</sup> Century BC** prescribed the collection of population statistics as a measure of state policy for taxation.
- During the regime of the **Mughal king Akbar, the administrative report 'Ain-e-Akbari'** included comprehensive data pertaining to population, industry, wealth and many other characteristics.

Note:

- A systematic and modern population census, in its present form was conducted non synchronously between 1865 and 1872 in different parts of the country.
- However, **the first synchronous census in India was held in 1881**. Since then, censuses have been undertaken uninterruptedly once every ten years.
- India's **last census was carried out in 2011 when the country's population stood at 121 crore**. The Indian Census is one of the largest administrative exercises undertaken in the world.

## TechEx: Technology and Innovation Platform

The Union Ministry of Human Resource Development has inaugurated the **TechEx - technology** exhibition at IIT Delhi.

- TechEx was organized to demonstrate products and prototypes developed under the Ministry of Human Resource Development's **IMPacting Research INnovation and Technology (IMPRINT)** and **Uchhatar Avishkar Yojana (UAY)** schemes.

### Uchhatar Avishkar Yojana

- **Uchhatar Avishkar Yojana (UAY)** was announced with a view to **promote innovation** of a higher order that directly impacts the needs of the Industry and

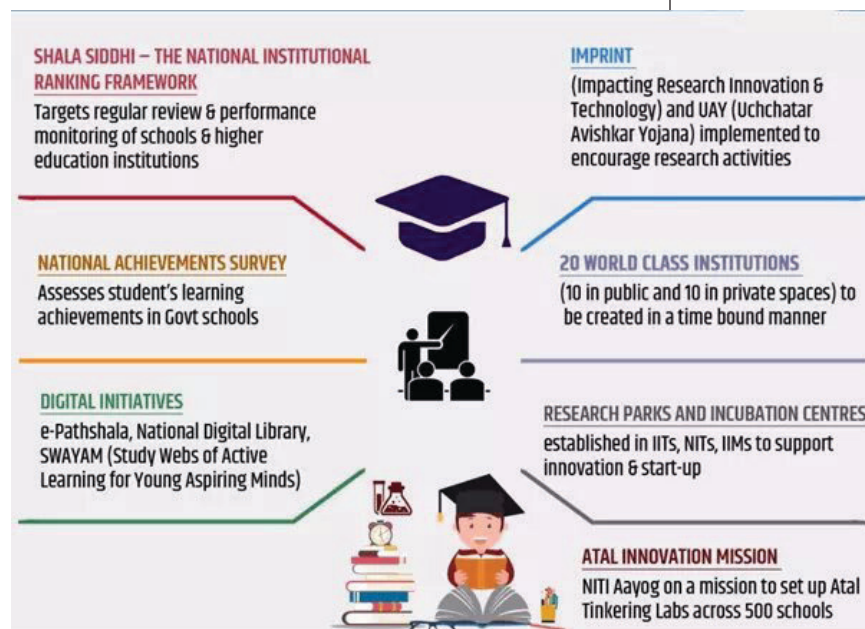
thereby improves the competitive edge of Indian manufacturing.

- The scheme focuses on a viable industry-academic collaboration where industry shares a part of the cost of research.

### Other Initiatives/Schemes to Promote Research and Technology Ecosystem

- **Setting up of Research Parks:** The Government has approved setting up of Research Parks at IIT Kharagpur, IIT Bombay, IIT Delhi, IIT Guwahati, IIT Kanpur, IIT Hyderabad, IIT Gandhinagar and IISc Bengaluru.
- **Prime Minister's Research Fellowship:** The scheme offers direct admission to meritorious students in the Ph. D programmes in IITs, IISERs and IISc.
- **Smart India Hackathons:** It is a nationwide initiative to provide students a platform to solve some of the pressing problems of daily lives.
- **SETU (Self Employment and Talent Utilization):** It is a techno- financial, incubation and facilitation program to support all aspects of start-up particularly in technology driven areas.
- **Institution's Innovation Council (IIC)** is established in **Higher Educational Institutions (HEIs)** for promoting innovation ecosystem within their campus.
- **Trainee Teacher Scheme:** It had been initiated in National Institute of Technologies (NITs) with the objective to attract, motivate and sponsor best graduate engineers for part time M.Tech and Ph.D. programmes.

- **VAJRA (Visiting Advanced Joint Research Faculty):** This enables NRIs and overseas scientific community to participate and contribute to research and development in India through monetary support by the government.
- **Prime Minister's Science, Technology & Innovation Advisory Council (PM-STIAC):** It is an overarching body which assesses the status of specific S&T domains, comprehends challenges, formulates immediate, mid and long term interventions and presents a roadmap to the Prime Minister.



Note:

## Urkund Software

According to a **University Grants Commission (UGC)** notice, all universities in India will get final subscription to access the **Swedish anti-plagiarism software 'Urkund'** from September 1, 2019.

Plagiarism is the practice of taking someone else's work or ideas and passing them off as one's own.

- The Urkund software was chosen through a **global tender process**.
- While **Turnitin** (US anti-plagiarism software) is more commonly used by global academics, it was found to be 10 times more expensive without a proportionate increase in features or reliability.
- The central government is following a **two-pronged approach** to prevent plagiarism.
  - As a part of this process, in the coming years the **software will be available free of cost** to all 900 universities, including teachers, students and researchers.
  - The Centre also notified the **University Grants Commission (Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions) Regulations, 2018** to prescribe the graded punishment for plagiarism.

### UGC Panel on Improving Research Culture

- A **UGC panel on improving research culture**, headed by **P. Balaram**, noted that Indian academics have contributed 35% of all articles published in about 11,000 fake journals between 2010 and 2014.
- The panel found that most of these articles were in **fake engineering journals**, followed by articles in fake journals of biomedicine and social sciences.
- According to the panel report, primary responsibility to ensure high standards of academic research should lie with institutions themselves.
- Central rules and regulations can only complement the vigilant internal processes of institutions.
- The report submitted by the panel in July 2019 said that, "**Institutions must take the responsibility** for ensuring academic standards and for emphasising, to both students and faculty, the importance of maintaining the **highest standards of integrity in academic research**".

## World Breastfeeding Week

The **World Breastfeeding Week (WBW)** has been observed from **1<sup>st</sup> to 7<sup>th</sup> Aug 2019**. The **Food and Nutrition Board, Ministry of Women and Child Development**, has organized a number of activities on the theme "**Empower Parents, Enable Breastfeeding**". The focus is on protection, promotion, and support of breastfeeding.

- The **objectives** of World Breastfeeding Week are:
  - To create awareness among the parents about breastfeeding
  - Encourage parents to adopt breastfeeding
  - Creating awareness about the importance of initiation and exclusive breastfeeding, and adequate & appropriate complementary feeding
  - Providing advocacy material about the importance of breastfeeding
- Importance of Breastfeeding
  - It **promotes better health** for mothers and children alike
  - It **prevents infections** like diarrhoea and acute respiratory infections in early infancy and thus reduce infant mortality
  - It **decreases the risk of mothers developing breast cancer**, ovarian cancer, type 2 diabetes, and heart disease and
  - It **protects infants from obesity**-related illnesses, diabetes and increases the IQ.

### MAA – "Mothers Absolute Affection"

- It is a nationwide programme of the **Ministry of Health and Family Welfare** to promote breastfeeding and provision of counselling services for supporting breastfeeding through health systems.
- The programme has been named 'MAA' to signify the support a lactating mother requires from family members and at health facilities to breastfeed successfully.
- The following are the **objectives of the Programme** in order to achieve the above mentioned goal:
  - Build an enabling environment for breastfeeding through awareness generation activities, targeting pregnant and lactating mothers, family members and society in order to promote optimal breastfeeding practices.

Note:

- Breastfeeding to be positioned as an important intervention for child survival and development.
- Reinforce lactation support services at public health facilities through trained healthcare providers and through skilled community health workers.
- To incentivize and recognize those health facilities that show high rates of breastfeeding along with processes in place for lactation management.
- **‘Vatsalya – Maatri Amrit Kosh’**, a National Human Milk Bank and Lactation Counselling Centre has been established at the Lady Hardinge Medical College (LHMC), Delhi. It has been established in collaboration with the Norwegian government, Oslo University and Norway India Partnership Initiative (NIPI).

## Sabki Yojana Sabka Vikas Campaign

The central government has decided to launch the **People's Plan Campaign**, also known as “Sabki Yojana Sabka Vikas” from September 2019.

- It aims to draw up **Gram Panchayat Development Plans (GPDPs)** in the country and place them on a website where anyone can see the status of the various government's flagship schemes.

### Background

- A pilot exercise conducted in 2018 suggests that a majority of the GPs scored between 41% and 50% on a scale of 100, showing glaring deficiencies.
  - **Merely 0.1% and 0.6% GPs fell in the high 91-100 and 81-90 score respectively.**
- A comparison of the performance among the larger states shows that **Kerala, Tamil Nadu, and Andhra Pradesh**, in that order, were the top scorers, while GPs in **Jharkhand, Assam, Bihar, and Madhya Pradesh were at the bottom.**
- A recent study of 100 randomly chosen GPs by **National Institute of Rural Development** has shown that several GP has reported improvements while others have slipped down over the past year. A fresh survey is, therefore, significant.

### Gram Panchayat Development Plans

- Gram Panchayats have been mandated for the preparation of GPDP for economic development and social justice **utilizing the resources** available to them.
- The GPDP planning process will be comprehensive and participatory by involving **full convergence** with the schemes of all related Central Ministries / Line Departments.
- The People's Plan Campaign initiated under "Sabki Yojana Sabka Vikas" is an intensive and structured exercise for planning at Gram Sabha through **convergence between Panchayati Raj Institutions (PRIs) and concerned departments of the State.**

### About the process

- Gram Panchayat Development Plans (GPDPs) will include **48 indicators** covering various aspects such as health and sanitation, education etc.
- After each GP is scored out of 100 — **with 30 marks for infrastructure, 30 marks for human development, and 40 marks for economic activity** — the GPs will be ranked.
- The data on the 48 indicators would come from Census 2011 (for physical infrastructure), **Socio-Economic Caste Census 2011** (for Household-level deprivation data), and fresh survey starting in September 2019 that will be carried out by **local facilitators.**
- The score for each GP will reflect the **local needs and priorities.**
  - For instance, for a drought-prone area, water conservation would be accorded the highest priority.
  - Within this ranking, households suffering the worst deprivations would be prioritised further.
- The entire ranking exercise is **meant to identify the gaps at the GP level, make an assessment of where it stands, and accordingly plan the interventions.**

### National Institute of Rural Development and Panchayati Raj

- The National Institute of Rural Development and Panchayati Raj (NIRD&PR) is an **autonomous organisation under the Union Ministry of Rural Development.**
- It is recognized internationally as one of the **United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)** Centres of Excellence.

Note:



- It **builds capacities** of rural development functionaries, elected representatives of PRIs, bankers, NGOs and other stakeholders through interrelated activities of training, research and consultancy.
- Establishment in 1958, the Institute is **located at Hyderabad in Telangana**.
- In addition to the main campus at Hyderabad, this Institute has **North-Eastern Regional Centre** at Guwahati, Assam to meet the NE-regional needs.

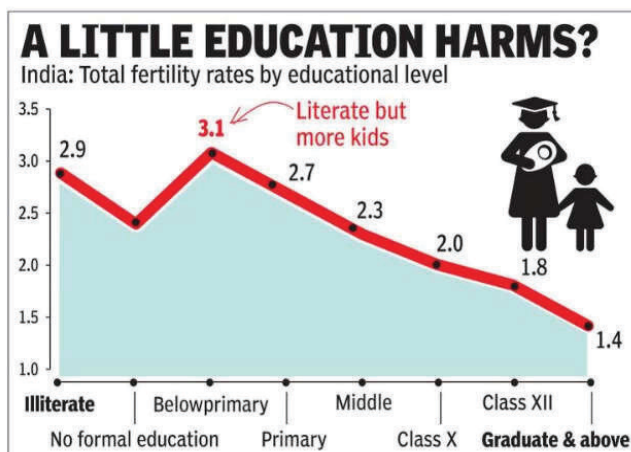
## Inverted-J Pattern in Education and Fertility

Recently released official data from 2017 on the **Total Fertility Rate (TFR)**, reflects a complex **relationship between literacy level and fertility rate**.

- According to **conventional wisdom**: The higher the educational level of a woman, the lower the fertility rate.
- However, there's a consistent pattern across states of illiterate women and those with no formal education having lower fertility rates than those with below primary level education.
  - **Culture of the state** is believed to have a greater influence than **education**.

### Pattern from TFR data

- The relationship between fertility and education resembles an **inverted-J pattern**.
  - Usually, there is an **inverse relationship between education or income and fertility**, but it has been observed that fertility could go up with a slight increase in education or income level.



- But eventually, fertility declines with higher levels of education.

### Highlights of the Report

- In Bihar, the TFR of women who have not completed primary schooling is 4.4 compared to 3.7 for illiterate women.
- Similarly, in Odisha with an overall low fertility rate of just 1.9, the TFR of illiterate women was 2 compared to a TFR of 3.6-3.5 among those with primary level schooling or below.
- At the all-India level, the TFR for women with below primary education was 3.1 compared to 2.9 for illiterate women and 2.4 for those without formal education.
- However, according to demographers and population experts, It is **very early to come up with some conclusion**. Similar pattern has to emerge for three or four years (above mentioned pattern is only for the year 2017), so that this Inverted J-curve can be approved as a theory.

## Improvement in Sex Ratio at Birth

According to the fourth **National Family Health Surveys (NFHS) 2015-16**, the **sex ratio at birth (SRB)** in India has improved from 914 to 919.

- **SRB is defined as the number of female births per 1,000 male births.**
- Survey held that the **highest improvement in SRB** was noted in **Punjab** at 126 points, but it's SRB remained at 860 (one of the lowest SRB in the states).

- This success can be attributed to the **Beti Bachao Beti Padhao (BBBP) Scheme**.

- Despite the North-Eastern societies traditionally being matriarchal, the sharpest decline was in Sikkim, where the SRB dropped 175

### 2015-16: TOP 6 & BOTTOM 6

Kerala	1,047
Dadra & Nagar Haveli	1,013
Meghalaya	1009
Chhattisgarh	977
Tripura	966
Goa	966
Punjab	860
A&N Islands	859
Puducherry	843
Haryana	836
Delhi	817
Sikkim	809

Source: NFHS-4 via Ministry of Health

Note:

points to reach 809, the lowest among all states in 2015-16.

- Next, to Sikkim, the five states with the highest declines included four more from the Northeast.

## **NISHTHA: Teachers' Training Programme**

The **Union Human Resource Development Minister** has launched '**National Initiative for School Heads and Teachers Holistic Advancement (NISHTHA)**', a national mission to improve learning outcomes at the **elementary level**.

- NISHTHA Website, Training Modules, Primer Booklet and a Mobile App were also launched by the Minister.

### **About 'National Initiative for School Heads' and Teachers' Holistic Advancement'**

- NISHTHA is the largest teachers' training programme of its kind in the world.
- **Objective:** To motivate and equip teachers to encourage and foster critical thinking in students.
- Teachers will get awareness and develop their skills on various aspects related to:
  - Learning Outcomes,
  - Competency-Based learning and Testing,
  - Learner-centered Pedagogy,
  - School Safety and Security,
  - Personal-social qualities,
  - Inclusive Education,
  - ICT in teaching-learning including Artificial Intelligence,
  - Health and well-being including yoga,
  - Initiatives in School Education including library, eco-club, youth club, kitchen garden,
  - School Leadership qualities,
  - Environmental Concerns,
  - Pre-school, Pre-vocational Education and School-Based assessment.
- **Aim:** To build the capacities of around 42 lakh participants.
  - Covering all teachers and heads of schools at the elementary level in all Government schools,

- Faculty members of State Councils of Educational Research and Training (SCERTs) and District Institutes of Education and Training (DIETs),
- Block Resource Coordinators and Cluster Resource Coordinators in all States and UTs.
- **Implementation:** Training will be conducted directly by 33120 Key Resource Persons (KRPs) and State Resource Persons (SRP) identified by the State and UTs, who will in turn be trained by 120 National Resource Persons identified from National Council of Educational Research and Training (NCERT), National Institute of Educational Planning and Administration (NIEPA), etc.
- **States and UTs** have an option to contextualize the training modules and use their own material and resource persons also, keeping in view the core topics and expected outcomes of **NISHTHA**.
- The prominent features of the programme are activity based modules including in-built continuous feedback mechanism, online monitoring and support system, training need and impact analysis (Pre and Post training).
- A Mobile App and **Learning Management System (LMS)** based on MOODLE (Modular Object-Oriented Dynamic Learning Environment) have been developed by NCERT.
- LMS will be used for registration of Resource Persons and Teachers, dissemination of resources, training gap and impact analysis, monitoring, mentoring and measuring the progress online.

## **Population Explosion and Fertility Rates**

The Prime Minister highlighted "**population explosion**" and underscored the need for "social awareness" to deal with this concern while addressing the nation on 73<sup>rd</sup> Independence Day.

- However, trends indicate that the country has **consistently made gradual improvements** in curbing its fertility rates.

### **Total Fertility Rate**

- The national Total Fertility Rate (TFR) is estimated to be still marginally higher than the replacement rate.
- The latest estimates (for 2017) by the **Sample Registration System (SRS)** under the Registrar General of India (RGI) has pegged the country's **TFR at 2.2**,

Note:

marginally more than the replacement rate which stands at 2.1.

- **TFR** measures the number of children born to a woman at the end of childbearing age.
- **Replacement Rate** is the average number of children a woman needs to have to keep the population at a constant size.

#### Sample Registration System

- The **Sample Registration System (SRS)** is a large-scale demographic survey for providing reliable annual estimates of Infant mortality rate, birth rate, death rate and other fertility & mortality indicators at the national and subnational levels.
- The field investigation consists of **continuous enumeration of births and deaths in selected sample units** by resident part time enumerators, generally anganwadi workers & teachers, and an independent survey every six months by SRS supervisors. The data obtained by these two independent functionaries are matched. The unmatched and partially matched events are re-verified in the field. The SRS sample is replaced every ten years based on the latest census frame.

#### States with higher TFR

- Seven states have recorded a higher TFR than the national average of 2.2 — Uttar Pradesh (3.0), Bihar (3.2), Madhya Pradesh (2.7), Rajasthan (2.6), Assam (2.3), Chhattisgarh (2.4) and Jharkhand (2.5) — that account for about 45% of the total population in the 2011 Census.
- Gujarat and Haryana, too, recorded a TFR of 2.2, which is above the replacement rate but is equal to the national average.

#### States with Lower TFR

- Relatively well off states in the south — Kerala (1.7), Tamil Nadu (1.6), Karnataka (1.7), Maharashtra (1.7), Andhra Pradesh (1.6) and Telangana (1.7) — demonstrate fertility rates and TFR below the rate required for population replacement,
- West Bengal (1.6), Jammu and Kashmir (1.6) and Odisha (1.9), too, were estimated to have lower TFRs in 2017.

#### Reasons for trends in TFR

- The latest report of 2017 underlined that the TFR has declined from 5.2 to 4.5 between 1971 and 1981 and from 3.6 to 2.2 between 1991 and 2017.

- Trends vary along the **rural-urban divide as well as the literacy levels** of women.
  - The SRS reveals that while an **“illiterate” woman** is likely to give birth to 2.9 children on average, a **“literate” woman** will produce fewer (2.1) children. The TFR for a woman with education levels of a **graduate or above is 1.4 children**.
  - Likewise, urban areas have been usually found to have a lower TFR than rural areas.
- This decline in fertility rates is also reflected in the total population growth recorded in the Census. The decadal population growth in the intervening period between the 2001 Census and the 2011 Census has seen a decline after the 1971 Census.

## National Essential Diagnostics List

The Indian Council of Medical Research (ICMR) has finalised the country's first National Essential Diagnostics List (NEDL).

- India has become the **first country in the world to compile such a list** that would provide guidance to the government for deciding the kind of diagnostic tests that different healthcare facilities in villages and remote areas require.
- The **World Health Organisation (WHO)** released the first edition of essential diagnostics list (EDL) in May 2018. Even though WHO's EDL acts as a reference point for development of national EDL, **India's diagnostics list has been customised** and prepared as per the landscape of India's health care priorities.
- In India, diagnostics are regulated under the regulatory provisions of the **Medical Device Rules, 2017**.
- Diagnostics (medical devices and in vitro diagnostics) follow a regulatory framework based on the drug regulations under the **Drugs and Cosmetics Act, 1940 and Drugs and Cosmetics Rules 1945**.

#### NEDL

- **Level of Healthcare:** NEDL has been developed for all levels of health care — village level, primary, secondary and tertiary care.
  - It builds upon the **Free Diagnostics Service Initiative (FDI)** and other diagnostics initiatives of the Health Ministry to provide an expanded basket of tests at different levels of the public health system.

Note:



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- FDI was launched in July 2015. Under this initiative, the **National Health Mission (NHM)** is supporting all states to provide essential diagnostics – laboratory and radiology at their public health facilities, free of cost.
- **Scope:** It includes a group of general laboratory tests for routine patient care and for diagnosis of communicable and non-communicable diseases.
- Inclusion of the diagnostic test on **specific diseases selected on the basis of disease burden:** Vector borne diseases (Malaria, Dengue, Filariasis, Chikungunya, Japanese encephalitis); Leptospirosis, Brucellosis, Tuberculosis, Hepatitis A, B C and E, HIV, Syphilis.
  - Certain tests have been put as desirable tests and should be included in regions or states with high disease burden of that disease.
  - It also encompasses tests relevant for new programmes such as Health and Wellness Centres (HWCs) under the **Pradhan Mantri Jan Arogya Yojana**.
  - In addition to tests, corresponding **In Vitro Diagnostics (IVD)** products have also been recommended. In vitro diagnostics are tests done on samples such as blood or tissue that have been taken from the human body
- A **guidance document on “Regulatory framework for diagnostics: National and International”** has been included.
- It also recommends a list of human resources such as **ASHA workers, lab technicians pathologists** for different levels of health care as per the proposed list of diagnostics.

### Importance

- Availability of quality assured diagnostics would be helpful in the **optimal utilization of Essential Medicine List (EML)**.
- It will help India in achieving **Sustainable Development Goal (SDG) 3.8** i.e. Universal Health Coverage (UHC).
- Implementation of NEDL will enable **improved health care delivery** through evidence-based care, improved patient outcomes and reduction in **out-of-pocket expenditure**; effective utilization of public health facilities; effective assessment of disease burden, disease trends, surveillance, and outbreak identification; and address antimicrobial resistance crisis.

### Indian Council of Medical Research

- The Indian Council of Medical Research (ICMR), New Delhi, is the **apex body** in the country for the formulation, coordination and promotion of **biomedical research**.
- It is one of the oldest medical research bodies in the world.
  - As early as in 1911, the then Government of India set up the Indian Research Fund Association (IRFA) with the specific objective of sponsoring and coordinating medical research in the country.
  - After independence, several important changes were made in the organisation and the activities of the IRFA. It was redesignated in 1949 as the Indian Council of Medical Research (ICMR) with considerably expanded scope of functions.
- It will also enable standardization of technology/ diagnostic services and will aid in the **promotion of R&D** for new appropriate and effective diagnostics which in turn will lead to reduction in costs.
- The ICMR is **funded by the Government of India through the Ministry of Health & Family Welfare**.

## Free Medicine Scheme of Rajasthan

The flagship **free medicine scheme** of Rajasthan government has bagged 1st position amongst 16 states, in the monthly rankings issued by the **National Health Mission (NHM)**.

### About the Scheme

- Rajasthan **Mukhyamantri Nishulk Dava Yojana** was launched on 2<sup>nd</sup> October 2011, by the then Chief Minister Ashok Gehlot.
- It had 2 components:
  - **Free Medicines:** To provide commonly-used essential medicines free of cost to patients visiting government healthcare institutions (introduced on 2<sup>nd</sup> October 2011), and
  - **Free Tests:** To provide free tests (introduced on 7<sup>th</sup> April 2013).
- For the successful implementation of the same, **Rajasthan Medical Services Corporation Limited (RMSCL)** was incorporated as a Public Limited Company.

Note:



- Since 2011, it has benefitted around 67 crore patients, and a record number of 712 medicines are covered under it.
- National Health Mission under its **Free Drug Service Initiative**, started giving rankings to the states, in order to encourage them to provide free drugs to their patients coming to public health facilities.
- The performance of the states was assessed by NHM on the basis of 10 parameters. A few of them are,
  - The stock of drugs,
  - Value of drugs about to expire, and
  - Effective compliance with the Drugs and Vaccine Distribution Management System (DVDMS), etc.
- The main aim of this initiative was **to reduce out of pocket expenditure** of patients suffering from cancer, heart and kidney-related diseases, and other severe ailments.
- This initiative of NHM is implemented by the **Ministry of Health & Family Welfare** in order to support the states.

### Way Forward

- Rewarding the states will act as a catalyst for ensuring the inclusive accessibility and affordability of health care services to the most downtrodden and the poorest sections of our society.
- This will also promote the spirit of co-operative and competitive federalism, whereby other states can take the lead and follow similar successful initiatives

## Janaushadhi Sugam

Recently, the Union Minister for Chemicals and Fertilizers has launched a **mobile application** called “**Janaushadhi Sugam**”, which will help people locate nearby Janaushadhi Kendras.

- **Janaushadhi Sugam mobile application** would help people to:
  - Locate nearby Janaushadhi Kendra (through Google Map).
  - Search Janaushadhi **generic medicines**.
  - Analyse product comparison of Generic vs Branded medicine in form of MRP & overall savings, etc.
    - The app will augment the government vision to provide affordable healthcare to all Indians through the **Pradhan Mantri Bhartiya**

**Janaushadhi Pariyojana (PMBJP)** Kendras across the country and this had already led to substantial savings to poor on medicines.

- The Minister also announced that “**Jan Aushadhi Suvidha Oxo-Biodegradable Sanitary Napkin**” will now be available at only One Rupee per pad.
- **Jan Aushadhi Suvidha Oxo-Biodegradable Sanitary Napkin.**
  - In a huge push for women hygiene, the government slashed the price of sanitary napkins sold from its Jan Aushadhi Kendras to Rs 1 per piece from Rs 2.50 earlier.
  - According to the Ministry of State Chemicals & Fertilizers, about 28 million girls are reported to be leaving education because of lack of availability of good quality Sanitary Napkin” pads at a reasonable cost.
  - This will ensure ‘**Swachhta, Swasthya and Suvidha**’ for the underprivileged women of the country
  - These napkins biodegrade automatically when it comes in contact with oxygen after being discarded.
- These steps will help in fulfilling of vision of **Affordable and Quality Healthcare for all** and dream of **Clean India & Green India**.

## HIV/AIDS Outreach

The Ministry of Health and Family Welfare signed a Memorandum of Understanding (MoU) with the Ministry of Social Justice and Empowerment (MoSJE) for enhanced HIV/AIDS outreach.

- The MoU signing ceremony took place between the National AIDS Control Organisation (NACO) and the Department of Social Justice and Empowerment (DoSJE).
- **Objective:** To reduce the incidence of social stigma and discrimination against victims of drug abuse and People Living with HIV/AIDS.
- **Expected Outcome:** The MoU will help in developing specific strategies and action plans for **HIV** and **AIDS** prevention and mechanisms for drug addiction treatment and extending social protection schemes to the vulnerable population.

### Situation in India

- The **National AIDS Control Organisation (NACO)** is a division of the **Ministry of Health and Family**

Note:



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**Welfare** that provides leadership to HIV/AIDS control programme in India through 35 HIV/AIDS Prevention and Control Societies.

- NACO has played a very big role in significantly reducing the prevalence of HIV/AIDS in the country and that too faster than the global rates.
  - More than 80% decline in estimated new infections from the peak of epidemic in 1995.
  - **Estimated AIDS-related deaths declined by 71% since its peak in 2005.**
  - As per the UNAIDS 2018 report, the global average for the decline in new infections and AIDS-related deaths from peak has been 47% and 51% respectively.
    - Established in 1996, **UNAIDS** has been leading and inspiring global, regional, national and local leadership, innovation and partnership to consign HIV to history. It is headquartered in **Geneva, Switzerland**.

### **India's Role in the Global Fight against AIDS**

- There are 2 million new AIDS infections every year, and **about 66% of the world population** currently on antiretroviral therapy consumes drugs manufactured in India.
- Globally, the ART market is valued at 0.48 billion (in 2018) and is expected to reach 0.83 billion by 2025.
- Thus, **Indian pharmaceutical companies**, with their ability to **manufacture high-quality, affordable medicines** are very important in the global battle against AIDS.

### **Antiretroviral Therapy**

- With neither a vaccine nor a cure in sight, **Antiretroviral Therapy (ART) is the only option available for people living with HIV-AIDS.**
- HIV is a type of virus called a retrovirus, and the combination of drugs used to treat it is called Antiretroviral Therapy (ART).
- According to the **World Health Organization**, standard ART consists of a combination of at least three antiretroviral drugs to suppress the HIV virus and stop the progression of the disease.
- Significant reductions have been seen in rates of death and suffering by the use of potent ART regimen, particularly in the early stages of the disease

## **Scheme to Screen Children for Leprosy & TB**

The Union government has rolled out a scheme for universal screening of children below 18 years for leprosy and tuberculosis (TB).

- It is going to benefit almost 25 crore children and adolescents annually. This will help in ensuring timely screening for the diseases and will put them on treatment (if required).
- **Rashtriya Bal Swasthya Karyakram (RBSK)** Mobile Health teams will act as a delivery agent for the scheme. They will perform the screening of children for TB and Leprosy.
  - Earlier, the screening of children of age group 0-6 years was done at **Anganwadis** and children of 6-18 years group were enrolled in government and government-aided schools.
- RBSK is aimed at **early identification and intervention of diseases** in children from their birth to 18 years of age so as to cover the 4 Ds:
  - Defects at birth,
  - Deficiencies,
  - Diseases, &
  - Developmental delays, including Disability.

### **Leprosy & TB burden in India**

- India eliminated leprosy in 2005. All states except Chhattisgarh and the Union Territory of Dadra and Nagar Haveli have eliminated leprosy, but still, 1.15-1.2 lakh new **leprosy cases are detected every year**.
- Tuberculosis kills an estimated **4.8 lakh Indians every year** and more than 1,400 every day.
  - India has the highest TB burden in the world.
  - More than a million missing cases are notified every year.
  - Most such cases remain either undiagnosed, or are inadequately diagnosed, and are treated in the private sector.

### **Way Forward**

- There is still stigma attached to leprosy, because of which authorities need to **administer preventive medication** to all the peer groups- family, parents, etc, very discreetly.

Note:



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- Early detection and timely intervention will help in preventing disability and completely curing the disease.

## TB Drug Pretomanid

**Pretomanid** is the third new drug developed for the treatment of people with **Extensively Drug-Resistant TB (XDR-TB) or Multi Drug-Resistant TB (MDR-TB)** affecting the lungs. The drug was developed and tested in clinical trials by New York based non-profit organisation TB Alliance.

- It is a part of three-drug, six-month, all-oral regimen treatment along with the other two drugs namely,
  - Bedaquiline, &
  - Linezolid.
- India has the highest TB burden in the world. **In 2018, 2.15 million TB cases were reported**, which is 16% more than in 2017. This new drug will be beneficial in reducing the burden.

### Challenges

- To get this regimen into trials there is a need to get it registered and put it into drug trials along with Bedaquiline.
- The **revised National TB Control Program (RNTCP)** will have to negotiate the price, procure & deliver the drugs on time.

### Way Forward

- Recently, the central TB Division of the Health Ministry has signed a Memorandum of Understanding (MoU) with **Wadhvani Institute for Artificial Intelligence** to explore the application of **cutting-edge Artificial Intelligence technology** in its fight against TB is a welcome step.
- TB control requires the slowing down of infection, progression, and transmission. Continuous efforts are needed in this regard for slowing down its progression and **eliminating it completely by 2025** five years ahead of Global Sustainable Development targets.



Note:

# Security

## Highlights

- Chief of Defence Staff
- Left-Wing Extremism in India
- India Security Summit

## Chief of Defence Staff

The Prime Minister has announced the establishment of the post of Chief of Defence Staff (CDS) for the three services – the Indian Army, the Indian Navy and the Indian Air Force.

- The Chief of Defence Staff (CDS) is a post that will act as the **single-point advisor** to the Government of India.
- It will **synergise long term planning, procurement, training and logistics** of the three Services, and ensure better coordination between them.
- The creation of a CDS to act as a single point military adviser to the Prime Minister on strategic issues was one of the key recommendations of the **Kargil review committee** on **higher military reforms** after the 1999 conflict.
- An additional Department of Military Affairs in the Ministry of Defence and the post of Permanent Chairman Chiefs of Staff Committee (PC-CoSC) has also been created.

### Need for Chief of Defence Staff

- **Incoherency:** In general, the policy formulation is done by Defense Secretary, who is a bureaucrat, while its execution rests with Chiefs of armed forces. This makes defence policy incoherent.
- **Modern Warfare:** The emergence of **modern warfare domains** like Space, Cyber etc, requires a more integrated approach to defense strategy.
- A **group of ministers that was formed in 2001** to explore necessary reforms required to improve India's national security had also favoured creating the post of Chief of Defence Staff.
- In **2012 Naresh Chandra task force** recommended the appointment of a permanent chairman of chiefs of staff committee.

- The permanent chairman of chiefs of staff committee is the senior most of the three Chiefs.

- The CDS is also one of the 99 recommendations made by the **Lt. General D.B. Shekatkar (retd.) committee (2016)**.

### Significance

- The creation of the CDS will eventually lead to the formation of **tri-service theatre commands** intended to create vertical integration of the three forces.
- This is expected to **save money** by avoiding duplication between the Services, at a time of shrinking capital expenditure within the defence budget.
- It will help India in **Defense diplomacy**.

## Left-Wing Extremism in India

In the review meeting on LWE, the Union Home Minister has termed **Left-Wing Extremism (LWE)** as one of the **major internal security threats** faced by the nation.

- However, events of Left Wing Extremism (LWE) violence came **down from 2258 in 2009 to 833 in 2018**.

### Left-Wing Extremism

- LWE organizations are the groups that try to **bring change through violent revolution**. They are against democratic institutions and use violence to subvert the democratic processes at ground level.
- These groups prevent the developmental processes in the least developed regions of the country & try to misguide the people by keeping them ignorant of current happenings.

### Government Strategy to Curb LWE

- SAMADHAN doctrine is the one-stop solution for the LWE problem. It encompasses the entire strategy of

Note:



government from short-term policy to long-term policy formulated at different levels. SAMADHAN stands for-

- **S** - Smart Leadership,
  - **A** - Aggressive Strategy,
  - **M** - Motivation and Training,
  - **A** - Actionable Intelligence,
  - **D** - Dashboard Based KPIs (Key Performance Indicators) and KRAs (Key Result Areas),
  - **H** - Harnessing Technology,
  - **A** - Action plan for each Theatre,
  - **N** - No access to Financing.
- The **national strategy to counter LWE** was formed in **2015** as a multipronged approach to combat LWE. Its main aim was to ensure participatory governance and protection of the rights of local tribals, inter alia.
  - Intelligence sharing and raising of a separate 66 Indian Reserve Battalion (IRBs) was done by the government to curb the menace of LWE organizations.

### **Development of LWE Affected Areas**

- Few schemes being implemented by the government for LWE affected areas are:
  - **Special Central Assistance (SCA)** - for filling critical gaps in public infrastructure and services of emergent nature.
  - **Road Connectivity Project** - for construction of 5,412 km roads.
  - **Skill Development** - for construction of 47 ITIs (01 ITI per district) and 68 Skill Development Centers (02 SDCs per district) by 2018-19.
  - **Education Initiatives** - for building new Kendriya Vidyalayas (KVs) & Jawahar Navodaya Vidyalayas (JNVs) where they are not present. It is also planned to open more schools under the **Eklavya model**.
  - **Installation of Mobile Towers** - for endless telecom connectivity.
  - **Financial inclusion** - for ensuring the presence of banking facilities within 5 km to all citizens residing in LWE affected areas.

### **Way Forward**

- Though the number of incidents of **LWE violence** has come down in the recent past, continued efforts and focus are needed in eliminating such groups.

- Innovative measures are required to be employed in preventing IED (Improvised Explosive Device) related incidents which have caused significant casualties in recent years.
- States play a vital role in maintaining law and order. So, emphasis should be laid on the capacity-building and modernization of the local police forces. Local forces can efficiently and effectively neutralize the LWE organizations.
- States should rationalize their **surrender policy** in order to bring innocent individuals caught in the trap of LWE in the mainstream.
- States also need to adopt a **focused time-bound approach** to completely eliminate LWE groups and ensure all-round development of the affected regions.
- For the holistic last-mile development of "**New India**", it is necessary to get rid of the menace of such radicalized groups, & the synergized efforts of the Centre and the States are crucial in achieving the same.

## **India Security Summit**

The 12<sup>th</sup> India Security Summit with the theme "**Towards New National Cyber Security Strategy**" was held on the 28<sup>th</sup> of August, 2019 in **New Delhi**.

- During the conference, many issues were discussed such as protection of critical national infrastructure, emerging cyber threats: incidents, challenges and responses.
- It was also highlighted that in a digital world, security is one of the challenging areas and new tools and technologies must be developed at a faster rate for **cybersecurity**.

### **Some Measures Taken to Counter Cyber Threats**

- **Indian Cyber Crime Coordination Centre (I4C)**: This scheme has been rolled out by the Ministry of Home Affairs (MHA) for the period 2018-2020, to combat cybercrime in the country, in a coordinated and effective manner.
- **Cyber Swachhhta Kendra**: The "Cyber Swachhhta Kendra" (Botnet Cleaning and Malware Analysis Centre) is a part of the Government of India's **Digital India initiative** under the **Ministry of Electronics and Information Technology (MeitY)**.

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- It intends to create a secure cyberspace by detecting botnet infections in India and to notify, enable cleaning and securing systems of end users so as to prevent further infections.
- It has been set up in **accordance** with the objectives of the **National Cyber Security Policy**, which envisages creating a secure cyber ecosystem in the country.
- This centre is being **operated by the**

**Indian Computer Emergency Response Team (CERT-In)** under the provisions of Section 70B of the Information Technology Act, 2000.

- Further, the Central Government has taken steps to spread awareness on cybercrime, issue cyber-related alerts/ advisories, capacity building/ training of law enforcement officers/ judges/ prosecutors, improving cyber forensics facilities etc. to prevent cybercrime and expedite investigations.



Note:

# Miscellaneous

## Highlights

- Ramon Magsaysay Award 2019
- Global Honour for Indian Scientist
- Toni Morrison
- Area 51
- Strait of Magellan
- 5th National Handloom Day
- Women Transforming India Awards
- UAE Awards Highest Civilian Honour to the Prime Minister
- e-Courts
- Quick Response Code for Buildings
- State Rooftop Solar Attractiveness Index–SARAL
- World Youth Conference For Kindness
- Dindigul Lock and Kandangi Saree
- Campaign Angikaar and E-Course
- War on Nature Must End

## Ramon Magsaysay Award 2019

Indian journalist Ravish Kumar has been awarded the 2019 Ramon Magsaysay Award for “**harnessing journalism to give voice to the voiceless**”.

- The other winners of the award are:
  - Myanmar’s Ko Swe Win- Journalist;
  - Thailand’s Angkhana Neelapajit- Human Rights Activist;
  - Philippines’ Raymundo Pujante Cayabyab- Musician; and
  - South Korea’s Kim Jong-Ki- Activist working with violence and mental health issues in youth.
- **Last year (2018), Sonam Wangchuk** (an educational reformer from Ladakh) and **Bharat Vatwani** (a psychiatrist who works for mentally ill street person in Mumbai) were among the winners of the award.

### Ramon Magsaysay Award

- The **Ramon Magsaysay Award** was established in 1957 and is considered as Asia’s premier prize and highest honour.
- It is named after **Ramon Magsaysay, the third president of the Republic of the Philippines**.
- Till 2009 awards have traditionally been given in five categories: government service; public service; community leadership; journalism, literature, and creative communication arts; and peace and international understanding.

- However, post 2009, the Ramon Magsaysay Award Foundation annually selects the awardees for the field of **Emergent Leadership**. Awardees are presented with a certificate, a medallion with an embossed image of Ramon Magsaysay and cash prize.
- The award is internationally-recognized as the **Nobel Prize counterpart of Asia and is the highest award given to Asian individuals and organizations**.

## Global Honour for Indian Scientist

**Atish Dabholkar**, a **theoretical physicist** from India, known for his research on **string theory and quantum black holes**, has been appointed as the next director of the Italy-based **International Centre for Theoretical Physics (ICTP)**.

- Dabholkar will succeed **Fernando Quevedo** from November 2019.
- He is the **second Indian appointed** to the post in ICTP history after **Katepalli Sreenivasan**, who was Quevedo’s predecessor.
- Dabholkar is currently the head of the High Energy, Cosmology and Astroparticle Physics section of ICTP based in **Trieste, north-east Italy**.
- He is also the winner of the 2006 **Shanti Swarup Bhatnagar Award** for Science and Technology.
- He completed his school education in Kolhapur district of Maharashtra and did his graduation from

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IIT, Kanpur, and earned a PhD in theoretical physics from Princeton University.

- Until 2010, he was a professor of theoretical physics at **Tata Institute of Fundamental Research** in Mumbai, and has been a visiting professor at Stanford University and a visiting scientist at CERN.

#### International Centre for Theoretical Physics

- International Centre for Theoretical Physics (ICTP) was founded in 1964 by the late Nobel Laureate **Abdus Salam**.
- Its mandate is to provide education and skills to scientists from developing countries for their productive careers.
- It has helped in stemming the scientific brain drain from the developing world.

#### String Theory

- It is an attempt to combine the **quantum mechanics** (body of scientific laws that describe the behavior of photons, electrons and other particles that make up the universe) and **Albert Einstein's theory of relativity** — with an overarching framework that can explain all of physical reality.
- It tries to do so by positing that particles are actually **one-dimensional**, string-like entities whose vibrations determine the particles' properties, such as their mass and charge.

#### European Organization for Nuclear Research

- European Organization for Nuclear Research (CERN) is an **European Organization** founded in 1954 for **Nuclear Research**.
- It aims to provide a unique range of particle accelerator facilities that enable world-class research in fundamental physics.
- It operates the **world's largest and most powerful particle accelerator** i.e **Large Hadron Collider (LHC)**.

#### Theoretical Physics

- It is the development of mathematical formalisms and computational protocols for describing all aspects of objects found in the world around us and their interaction.
- This can involve both providing models for understanding empirical results or constructing self-logical theories for explaining phenomena beyond current experiments.

#### Shanti Swarup Bhatnagar Award

- The award is named after the founder Director of the **Council of Scientific & Industrial Research (CSIR)** India, the late Dr (Sir) Shanti Swarup Bhatnagar and is known as the 'Shanti Swarup Bhatnagar (SSB) Prize for Science and Technology'.
- The Prize is given each year for outstanding contributions to science and technology.

### Toni Morrison

Toni Morrison, the **first African American woman** to win the **Nobel Prize for Literature**, has passed away. Morrison was born in Ohio (US) on 18th February, 1931.

- Morrison wrote **11 novels**, many of them touching on life as a black American, in a glittering literary and award-laden career that lasted over six decades.
  - "The Bluest Eye," her first novel, was published in 1970. She followed up with "Sula" in 1973, going on to publish another nine novels.
- She won the **Pulitzer Prize** and the **American Book Award** in 1988 for her 1987 novel "Beloved".
- Morrison received numerous other accolades including the **Nobel Prize for Literature** in 1993.

### Area 51

Hundreds of thousands of people have signed up to a **Facebook event**, promising to storm the alleged secret **US military base, Area 51**, located in the **Nevada desert**.

- On a Facebook event titled "**Storm Area 51, They Can't Stop All of us**", two million people on September 20, plan to storm a US Air Force facility called Area 51.
- Officially known as the **Nevada Test and Training Range**, Area 51 is part of the **Nellis Air Force Base** and is used as a training centre for the US Air Force. The name originates from its location of the Nevada map.

### Strait of Magellan

The Strait of Magellan is located **near southern Chile along the southern edges of the South American continent and links the Atlantic and Pacific oceans**.

- It is named after the Portuguese adventurer, **Ferdinand Magellan**, the first explorer to circumnavigate the globe.

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- Sheltered by mainland South America and the islands of **Tierra Del Fuego archipelago**, this route was considered much safer than the **Drake Passage**, a more violent stretch of chaotic water between Antarctica and South America.
- Located on the Strait of Magellan, Chile's port city, **Punta Arenas** was once one of the most important supply stops for mariners, until the **Panama Canal** opened in 1914.

### Ferdinand Magellan

- He **set off from Spain 500 years ago** on an audacious voyage to sail all the way around the globe for the first time, a landmark in the history of exploration.
- While crossing the strait, the explorer and his crew observed **two galaxies visible** to the naked eye from the southern hemisphere, now known as the **Magellanic Clouds**.
- The voyage also contributed to Europeans' knowledge of the universe.

### Magellanic Clouds

- They are comprised of two irregular galaxies, the **Large Magellanic Cloud (LMC)** and the **Small Magellanic Cloud (SMC)**, which orbit the **Milky Way** once every 1,500 million years and each other once every 900 million years.
- Lying only about 200,000 light years away, they were the closest known galaxies to the Milky Way

until recently, when the Sagittarius and Canis Major **dwarf galaxies** were discovered and found to be even closer.

- Although very close to us, the Magellanic Clouds have played a significant role in our understanding of the distant Universe.

## 5<sup>th</sup> National Handloom Day

The 5<sup>th</sup> **National handloom day** is being celebrated across the country on 7<sup>th</sup> August 2019.

- The National handloom Day is observed to honour the **handloom weaving community** and highlight the importance of India's handloom industry.
- **Bhubaneswar, Odisha** has been chosen as the venue for the celebration of handloom day, due to its rich tradition of handlooms and to empower women and girls of the region.
  - More than 50% of total weavers population of India resides in Eastern and North Eastern region of the country.
- August 7 was chosen as the National handloom day to commemorate the **Swadeshi movement** which was based on the **Gandhian ideology of Swadeshi**.
  - Swadeshi movement was launched on **7<sup>th</sup> August, 1905 in Calcutta town hall to protest against the partition of Bengal** (by the British Government) by reviving domestic products and production processes.
- The **first National handloom day** was inaugurated on **7<sup>th</sup> August 2015**.
- National handloom day seeks to focus on the **contribution of handloom** to the **socio-economic development of the country**.

## Women Transforming India Awards

The Women Transforming India awards (4th edition) are being launched by **NITI Aayog** in collaboration with the **United Nations**.

- For WTI-2019 awards WhatsApp (facebook owned messaging platform) has collaborated with NITI Aayog.
- The theme of the Women Transforming India-2019 awards is **Women and Entrepreneurship** (same as in 2018).

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### National Entrepreneurship Awards

- The National Entrepreneurship Awards aim to honour outstanding young first-generation entrepreneurs and ecosystem builders for their exceptional contribution in entrepreneurship development.
- They recognise individuals or organizations that have made outstanding contributions to the entrepreneur ecosystem of India.
- The National Entrepreneurship Awards are announced annually by the Ministry of Skill Development and Entrepreneurship.
- To be eligible for National Entrepreneurship Awards the nominee (entrepreneur) must be:
  - Under the age of 40 years
  - First-generation entrepreneur
  - Hold 51% or more equity and ownership of the business
  - Women entrants must individually or collectively own 75% or more of the enterprise.

### Women Transforming India Awards

- WTI awards were launched by NITI Aayog and the United Nations in India in 2016, to honour the **women entrepreneurs**, who are breaking the glass ceiling and challenging stereotypes, through businesses, enterprises and innovative initiatives.
- WTI award recognizes women who are flag bearers of the next wave of business innovations and connect with potential business opportunities, through NITI Aayog's **Women Entrepreneurship Platform (WEP)**.
  - Women Entrepreneurship Platform (unified access portal to help women realise their entrepreneurial aspirations) is an initiative by NITI Aayog to promote and support aspiring as well as established women entrepreneurs in India.

## UAE Awards Highest Civilian Honour to the Prime Minister

The United Arab Emirates (UAE) has awarded **ZAYED Medal**, the highest civilian award to the Prime Minister of India for consolidating the long-standing friendship and joint strategic cooperation between the two nations.

- It can be noted that recently India was invited by the host UAE as the "Guest of Honour" to attend the **46<sup>th</sup> Session of the Council of Foreign Ministers of the**

**Organisation of Islamic Cooperation (OIC)** held in Abu Dhabi, United Arab Emirates (UAE).

- This was the **first time that India was invited to any OIC meeting** as a guest of honor.

### Zayed Medal

- The **Order of Zayed** is awarded to the Head of Government/Head of State for their international relations with UAE.
- The order is in the name of **Sheikh Zayed bin Sultan Al Nahyan**, the founding father of the UAE.
- It consists of a collar cantered by a medallion bearing the name 'Zayed'.
- In the past, this award has been conferred to
  - Russian President Vladimir Putin,
  - Former US President George W Bush,
  - Former French President Nicholas Sarkozy,
  - German Chancellor Angela Merkel,
  - Chinese President Xi Jinping,
  - UK's Queen Elizabeth II.

## e-Courts

The High Court of Punjab and Haryana to launch its **first virtual court (e-Court) at Faridabad**.

- This e-Court would deal with **traffic challan cases** from across the State.
- The project will be launched under the guidance of **e-Committee of the Supreme Court of India**.
- Virtual courts will remove the need for the litigant to be present in the court and facilitate adjudication of the case online through the use of Information and Communication Technology (ICT).

### e-Courts Project

- The e-Courts project was conceptualized on the basis of the **"National Policy and Action Plan for Implementation of Information and Communication Technology (ICT) in the Indian Judiciary – 2005"** submitted by e-Committee, Supreme Court of India with a vision to transform the Indian Judiciary by ICT enablement of Courts.
- The e-Courts Mission Mode Project, is a **Pan-India Project, monitored and funded by the Department of Justice, Ministry of Law and Justice**, Government of India for the District Courts across the country.

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### The project envisages

- To provide efficient & time-bound citizen-centric services delivery as detailed in e-Court Project Litigant's Charter.
- To develop, install & implement decision support systems in courts.
- To automate the processes and provide transparency in the accessibility of information to its stakeholders.
- To enhance judicial productivity, both qualitatively & quantitatively, and make the justice delivery system affordable, accessible, cost-effective, predictable, reliable and transparent.

## Quick Response Code for Buildings

- The Haryana government will implement an ambitious project of installing an 18-digit **Quick Response (QR) code** carrying metal plates outside all built-up structures across the state. The move is intended to streamline property-tax collection.
  - The metal plates to be affixed to the buildings will contain a **Unique Property Identification and QR code (Digital Door Number)**.
  - Each QR code will have accurate plot area measurement, floors constructed at the time of the survey using both base map service and on-ground field measurements.
- The government has already begun a drone-based **Geographic Information Survey (GIS)** to analyse all residential, commercial, industrial, institutional and vacant properties in the state.

### Benefits

- The system will result in enhancing the property-based **tax revenues** manifold. It will increase funds for the Urban Local Bodies for future development through a real-time property tax collection mechanism.
- **Geo-tagged** property data will be helpful for planning and day-to-day developmental work. In case of any alteration of the building/ structure, the QR code will also enable residents for faster building approvals and Change of Land Use.
  - Not only tax collection, but once the records are digitised, it will enable the government to link other government schemes and transfer of benefits to citizens using the same QR codes.

## State Rooftop Solar Attractiveness Index–SARAL

Recently, the **Ministry of New and Renewable Energy (MNRE)** has launched the **State Rooftop Solar Attractiveness Index–SARAL**.

- SARAL is the first of its kind index to provide a comprehensive overview of state-level measures adopted to **facilitate rooftop solar deployment**.
- It would create a more conducive environment for solar rooftop installations, encourage investment and lead to the accelerated growth of the sector, **by creating healthy competition among the States**.
  - **Karnataka has been placed at the first rank in the index followed by Telangana, Gujarat and Andhra Pradesh.**
- SARAL currently captures five key aspects:
  - Robustness of policy framework,
  - Implementation environment,
  - Investment climate,
  - Consumer experience,
  - Business ecosystem
- It has been designed collaboratively by the MNRE, Shakti Sustainable Energy Foundation (SSEF), Associated Chambers of Commerce and Industry of India (ASSOCHAM) and Ernst & Young (EY).
- SARAL is in concurrence with the **Government's target of installing 175 GW of renewable energy capacity by 2022**, of which **100 GW of solar power** is to be operational by March 2022, (40 out of 100 GW is expected to come from grid-connected solar rooftops).
- The rooftop solar deployment will make **power sector sustainable and viable** (as the cost of solar energy is reducing) and it will help to ensure 24/7 power supply to all consumers.
- Along with that, it will help in India in fulfilling its **Intended Nationally Determined Contributions (INDCs) highlighted at Paris climate deal**.

## World Youth Conference For Kindness

The first-ever **World Youth Conference for Kindness** was organised by the **UNESCO's Mahatma Gandhi**

Note:

Institute of Education for Peace and Sustainable Development (MGIEP) and Ministry of Human Resource (MHRD) at New Delhi.

### About Conference

- The theme of the conference was '**Vasudhaiva Kutumbakam: Gandhi for the Contemporary World: Celebrating the 150<sup>th</sup> birth anniversary of Mahatma Gandhi**'.
- The main purpose of the conference was to impart critical competencies (i.e. empathy, compassion, mindfulness and critical inquiry) in global youth to inspire, empower and enable them to transform themselves and build long-lasting peace in their communities.
- The conference comprises of following:
  - intensive **youth-led capacity building workshops** to enhance the capacities of youth on social and emotional learning skills and competencies such as empathy, mindfulness, compassion, kindness and critical inquiry through the prism of identity and global issues.
  - a platform to **celebrate inspiring acts of kindness** that are effecting change in the world and action programming for youth agency.
  - a generative space consisting of experts panels and TAGe plenary for youth and experts to share and critically engage with the concept of peace through kindness and nonviolence.

### Mahatma Gandhi Institute of Education for Peace and Sustainable Development (MGIEP)

- It is the first **UNESCO** institute of its kind in the **Asia-Pacific region** situated in New Delhi.
- It is UNESCO's **category 1 Research Institute** that focuses on Sustainable Development Goal (SDG) 4.7 towards education for building peaceful and sustainable societies across the world.
- It has developed a **social and emotional learning (SEL)** curriculum called Libre, which was designed to build four competencies – **critical inquiry, mindfulness, empathy and compassion**.
- The flagship publication of MGIEP i.e. "**Blue Dot**" focuses on social and emotional learning.

## Dindigul Lock and Kandangi Saree

The **Geographical Indications Registry** has granted the **Geographical Indication (GI) tag** to two products from Tamil Nadu: **Dindigul lock and Kandangi saree**.

- The **Dindigul locks** are known throughout the world for their **superior quality and durability**, so much so that even the city (Dindigul) is called Lock City.
  - Government institutions such as prisons, godowns, hospitals, and even temples use these locks instead of other machine-made ones.
- The **Kandangi sarees** are manufactured in the entire **Karaikudi taluk in Sivaganga district**.
  - Worn in summer, these are characterised by **large contrast borders**. Some are known to have borders covering as far as two-thirds of the saree which is usually around 5.10 m-5.60 m in length.

## Campaign Angikaar and E-Course

The **Ministry of Housing and Urban Affairs** has launched two initiatives: **Angikaar**, a campaign for **behavioural change** and an e-Course on '**Vulnerability Atlas of India**'.

### Campaign Angikaar

- The objective of Angikaar is to bring social behaviour change with focus on issues such as water & energy conservation, waste management, health, tree plantation, sanitation and hygiene for beneficiaries of completed houses under **Pradhan Mantri Awas Yojana - PMAY (U)**.
  - The campaign will converge with schemes and missions of other Ministries dealing with the stated subjects.
  - The convergence would especially focus on **Ujjwala** for gas connection and **Ayushman Bharat** for health insurance to the beneficiaries of PMAY (U).
- The campaign will be initiated in all target cities on 2<sup>nd</sup> October 2019 commemorating **150<sup>th</sup> Gandhi Jayanti** and culminate on the **occasion of Human Rights Day**, 10<sup>th</sup> December, 2019.

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### ***E-course on Vulnerability Atlas***

- It is a unique course that offers **awareness and understanding about natural hazards**, helps **identify regions with high vulnerability** with respect to various hazards and specifies district-wise level of damage risks to the existing housing stock.
- The e-course will work as a tool for effective & efficient disaster mitigation & management in the field of Architecture, Civil Engineering, Urban & Regional Planning, Housing & Infrastructure Planning, Construction Engineering & Management and Building & Materials Research.

## **War on Nature Must End**

Recently the teenage climate campaigner **Greta Thunberg** after completing her 15-day journey across the

Atlantic via **Zero-emission** yacht urged “**to end the war on nature**”.

- She led the popular initiative **#FridaysForFuture**.

### ***#FridaysForFuture***

- It is a movement that began in Sweden in August 2018 to protest against the lack of action on the climate crisis.
- **The hashtags #FridaysForFuture and #Climatestrike** became so popular that many students and adults began to protest outside their respective Parliaments and local city halls all over the world.
- **#Climatestrike** is a global event to demand an end to the age of fossil fuels & climate justice for everyone. It is a wake-up call to our generation to solve the greatest environmental challenge in human history.



Note:

**Key Points**

**Details**


**Summary**

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**Summary**



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# Current Affairs (CONSOLIDATION)

**SEPTEMBER 2019**  
**(PART – I)**

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# Polity and Governance

## Highlights

- Ladakh Under Sixth Schedule
- National Conference on 'Criminal Activities and Radicalization in Jails'
- ECI and the Latest Developments
- Express Governance Awards
- One Nation One Ration Card Scheme
- Jan Soochna Portal
- National Conference on Cybercrime Investigation and Forensics

## Ladakh Under Sixth Schedule

The **National Commission for Scheduled Tribes (NCST)** has recommended that the Union Territory (UT) of Ladakh be included in the **Sixth Schedule of the Constitution**.

- NCST, a **constitutional body** to safeguard socio-cultural rights of Scheduled Tribes, was entrusted with the responsibility of examining the status of tribals in Ladakh by the Centre.
- If included, **Ladakh will be the only UT in the Sixth Schedule**. Also, bestowing such a status to Ladakh would require a **constitutional amendment**.

### Reasons Behind the Recommendation

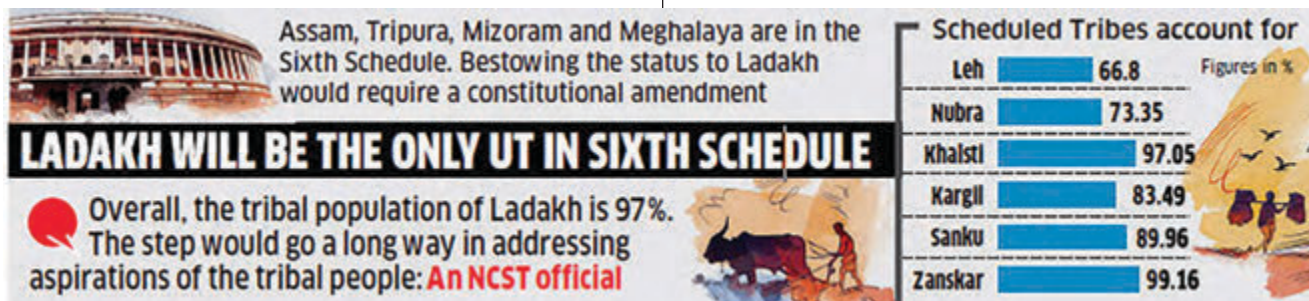
- It is estimated that **more than 90% of Ladakh's population is tribal**. The primary **Scheduled Tribes (STs)** in Ladakh are **Balti Beda, Bot (or Boto), Brokpa (or Drokpa, Dard, Shin), Changpa, Garra, Mon and Purigpa**.
  - Thereby several distinct cultural heritages of these communities in Ladakh region needs to be preserved and promoted.
- **Prior to the creation of Union Territory of Ladakh**, people in Ladakh region had certain agrarian rights including right on land, which restricted people from

other parts of the country to purchase or acquire land in Ladakh. Inclusion in sixth schedule would ensure that their rights are not diluted.

- Inclusion in the sixth schedule will help in **democratic devolution of powers** in the region and will also enhance the transfer of funds for speedy development of the region.

### Sixth Schedule

- The Constitution, under Sixth Schedule, contains special provisions for the administration of tribal areas in the **four north-eastern states of Assam, Meghalaya, Tripura and Mizoram**.
- **Autonomous Districts:** The tribal areas in these four states have been constituted as autonomous districts. The **governor** is empowered to **organise and re-organise** the autonomous districts.
  - The **acts of Parliament or the state legislature do not apply to autonomous districts** or apply with specified modifications and exceptions.
  - The power of direction, in this regard, lies either with the President or Governor.
- **District Council:** Each autonomous district has a district council consisting of 30 members, of whom four are nominated by the Governor and the remaining 26 are elected on the basis of adult franchise.



Note:

- The elected members hold office for a term of five years (unless the council is dissolved earlier) and nominated members hold office at the pleasure of the governor.
- Each autonomous region also has a separate regional council.
- **Powers of the Council:** The district and regional councils administer the areas under their jurisdiction.
  - They can make laws on certain specified matters like land, forests, canal water, shifting cultivation, village administration, inheritance of property, institution of marriage, social customs and so on. But all such laws require the assent of the Governor.
  - They can constitute village councils or courts for trial of suits and cases between the tribes. They hear appeals from them. The jurisdiction of the high court over these suits and cases is specified by the governor.
  - The district council can construct or manage primary schools, dispensaries, markets, ferries, fisheries, roads and so on in the district.
  - They are empowered to assess and collect land revenue, and to impose certain specified taxes.

### **National Commission for Scheduled Tribes**

- **Formation:** The National Commission for Scheduled Tribes (NCST) was established by amending **Article 338** and inserting a new **Article 338A** in the Constitution through the **Constitution 89<sup>th</sup> Amendment Act, 2003**.
  - By this amendment, the erstwhile National Commission for Scheduled Castes and Scheduled Tribes was **replaced by two separate Commissions namely** - the National Commission for Scheduled Castes (NCSC), and the National Commission for Scheduled Tribes (NCST) w.e.f. 19th February 2004.
- **Composition:** The National Commission for Scheduled Tribes has a Chairperson, a Vice-Chairperson and 3 other Members. These are appointed by the President through a warrant under his hand and seal.
  - The Chairperson shall be appointed from amongst eminent social-political workers belonging to the Scheduled Tribes.
  - The Vice-Chairperson and all other Members out of whom at least two shall be appointed from amongst persons belonging to the Scheduled Tribes.
  - One of the three other Members has to be a woman.

- **Term of Office:**
  - The term of office of each member of the Commission is **three years** from the date of assumption of charge.
  - The members are **not eligible for appointment for more than two terms**.
- **Functions:**
  - To monitor all matters related to the safeguards provided for the Scheduled Tribes under the Constitution or any other law or any order of the Government.
  - To participate and advise on the planning process of socio-economic development of the Scheduled Tribes.
  - To evaluate the progress of their development under the Union and any State.
  - To present to the President, annually and at regular intervals as the Commission may deem fit, reports upon the working of those safeguards.
- **Headquarters:** New Delhi.

### **Scheduled Tribes**

- Scheduled Tribes have been defined in **clause (25) of Article 366** of the Constitution as such tribes or tribal communities or parts of tribal communities as are deemed under **Article 342** to be Scheduled Tribes.
  - **Article 342 states** that the **President** may specify the tribes or tribal communities to be Scheduled Tribes, of a particular State or Union territory after **consultation with the Governor** of the respective State/UT.
- Few important committees related to the development of Scheduled tribes are:
  - Xaxa committee(2013)
  - Mungekar Committee (2005)
  - Bhuria Commission (2002-2004)
  - The Lokur Committee (1965)
  - U.N. Dhebar Commission(1960)
- **Constitutional Safeguards for STs**
  - **Article 350:** Right to conserve distinct Language, Script or Culture.
  - **Article 275:** Grants-in-Aid to specified States (STs&SAs) covered under Fifth and Sixth Schedules of the Constitution.



Note:



- **Article 330:** Reservation of seats for STs in Lok Sabha.
- **Article 243:** Reservation of seats in Panchayats.
- **Abrogation of Article 370**
  - The President of India promulgated the Constitution (Application to Jammu and Kashmir) Order, 2019 which effectively abrogated Article 370.
  - The order enabled applicability of provisions of the Indian Constitution in the state.
  - Jammu and Kashmir Reorganisation Act 2019 led to the bifurcation of the State into two separate **union territories of Jammu and Kashmir (with legislature), and Ladakh (without legislature).**

## National Conference on 'Criminal Activities and Radicalization in Jails'

Recently, a National Conference on 'Criminal Activities and Radicalization in Jails: Vulnerability of Inmates and Jail Staff and their Protection' was held in New Delhi.

- The two-day conference was organized by the **Bureau of Police Research and Development (BPR&D).**
- The conference focused on the following issues:
  - **Safety of Inmates:** To consider vulnerabilities at individual and gang levels and to suggest safety measures for the same.
  - **Radicalization:** To understand various facets of radicalization as well as de-radicalization in prisons.
  - **Security Standards:** To analyze and formulate the security and protection standards for prison staff.
  - **Correctional Administration in Prison Reforms:** To provide an interdisciplinary platform for correctional personnel to exchange and share their **experiences about prison reforms.**
- It also emphasized to convert the prison into a centre of reformation.
- Challenges addressed during the conference include:
  - **Aggravation of suffering** during the process of imprisonment,
  - **Rehabilitating** and streamlining convicts back into society,
  - **Overcrowding** in prisons,
  - A large number of **under-trials**,
  - Inadequate **prison infrastructure**,

- **Criminal activities and radicalization in jails,**
- **Safety of women prisoners** and their young children,
- **Shortage of funds** and staff for proper prison administration.

### Bureau of Police Research and Development (BPR&D)

- The Government of India established the Bureau of Police Research and Development (BPR&D), under the **Ministry of Home Affairs in the 1970s.**
- It replaced **Police Research and Advisory Council (1966)**, with the primary objective of **modernization of police force.**
- In 1995, the Government of India decided to entrust issues relating to **Correctional Administration Work to the BPR&D.**
  - There by BPR&D has to ensure the **implementation of prison reforms** as well.

### Correctional Administration

- Correctional Administration includes plans & programs that deals with housing & rehabilitating of prisoners in the public/private sectors.
- Correctional Administration includes:
  - Programme concerning the **welfare of convicts/undertrials**,
  - **Rehabilitation** after release,
  - Involvement of **Community.**

### Rights of Prisoners

- Various fundamental rights under **Article 14, 19, 20, 21 and 22 of the Constitution of India deal with the rights of prisoners.** For example: Article 14 deals with the right to equality, Article 21 deals with right to life and personal liberty, Article 20 prohibits double jeopardy and self incrimination.
- The Imprisonment itself is a punishment for a convicted person thus, **prison conditions should not be an additional punishment.**
- Imprisonment deprives someone of their liberty and affects certain other rights, such as freedom of movement, but human rights and fundamental freedoms of convicts shall not be restricted.

### Prison Administration in India

- **Article 39(A) of Indian Constitution** states that the State shall ensure **Equal Justice and Free Legal Aid** to the poor.

Note:



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- Prisons being a **State subject**, its modernisation is undertaken by **respective State Governments**.
- In a number of judgements on various aspects of prison administration, the Supreme Court of India has laid down **three broad principles**:
  - A person in prison does not become a non-person.
  - A person in prison is entitled to all human rights within the limitations of imprisonment.
  - There is no justification in aggravating the suffering already inherent in the process of incarceration.
- **The Ministry of Home Affairs** is supporting the States/UTs in implementing the **E-Prisons Project** and has issued the **Model Prison Manual**.
  - **E-Prisons Project**
    - It aims to introduce efficiency in prison management through **digitization**.
    - It supplements the **Prisoner Information Management system (PIMS)**, which provides a centralized approach for recording and managing prisoner information.
  - **Model Prison Manual**
    - It provides detailed information about the legal services available to prison inmates and also free legal services available to them.
    - It is intended to provide assistance to under trial prison inmates.
- The **National Legal Services Authority (NALSA)** had also launched a web application to facilitate the under trial prisoners by providing them with free legal services.

## ECI and the Latest Developments

### A-WEB

The Chief Election Commissioner (CEC) of India has **assumed the chairmanship of the Association of World Election Bodies** for the term **2019-21**.

- India has taken over the Chair from Romania.
- India also hosted the **4<sup>th</sup> General Assembly of the A-WEB in Bengaluru**, on 3rd September 2019.
  - The Election Commissioner announced that an AWEB Centre would be setup at the **India International Institute of Democracy and Election Management, New Delhi** for documentation, research and training; for sharing best practices and capacity building among the members of the Association.

### Association of World Election Bodies (A-WEB)

- The Association of World Election Bodies (A-WEB) is the **largest association of Election Management Bodies (EMBs) worldwide**.
- It was established on 14<sup>th</sup> October, 2013 in South Korea. **India is among one of the founding members** of the A-WEB.
- Its vision is to foster efficiency and effectiveness in conducting free, fair, transparent and participative elections worldwide.
- It undertakes **Election Visitor and Observation Programmes** in various countries to study various election management practices and share knowledge with other Member of EMBs.
- The permanent secretariat of A-WEB is located in **Seoul, South Korea**.

### India International Institute of Democracy and Election Management

- The **Election Commission of India (ECI)** established the India International Institute of Democracy and Election Management (IIIDEM) in June 2011.
- The goal behind its establishment is **to train the electoral machinery** in the delivery of free, fair and flawless elections.

### Electors Verification Programme

The **Election Commission of India (ECI)** on 1<sup>st</sup> September 2019, launched a nation-wide Electors Verification Programme.

- The program **aims to provide better electoral services**, improve communication between voters and the Commission, and improve the overall health of electoral rolls in general.
- It will **end on 15<sup>th</sup> October 2019**.
- Voters can use the **National Voters' Service Portal (NVSP)**, Voter Helpline App, **Common Service Centres** or the voter facilitation centre to avail of facilities like verification and correction of details, authentication, updating details of family members and giving feedback, among others.
- Voters will also be able to receive updates on application status, the status of the Electors Photo Identity Card (EPIC), election day announcements, and voter slips on their email and mobile numbers. All information related to Polling Station will also be shared with the Electors.

Note:



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### National Voters' Service Portal

- **National Voters' Service Portal (NVSP)** aims to provide **single window quality services** through user-friendly interface for citizens to increase transparency and easy access to information.
- Through NVSP, a user can avail and access various services such as access the electoral list, apply for voter id card, apply online for corrections in voter's card, view details of the polling booth, etc.

### Election Commission of India

- **Article 324 of the Constitution** provides that the power of superintendence, direction and control of elections to **parliament, state legislatures, the office of president of India and the office of vice president of India** shall be vested in the election commission.
- The Election Commission is an **all-India body** in the sense that it is common to both the Central government and the state governments.
  - It must be noted here that the election commission is **not concerned with the elections to panchayats and municipalities** in the states. For this, the Constitution of India provides for a **separate State Election Commission**.
- The commission consists of **one Chief Election Commissioner and two Election Commissioners** who are **appointed by the President** of India.
- **Article 324 to 329** of the constitution deals with powers, function, tenure, eligibility, etc of the commission and the members.

### Express Governance Awards

Recently, a total of 16 District Magistrates (DMs) have been honoured with the 'Indian Express Excellence in Governance Awards' for their pioneering work across a different fields. Some of the unique initiatives are:

#### Category : Left Wing Extremism

**District:** East Godavari (Andhra Pradesh)

**Initiative:** Digital Connectivity through FSOC.

- **Google's X FSOC or Free Space Optical Communication (FSOC)** has enabled the remote tribal villages located in the hills to get connected with the outside world.
- FSOC is an **optical communication technology** that uses light to wirelessly transmit data to telecommunication and internet applications.

- The initiative has made facilities like telemedicine, public grievances redressal, online education etc. accessible to remote villages.

#### Category : Women Development

**District:** Jhabua (Madhya Pradesh)

**Initiative:** Sathidar Abhiyan

- It empowered women and children, by officials meeting tribal leaders to **end the reverse dowry system** under which the bride's family was paid money.

#### Category : Child Development

**District:** Nagpur (Maharashtra)

**Initiative:** Jivhala

- The initiative is aimed at creating **awareness about child rights and prevention of sexual harassment** in Tribal Ashram schools.
- It provided visual and reading material to help boys and girls know their rights and speak up against any abuse.

#### Category : Inclusive Innovation

**District:** Valsad (Gujarat)

**Initiative:** E-Megh

- It is an example of inclusive innovation.
- In 2016, over 26 lives were lost in floods. The **early warning system**, E-Megh, ensured zero deaths by 2018.
- It includes real-time data, auto-generated calls, SMSes and flood maps.

#### Category : Skill Development

**District:** East Godavari (Andhra Pradesh)

**Initiative:** Kaushal Godavari (KG)

- The initiative focuses on **Skill Development and Entrepreneurship Promotion**.
- Job placements under the programme aided private companies which have hired 16,000 youths from tribal area until now.

#### Category : Border Districts

**District:** Cachar (Assam)

**Initiative:** Debo Na Nebo Na

- Debo Na Nebo Na (Won't Give, Won't Take), an **anti-corruption movement** under which complaints 13,075 through calls, 30,000 through drop-boxes and 472 through an app, were lodged.

Note:



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- The motive behind the project is to ensure that there is no absence of facilities to communicate about a corrupt practice.

## One Nation One Ration Card Scheme

With effect from 1st October 2019, two new clusters, **Kerala-Karnataka** and **Rajasthan-Haryana**, will join the initiative of **inter-state portability of ration cards**.

- It implies that people from a state will be able to buy subsidised food from ration shops in the neighbouring state, until both the states are part of a cluster under this scheme.
- At present, a pair of **Andhra Pradesh and Telangana**, as well as of that **Maharashtra and Gujarat** are part of the initiative.
- Through this initiative, the central government is laying out the roadmap for the **One Nation One Ration Card system**, which it hopes to **implement by June 2020**.

### One Nation One Ration Card Scheme

- The scheme is all about **inter-state portability of ration cards**.
- It enables the beneficiaries who are **taking food grains under the Public Distribution System (PDS) to access the same benefits if they happen to migrate** from one part of the country to the other, in a seamless manner.

#### Public Distribution System

- The Public distribution system (PDS) is an **Indian food Security System** established under the **Ministry of Consumer Affairs, Food, and Public Distribution**.
- PDS is operated under the **joint responsibility of the Central and the State Governments**.
  - The Central Government, through **Food Corporation of India (FCI)**, has assumed the responsibility for procurement, storage, transportation and bulk allocation of food grains to the State Governments.
  - The operational responsibilities including allocation within the **State**, identification of eligible families, issue of Ration Cards and supervision of the functioning of **Fair Price Shops (FPSs)** etc., rest with the State Governments.
- In June, 1997, the Government of India launched the **Targeted Public Distribution System (TPDS)** with a focus on the poor.

- Under TPDS, beneficiaries were divided into two categories: Households below the poverty line or BPL; and Households above the poverty line or APL.
- In order to make TPDS more focused and targeted towards the poorest segment of the BPL population, the "**Antyodaya Anna Yojana (AAY)**" was launched in December, 2000.
- **The National Food Security Act, 2013** relies largely on the existing TPDS to deliver food grains as legal entitlements to poor households.

#### National Food Security Act

- The enactment of the National Food Security Act (NFSA) 2013, on 5<sup>th</sup> July 2013 marked a paradigm shift in the approach of food security from welfare to a **rights based approach**.
- The Act legally entitled upto 75% of the rural population and 50% of the urban population to receive subsidized food grains under **Targeted Public Distribution System**.

## Jan Sookhna Portal

The **State Government of Rajasthan** has recently launched the **first-ever public information** portal named "**Jan Sookhna Portal-2019**".

- The portal aims to provide information to the public about government authorities and departments empowering them with access to useful information.
- The portal was developed by the **government officials in close collaboration** with the IT professionals and civil society groups.
- Information related to the availability of food grains & ration shops, implementation of schemes and their beneficiaries, land records and social security pensions, inter alia, will be available on a real-time basis on this platform.
- Information kiosks in **village panchayats and self-service e-Mitra** centres in the towns will be established to enable the people to access the information.
- The **Department of Information Technology** will serve as the nodal department for the development, operationalization, and maintenance of the JSP.
  - The norms and standards are laid down through the digital dialogue by the Advisory Group. This Advisory Group will also act as the monitoring agency.

Note:



- Grievance redressal officers will be appointed so that citizens can keep a check upon the accountability aspect of the State government.
- The launch of this portal is in **accordance with the true spirit of the Right to Information (RTI) Act** and ensures compliance with **Section 4(2) of the RTI Act** that mandates the **public authorities to proactively disclose information** in the public domain.

#### Right to Information (RTI) Act

- RTI Act was **enacted in 2005** with the aim to secure the citizens' access to information which is under the control of public authorities.
- The primary purpose behind this enactment was to **promote transparency and accountability** in the working of every public authority.
- **Section 4 of the RTI Act** requires **suo-moto disclosure** of information by each public authority.
- Earlier in **2019, an amendment was proposed to the RTI Act** that aimed at giving the Central government the power to **fix the tenure and salaries of central and state information commissioners**, which are statutorily protected under the RTI Act.
  - The proposed move may dilute the autonomy of Information Commissioners.

#### Benefits

- Jan Soochna Portal (JSP) is a remarkable achievement in advancing the benefits of Right to Information (RTI).
  - Now, the people **would not need to file applications separately** under the law to obtain information. They could freely access the information publicly
- JSP is unique as because it ensures **both-transparency accompanied by accountability**.

#### Challenges

- The **digital divide** is a serious problem in India. To bridge this gap, utmost care must be taken to ensure that access points are open and free for all.
- There are huge **challenges with regard to the maintenance** issues and ensuring that there is no abatement in the availability of information.

#### Way Forward

- The need is to host the **JSP in decentralized locations**, right down to the municipal ward and panchayat

levels. This will ensure that people have access to welfare schemes, revenue activities such as mining, and other service delivery issues such as health and education.

- The portal would eventually turn out to be an **effective medium for the digital dialogue** with the people as well as a strong instrument for ensuring transparency in governance.
- The need of the hour is that **other State governments must follow the Rajasthan government's pioneering initiative** and make people, including the marginalized sections, a part of the governance process.

## National Conference on Cybercrime Investigation and Forensics

Recently, the **1<sup>st</sup> National Conference on Cybercrime Investigation and Forensics** was organized by the **Central Bureau of Investigation (CBI)** in New Delhi.

- Target issues addressed in the conference were:
  - India has a **huge population and second-largest internet users in the world**.
  - **Circulation of fake videos** on social media.
  - **Digitization** of the Indian economy.
  - To fight against terrorism.
  - To strengthen cybersecurity infrastructure
- It was also decided to set up Centralized Technology Vertical (CTV) within CBI.

#### Central Bureau of Investigation

- The Central Bureau of Investigation (CBI) was set up in **1963** on the recommendation of the **Santhanam Committee**.
- It comes under the control of the **Ministry of Personnel, Public Grievances and Pensions**.
- The CBI is **not a statutory body**. It **derives its powers from the Delhi Special Police Establishment Act, 1946**.
- It is the main investigating agency of the Central Government. It also provides assistance to the Central Vigilance Commission and Lokpal.
- The Director of CBI has been provided security of two-year tenure in office by the CVC Act, 2003.



Note:

# Economic Scenario

## Highlights

- Imported Inflation in India
- External Benchmark Rates
- Secondary Market For Corporate Loans
- Steering Committee on Fintech
- Pradhan Mantri Kisan Maan Dhan Yojana
- MUDRA Scheme and Employment
- Package For Power Stations
- National Animal Disease Control Programme & National Artificial Insemination Programme
- Indian Institute of Skills, Mumbai
- Jeevan Kaushal Programme

## Imported Inflation in India

The weakening of the domestic currency in the past two months i.e. July and August 2019 may lead to **imported inflation** in the country.

### Imported Inflation

- When the general price level rises in a country because of the **rise in prices of imported commodities**, inflation is termed as imported.
  - Two key contributors to **India's imports are: Crude Oil and Gold**. Rise in prices of these two products lead to rise in the import bill of the country.
  - It is expected that dull global growth prospects would keep crude prices low. But, higher demand for gold can push prices higher.
- However, inflation may also rise due to the **depreciation of the domestic currency**, which pushes up the rupee cost of imported items.
  - For example, if the rupee depreciates by 20% against the US dollar in a particular period, the landed rupee cost of an imported product will also go up by the same proportion and will affect the price levels and inflation readings.
  - Current Causes Behind Depreciation:
    - Growing risk aversion amongst investors has resulted in broad losses in the currencies of the Emerging Markets (EM).
    - The rupee has been further impacted by **escalating tensions in Kashmir** and a slightly **larger-than-expected repo rate cut from the RBI**.
    - Recently, in August 2019, the Reserve Bank of India's Monetary Policy Committee (MPC) has

cut the repo rate for the fourth time in a row. The MPC slashed repo rate by 35 basis points to 5.40%, the lowest in over nine years.

### Rate Cut and Currency Depreciation

- According to the **Uncovered Interest Rate Parity (UIP) theory**, an interest rate cut makes the home country's **fixed income securities less attractive** and **capital flows out of the country, resulting in depreciation of depreciating the home currency**.
- However, this correlation depends on other factors like **rate of inflation, equity flows, monetary policy spillovers and politics, etc.** There are limitations with the UIP model as well.
- The UIP is a relationship between **real exchange rate and real interest rate differential**, not nominal rates. Real rates are nominal rates adjusted for inflation. Rate cut by MPC is **not enough to offset the impact of inflation**.
- The UIP assumes that the exchange rate is **driven purely by fixed income flows** and completely **ignores equity flows**. However, equity inflows have become significant, **accounting for 38% of total net purchases** by Foreign Institutional Investors (FIIs) in India.
- The UIP does not consider the **impact of US monetary policy** decisions spilling over to India in the form of capital flows.
- The UIP assumes that in countries with flexible exchange rates and no capital controls, political developments do not affect the exchange rate. However, countries prefer a **weak domestic currency to aid their exports**. **Politics plays a role in exchange rate as well. E.g.: America First Policy.**

Note:

### Depreciation of the Currency

- Depreciation of a country's currency refers to a **decrease in the value of that country's currency** with respect to one or more foreign currencies, typically in a floating **exchange rate system**.
  - In a floating exchange rate system, **market forces** (based on demand and supply of a currency) **determine the value of a currency**.
- Example: \$1 used to equal to Rs.60, now \$1 is equal to Rs. 72, implying that the rupee has **depreciated against/in comparison to the dollar i.e. it takes more rupees to purchase a dollar**.
- It happens due to imbalance between **supply and demand of the particular currency**.
- It makes **exports more competitive** and imports more expensive.
- It is different from devaluation wherein the government of a country makes a conscious decision to lower its exchange rate, basically in a fixed or semi-fixed exchange rate.

### External Benchmark Rates

The Reserve Bank of India has made it **mandatory for all banks to link all new floating rate loans (i.e. personal/retail loans, loans to MSMEs) to an external benchmark** with effect from 1st October 2019.

- The move is **aimed at faster transmission of monetary policy rates**.
- Banks **can choose one of the four external benchmarks** — repo rate, three-month treasury bill yield, six-month treasury bill yield or any other benchmark interest rate published by Financial Benchmarks India Private Ltd.
  - **At present**, interest rates on loans are linked to a bank's marginal cost of fund-based interest rate, known as the Marginal Cost of Lending Rate (MCLR).
  - Those customers wanting to switch to the repo-linked rate can do so, on mutually acceptable terms.
- **Adoption of multiple benchmarks by the same bank is not allowed** within a loan category.
- **The interest rate under the external benchmark shall be reset at least once in every three months**.

#### Background

- The transmission of policy rate changes to the lending rate of banks under the current MCLR framework has not been satisfactory.

Marginal Cost of Lending Rate	Repo-Linked Loan
Linked to banks' cost of funds	Linked to RBI's lending rate
Takes 4-6 months to move after RBI rate cut	Responds immediately to RBI rate cut
RBI rate cuts not fully passed on to borrowers	Rate cuts are automatically passed on
Resets annually for most banks	Reset every three months
Changes by 5-10 bps	Usually changes 25bps or more
Revised every month	Reviewed bi-monthly
Low volatility	Higher volatility
100bps=1%   Repo - RBI's lending rate to banks	

- Banks argue that the MCLR formula is calculated based on the cost of funds and thus, it comes down only gradually after a repo rate cut.

### Fixed vs Floating Interest Rate

- **Fixed interest rate:** It means repayment of loans in fixed equal instalments over the entire period of the loan. In this case, the interest rate **doesn't change with market fluctuations**.
- **Floating interest rate:** The rate of interest **varies with market conditions**. The drawback with floating interest rates is the uneven nature of monthly instalments.

#### Marginal Cost of Lending Rate

- Marginal Cost of Funds based Lending Rate (MCLR) is the minimum interest rate, below which a bank is not permitted to lend, though RBI can give authorization for the same in exceptional cases. It depends on factors such as fixed deposit rates, source of funds and savings rate.

#### Base Rate

- Banks stopped lending on base rate from April 2016.
- During the operational period, base rate was the minimum interest rate at which commercial banks could lend to customers.

### Secondary Market For Corporate Loans

The **Reserve Bank of India (RBI)** constituted Panel, headed by **T.N. Manoharan**, has given some suggestions for **developing the secondary market for corporate loans** in the country. **Suggestions** are as follows:

Note:



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- Setting up a **Self-Regulatory Body (SRB)** of participants to finalise details for the secondary market for corporate loans, including the **standardisation of documents**.
- Creating a **Loan Contract Registry** to remove information asymmetries between buyers and sellers.
- Creating an **online loan sales platform** to conduct auctions and sale of loans.
- Enabling **participation of non-banking entities** such as mutual funds, insurance companies, and pension funds.
  - Banks and the **Non-Banking Financial Companies (NBFCs)** are currently the only participants in the primary and secondary loan markets.
- **Single loan securitisation** can be considered to incentivise investors to acquire loans through the secondary market mechanism.
  - **Securitization** is a process by which a company clubs its different financial assets/debts to form a consolidated financial instrument which is issued to investors. In return, the investors in such securities get interest.
  - Securitisation is currently permitted only for a pool of homogenous assets.
- **Allowing Foreign Portfolio Investors (FPIs) to directly purchase distressed loans** from banks.
  - Currently, FPIs have to come through the Asset Reconstruction Companies (ARCs) to participate in the distressed loan market.
- **Linking the pricing of all loans to an external benchmark** as the current **Marginal Cost of Funds Based Lending Rate (MCLR)** may not be compatible across banks.

### Secondary Market for Corporate Loans

- The secondary loan market in India is largely **restricted to the sale of loans to Asset Reconstruction Companies and no formalised mechanism has been developed** to deepen the market.
  - The secondary market is the market where investors buy and sell securities which they already own.
- A vibrant, deep and liquid secondary market for debt would aid in the resolution of stressed assets in particular.
- It would also aid in transparent price discovery of the inherent riskiness of the debt being traded.

- It can also be an important for credit intermediaries to manage credit risk and liquidity risk on their balance-sheets, especially for distressed assets.

### Asset Reconstruction Companies

- An Asset Reconstruction Company is a special type of financial institution that buys the debtors of the bank at a mutually agreed value and attempts to recover the debts or associated securities by itself.
- The ARCs take over a portion of the debts of the bank that qualify to be recognised as **Non-Performing Assets**.

### Non-Banking Financial Companies (NBFCs)

- A non-banking institution which is a company and has principal business of receiving deposits under any scheme or arrangement in lump sum or in installments by way of contributions or in any other manner.
- Features of NBFCs
  - NBFC cannot accept demand deposits.
  - NBFCs do not form part of the payment and settlement system and cannot issue cheques on itself.

### Foreign portfolio investment (FPI)

- It consists of securities and other financial assets passively held by foreign investors.
- It does not provide the investor with direct ownership of financial assets and is relatively liquid depending on the volatility of the market.

## Steering Committee on Fintech

The Steering Committee on **Fintech** has submitted its final report to the Ministry of Finance.

- The Committee was constituted in pursuance to the announcement made in Budget Speech 2018-19.

### Recommendations of the Report

- **Financial inclusion of MSMEs:** The fintech firms have the potential to meet the financial needs of start-up SMEs. The **Reserve Bank of India (RBI)** may consider the development of a **cash-flow based financing** for MSMEs.
  - Cash flow based financing is a form of financing in which a loan made to a company is backed by a company's expected cash flows.

Note:



- It **differs from an asset-backed loan**, where the collateral for the loan is based on the company's assets.
- A **legal framework** for consumer protection should be put in place, keeping in mind the rise of fintech and digital services.
- For **Efficient Delivery of Insurance Products**, insurance companies and lending agencies should be encouraged to use drones and remote sensing technology, directly or using the services of fintech companies, for crop area damage and location assessments.
- For **developing standards**, it recommended the adoption of **Regulation Technology (RegTech)** and **Supervisory technology (SupTech)** by all financial sector regulators.
  - RegTech is the use of new technologies to address the increasingly dense data landscape required to meet regulatory compliance challenges.
  - SupTech is the use of innovative technology by supervisory agencies to support supervision.
- **Eliminating Discrimination:** The government and the RBI should take steps to eliminate any discrimination in access to payment infrastructure to non-banks as compared to banks, with a view to enhance competition and innovation.
- **For Public Sector Enterprises:** The committee recommends the use of fintech, especially by the Public Sector Enterprise (PSE) as well as financial service companies, to bolster cybersecurity, fraud control and anti-money laundering.
- **Virtual Banking System:** The Department of Financial Services and the Reserve Bank of India may examine the **suitability of virtual banking system in Indian context**.
  - The virtual banking system is a system where banks do not need to set up branches and yet deliver the full-scale retail banking services ranging from extending loans, savings accounts, issuing cards and offering payment services through their app or website.
- The usage of common fintech platform for **Micro Units Development and Refinance Agency (MUDRA)** loans, small saving schemes, pension schemes and provident fund.
- Reforming the current **Peer-to-Peer (P2P) lending** platforms.

### Fintech

- Fintech (Financial technology) describes an **emerging financial services sector** in the 21<sup>st</sup> century.
- It includes any **technological innovation in the financial sector**, including innovations in financial literacy and education, retail banking, investment and even crypto-currencies like bitcoin.

### Peer to Peer Lending

- Peer to Peer lending, also known as P2P Lending, is a financial innovation which **connects verified borrowers** seeking unsecured personal loans **with investors**, looking to earn higher returns on their investments.
- P2P lending service providers have been in business in India since early 2014. However, it was in September 2017, RBI notified that these will be **registered as Non-Banking Financial Companies (NBFCs)** and subsequently came out with guidelines for P2P lending.

## Pradhan Mantri Kisan Maan Dhan Yojana

The Prime Minister has launched the **Pradhan Mantri Kisan Maan-Dhan Yojana, & National Pension Scheme for the Traders and the Self-Employed**, at an event in Ranchi, Jharkhand.

- **The Pradhan Mantri Kisan Maan-Dhan Yojana (PM-KMY)**
  - It aims to secure the lives of 5 crore small and marginal farmers by providing them a **minimum pension of ₹3000 per month**, as soon as they attain the **age of 60 years**.
  - All **small and marginal farmers (who own cultivable land up to 2 hectares)** and are **between 18 and 40 years of age** are eligible under this scheme..
  - Under PM-KMY, monthly contributions by a farmer can be made from the instalments of **Pradhan Mantri-Kisan Samman Nidhi (PM-KISAN)** or through Common Service Centres (CSCs).
- **The National Pension Scheme for the Traders and the Self-Employed**
  - It aims to provide a **minimum assured pension of ₹3000 per month**, to small traders and self-employed individuals after they attain the age of 60 years.

Note:

- Around 3 crore small traders would be benefitted from this scheme.
- Traders and self-employed persons in the **age group of 18-40 years** are eligible to join the scheme.
- The **monthly contribution under the scheme is of ₹ 55 to ₹ 200**, depending on the age of the applicant.
- The **self-employed** shop owners, retail owners and other traders having an **annual turnover of less than ₹1.5 crores** will only be able to join the scheme.
- Any person making a contribution to Employees' Provident Fund Organisation (EPFO), Employees' State Insurance Corporation (ESIC), **National Pension System (NPS)**, **Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM)**, and/or paying income tax is not eligible for the scheme.

#### Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)

- PM KISAN is a **Central Sector scheme with 100% funding from Government of India**.
- Under the scheme, an **income support of Rs.6000/- per year in three equal instalments** will be provided to small and marginal farmer **families** having combined **land holding/ownership of upto 2 hectares**.
- The PM-KISAN scheme aims to **supplement the financial needs** of the Small and Marginal Farmers in **procuring various inputs to ensure proper crop health** and appropriate yields, commensurate with the anticipated farm income at the end of each crop cycle.
- This would also protect them from falling into the clutches of moneylenders for meeting such expenses and ensure their continuance in the farming activities.

#### National Pension System

- The Central Government has introduced the National Pension System (NPS) with effect from January 01, 2004 (except for armed forces).
- NPS is structured into non-withdrawable permanent retirement account and voluntary withdrawable account.
- Any individual citizen of India (both resident and non-resident) in the age group of 18-65 years (as on the date of submission of NPS application) can join NPS.
- However, OCI (Overseas Citizens of India) and PIO (Person of Indian Origin) card holders and Hindu Undivided Family (HUFs) are not eligible for opening of NPS account.

#### Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM)

- It is a **Central Sector Scheme** administered by the **Ministry of Labour and Employment** and **implemented through Life Insurance Corporation of India** and Community Service Centers (CSCs) for **unorganised sector workers**.
- Each subscriber shall receive **minimum assured pension of Rs 3000/- per month** after attaining the age of 60 years.
- The subscriber should belong to the **age group of 18-40 years** and should not be an income tax payer.

#### Common Service Centres (CSCs)

- The CSC is a strategic cornerstone of the **National e-Governance Plan (NeGP)**, **approved by the Government of India in May 2006**, as part of e-governance.
- It aims to provide high quality and cost-effective video, voice and data content and services, in the areas of e-governance, education, health, telemedicine, entertainment as well as other private services.

## MUDRA Scheme and Employment

Recently, **Pradhan Mantri Mudra Yojana** Survey has been conducted by the Labour Bureau under the Ministry of Labour and Employment.

- The salient findings of the survey are:
  - Just **one out of five beneficiaries i.e. 20.6%** from the sample survey availed Mudra loan for setting up a new establishment, the rest used the **funds for expanding their existing business**.
  - The **share of three types of loans out of total loan sanctioned under MUDRA** in 2017-18 is as follows:
    - Shishu loans: 42%
    - Kishor loans: 34%
    - Tarun loans: 24%
  - The **share for creation of new jobs by three types of loans under MUDRA** in 2017-18 is as follows
    - Shishu loans: 66%
    - Kishor loans: 18.85%
    - Tarun loans: 15.51%
  - The loan extended for every additional job created, works out to Rs 5.1 lakh.

Note:



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MUDRA JOBS *				
No. of loans for new business	19,396	(20.6%)		
No. of loans for existing business	74,979	(79.4%)		
<b>NEW JOBS FROM MUDRA LOAN</b>				
Shishu	73,91,974	(65.99%)		
Kishor	21,11,134	(18.85%)		
Tarun	16,96,872	(15.15%)		
<b>Total</b>	<b>1,11,99,980</b>			
<b>INCREASE BY EMPLOYMENT CATEGORY</b>				
	Shishu	Kishor	Tarun	Total
Self employed/ owners	43,64,088	6,25,575	1,16,803	51,06,466 (45.59%)
Employees/ hired workers	30,27,886	14,85,559	15,80,069	60,93,514 (54.41%)

*Shishu: loans up to Rs 50,000; Kishor: Rs 50,000-5 lakh; Tarun: Rs 5 lakh - 10 lakh*  
*\*Sample beneficiaries who took loans*

- Sector-wise additional job creation under MUDRA is:
  - Services: 34.34 %
  - Trading: 33.23%
  - Allied agriculture: 20.33%
  - Manufacturing: 11.7 %
  - **Services and trading accounted for more than two-thirds** of the additional jobs created.
- The survey defines “**Self Employed**” as person who engaged independently in a profession or trade.

#### Pradhan Mantri MUDRA Yojana (PMMY)

- The PMMY is a scheme launched in **2015** for providing **loans up to 10 lakh to the non-corporate, non-farm small/micro-enterprises**.
- These loans are given by Commercial Banks, RRBs, Small Finance Banks, Cooperative Banks, MFIs and NBFCs.
- Under the aegis of PMMY, MUDRA has created three products:
  - **Shishu**: covering loans **up to Rs.50,000**
  - **Kishore**: covering loans **above Rs.50,000 and up to Rs.5,00,000**
  - **Tarun**: covering loans **above Rs.5,00,000 and up to Rs.10,00,000**

## Package For Power Stations

The Power Ministry is keeping a check on possible misuse of the **rescue package for stressed coal-fired power stations**.

- The package was announced earlier in March 2019, wherein **coal linkages of power plants** (with aggregate

capacity of 40,000 MW), that cancels **Power Purchase Agreements (PPAs)** because of payment default by **discoms**, were to be **valid for two years**.

- This was done to allow generation companies adequate time to look for alternative PPAs.
- Power distribution companies have historically entered into long term PPAs with the generating firms for the supply of power and appropriate regulatory commissions determine tariffs.
- After the two-year period, the coal linkage will be cancelled in case the generator is not able to secure a long- or medium-term PPA within that period.
- Distribution company (Discom) dues is one of the biggest issues in the country. Efforts towards 100% village electrification, 24x7 power supply and clean energy cannot be achieved without performing DISCOMs.
- To deal with the same, from 1st August, 2019, the government has made it mandatory for state distribution companies (discoms) to offer **letters of credit (LC) as part of the payment security mechanisms in power purchase agreements (PPAs)**. A letter of credit is a document that guarantees the buyer's payment to the sellers.
- National, Regional and State Load Dispatch Centres are directed to dispatch power only after they are told by the Discoms that a LC for the desired quantum of power has been opened and copies have been made available to the concerned generating company.
- These LCs can be invoked if the Discom defaults in payments to the power generation company (Genco) beyond the 45-day or 60-day grace period for clearing dues, as provided in the power purchase agreement (PPA).

#### Note:

- The government is in the **process of rolling out a new tariff policy** and UDAY 2.0 to address the issue of losses of discoms.
- Ministry of Power launched the **Ujwal DISCOM Assurance Yojana (UDAY)** which was approved by the Union Cabinet on **5<sup>th</sup> November, 2015**.
- It envisages reform measures in all sectors- generation, transmission, distribution, coal, and energy efficiency.
- It also envisages **the Financial & Operational Turn around of Power Distribution Utilities (DISCOMs)** of the country.

Note:

## National Animal Disease Control Programme & National Artificial Insemination Programme

Recently, the Prime Minister launched the **National Animal Disease Control Programme (NADCP)**, to control and eradicate the **Foot & Mouth Disease (FMD)** and **Brucellosis** amongst the livestock in the country.

### Key Highlights

- **National Animal Disease Control Programme (NADCP)**
  - To vaccinate over 600 million cattle in the country in an effort to mitigate the two diseases namely, **the Foot & Mouth Disease & brucellosis.**
  - **To control the livestock diseases by 2025, and eradicate them by 2030.**
  - The livestock that will be covered under the programme includes cattle, buffalo, sheep, goats, and pigs against the FMD.
  - The project will be **fully funded by the Central Government.**
- **National Artificial Insemination Programme**
  - It aims for Vaccination and Disease Management, Artificial Insemination and Productivity.
  - Artificial insemination is a novel method of **bringing about impregnation in female breed.**

### Foot and mouth disease (FMD)

- It is a severe, **highly contagious viral disease** of livestock that has a significant economic impact.
- The disease affects cattle, swine, sheep, goats and other cloven-hoofed ruminants.
- FMD can spread when infected animals bring the virus into physical contact with susceptible animals.
- In rare cases, humans are also susceptible.

### Brucellosis

- Brucellosis is a **bacterial disease** which mainly infect cattle, swine, goats, sheep and dogs.
- Humans generally acquire the disease through direct contact with infected animals, by eating or drinking contaminated animal products, or by inhaling airborne agents.
- Person to person transmission is rare.

- It **prevents the spread of certain diseases** which are genital in nature, thereby enhancing the efficiency of the breed.

## Indian Institute of Skills, Mumbai

To make India the Skill Capital of the World, the Union Minister for Skill Development and Entrepreneurship (MSDE) has laid the foundation stone of the **Indian Institute of Skills (IIS)** at Mumbai.

- It will provide skill training to students who want to pursue **technical education after completing Class X and Class XII**, making them employable and industry-ready.
- The Tata Education Development Trust (TEDT) is the private partner for setting up IIS in Mumbai.

### Indian Institute of Skills (IIS)

- Indian Institute of Skills (IIS) are in line with **Institutes of Eminence (IoEs)** including IITs and IIMs.
- IIS aims to enrol 5,000 students per year with campus placement of 70% trainees.
- The Union Cabinet has given its nod to set up Indian Institute of Skills (IISs) in three locations of the country :
  - Mumbai
  - Ahmedabad
  - Kanpur
- These institutes will be constructed & operated on a PPP (Public-Private Partnership) model and on a not-for-profit basis.
- It will facilitate learning and training by establishing a strong connection with various industries in both the public and private sectors.
- It will help promote programs like Make in India, Skill India etc as well as to cater to the demand of **Industry 4.0.**

### Institute of Eminence

- The University Grants Commission, has nominated 20 institutions (10 Public and 10 private) as Institutes of Eminence tag (IOE).
- Institutes with IOE tag will be given **greater autonomy and freedom to decide fees, course durations and governance structures.**

Note:



- The **public institutions** under IOE tag will receive a government **grant of ₹1,000 crore**, while the **private institutions** will **not get any funding** under the scheme.
- Only those institutions which have appeared in any of the global/national ranks shall be recommended for the IOE status.

#### Industry 4.0

- Building on the foundation given by the third Industrial Revolution, the fourth Industrial Revolution is moving from an electronic based industry to a process which is the combination of human beings and electronics.
- The best example would be processed artificial intelligence has broken the distinction between the Man, The Machine and Intelligence.

## Jeevan Kaushal Programme

Recently, the Government of India has launched the **Curriculum for Life Skills (Jeevan Kaushal)** programme designed by the **University Grants Commission (UGC)**.

- Jeevan Kaushal is aimed at:

- Inculcation of an **Emotional Intelligence**.
- Development of **Intellectual Competencies**.
- Development of **verbal and non-verbal communication skills**.
- The program has been framed for Undergraduate courses **across the country**.
- The Designed program is for 8 credit points and can be accommodated in any semester of the course.
- The program will comprise of **four courses**:
  - Communication skills,
  - Professional and Leadership skills,
  - Problem-solving and Decision-making,
  - Universal human values.

#### University Grants Commission (UGC)

- University Grants Commission (UGC) came into existence in 1953.
- It became a **statutory organization** of the Government of India **by an Act of Parliament in 1956**.
- It works for the coordination, determination and maintenance of standards of teaching, examination and research in university education.



Note:



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# International Relations

## Highlights

- G7 Summit
- India - Russia
- Eurasian Economic Forum
- Military Medicine Conference
- India and South Korea Signs Logistics Pact
- 7<sup>th</sup> Regional Comprehensive Economic Partnership (RCEP) Ministerial Meeting
- US-China Move to WTO
- Motihari-Amlekhgunj Pipeline
- World Trade Organization

## G7 Summit

The three days **G7 summit** was concluded on August 26, 2019, at **Biarritz, Nouvelle-Aquitaine, France**.

- Although **no joint official statement** was issued at the end of the summit. However, the French President released a statement stating that the G7 nations were committed to **open and fair world trade, and global economic stability**.

### Key Takeaways

- Discussion on forest fires in the **Amazon rainforests**.
  - G7 countries pledged \$20 million help to fight fires in the Amazon rainforests.
- Issues related to US trade conflicts with France over **GAFA tax** & other related issues, Iran over the **Joint Comprehensive Plan of Action (JCPOA)**, **US-China trade wars**, were also discussed.
- G7 leaders backed the existence and importance of the Sino-British Joint Declaration of 1984 on Hong Kong and called for violence to be avoided.
- There was a call for **reinstating Russia back into the group**. Russia was removed from the group after it **annexed Crimea in 2014**. However, the consensus for the same was not achieved.
- As a reflection of **strong bilateral relations between India & France**, a special invitation was sent to India to become a part of this summit.
  - On the sidelines of this summit, India highlighted its large-scale efforts to address various environmental issues like reducing biodiversity, climate change, water stress & ocean pollution.
    - India highlighted the steps taken in this regard which include, vow to **eliminate single-use**

**plastic**, harnessing solar energy, saving water, and protecting flora and fauna.

- On a session on Digital transformation at G7 Summit, Indian PM highlighted India's effort in leveraging digital technology to fight social inequalities through empowerment and inclusion.
- Indian Prime Minister also had a brief discussion with the US President over the **Kashmir** issue, reiterating that, 'it is an internal matter of India & any related issues on it will be resolved bilaterally with Pakistan'.

### GAFA Tax

- "GAFA" is named after **Google, Amazon, Facebook, and Apple** and comes amid rising public outrage at the minimal tax paid by some of the world's richest firms.
- It has been recently approved by the **French Parliament**, levied on digital giants such as Facebook and Apple.

### Joint Comprehensive Plan of Action (JCPOA)

- In **2015**, **Iran and P5+1 countries** (the US, UK, France, China, Russia and Germany) agreed on a long-term deal on Iran's nuclear programme, commonly known as Iran Nuclear Deal
- In **May 2018**, the **US pulled out of Iran Nuclear Deal - JCPOA** and imposed sanctions on Iran and on nations doing the significant amount of trade with Iran.
- However, no other signatory of the deal has supported the US stand on the deal and even the UN has expressed grave misgivings about the decision.
- The U.S. has given **no evidence** that Iran in any way violated the terms of the JCPOA.

Note:

- The need for a dedicated **multilateral Green Bank** was demanded. The purpose of this bank would solely be to finance the projects **supporting renewable energies and mitigating environmental challenges**.
  - This bank will complement and collaborate with other existing multilateral-regional & national institutions in co-financing the projects.

### G7

- The Group of Seven (G7) is a forum of the **world's seven largest developed economies** whose government leaders meet annually to discuss international economic and monetary issues.
- The G-7 has its roots in an informal meeting of the finance ministers of France, West Germany, the U.S, Great Britain, and Japan (the Group of Five) in the wake of the 1973 oil crisis. That, in turn, inspired the French President to invite the leaders of those countries, and Italy, to Rambouillet in 1975 for further discussions on global oil.
- The next year, Canada was also invited to join the group and the first meeting with all G-7 nations was hosted by the United States which was held in Puerto Rico in 1976.
- Summits are held annually and hosted on a rotation basis by the group's members.
- The 2018 summit was hosted by Canada in Quebec from June 8-9.
- The 45<sup>th</sup> G7 summit was hosted by France from August 24-26, 2019, in Biarritz in Nouvelle-Aquitaine, France.

### Members

- The G7 members are recognized as the **seven wealthiest and most advanced** nations in the world. The members are:
  - France, Germany, the United Kingdom, Italy, the United States of America, Canada, and Japan
- The **European Union** is sometimes considered an **eighth member** of the G-7 since it holds all the rights and responsibilities of full members except to chair or host the meeting.

### Purpose

- The major purpose of the G-7 is to discuss and deliberate on international economic issues. It sometimes acts in concert to help resolve other global problems, with a special focus on economic issues.

- G7 fills out numerous global top lists:
  - Leading export countries,
  - Largest gold reserves,
  - Largest nuclear energy producers,
  - Top contributors to the UN budget.

### Expansion to G-8 (the Group of Eight)

- The G-7 responded as the global economy evolved. In 1991, the Soviet Union pledged to create an economy with freer markets and held its first direct presidential election.
- Following the 1994 G7 meeting in Naples, Russian President held meetings with G-7 member countries, in what became known as the P-8 (Political 8).
- **In 1998**, after urging from leaders including U.S. President, **Russia was added to the G-7 group as a full-time member, creating a formal G-8**.
- However, in 2014, Russia was suspended from the group after the annexation of Crimea and tensions in Ukraine.

## India - Russia

Recently, The Prime Minister of India visited Russia to attend the 20th India-Russia annual summit and the 5th meeting of the **Eastern Economic Forum (EEF)** in Vladivostok.

- This is the **first time** that an **Indian Prime Minister visited the Russian Far East Region** (Vladivostok).

### Key Takeaways

- Both the leaders reaffirmed their **Special and Privileged Strategic Partnership**.
- Russia has also supported **India's move on Jammu and Kashmir** (Abrogation of Article 370), saying that



Note:

the changes in the status are within the framework of the Indian Constitution.

- India would **extend a \$1 billion line of credit** towards the development of the Russian Far East
  - An area of special interest for India is the exploration of hydrocarbon reserves along the coast of Russia's Far East.
- A proposal was made to have a full-fledged **maritime route between Chennai and Vladivostok**.
  - The opening of a sea route is likely to help in the development of the **India-Russia collaborative Kudankulam project**.
- Russia would help to train Indian astronauts for the manned space mission — the **Gaganyaan project**.

#### Mission Gaganyaan

- It is an Indian **crewed orbital spacecraft** intended to be the basis of the **Indian Human Spaceflight Programme**.
- The spacecraft is being designed to **carry three people**, and a planned upgraded version will be equipped with docking capability.

#### Kudankulam Nuclear Power Plant

- Kudankulam, or Koodankulam, is **India's first nuclear plant to use imported** (Pressurised Water Reactor) PWR technology.
- The **existing nuclear power plants in India use pressurised heavy water reactor** or boiling water reactor technology.

#### Exercise TSENTR 2019

- The series rotates through the **four main Russian operational strategic commands i.e Vostok (East), Zapad (West), TSENTR (Centre) and Kavkas (South)**.
- Apart from host Russia, military contingents from China, India, Kazakhstan, Kyrgyzstan, Tajikistan, Pakistan and Uzbekistan will also take part in this mega event.
- These annual exercises have slowly begun taking an international character, with Belarus participating in ZAPAD-2017 and China and Mongolia participating in VOSTOK-2018.

#### Far East Region of Russia

- The Far East is the **easternmost part of Russia**.
- The Far East region borders two oceans, the Pacific and the Arctic, and five countries (China, Japan, Mongolia, the United States and the North Korea).

- The Far Eastern Federal District covers more than a third of the Russia's territory.

#### Eastern Economic Forum

- The Eastern Economic Forum was established in the year **2015**.
- It takes place **each year** in **Vladivostok**, Russia.
- It serves as a platform for the discussion of key issues in the world economy, regional integration, and the development of new industrial and technological sectors, as well as of the global challenges facing Russia and other nations.

## Eurasian Economic Forum

Recently, the **Shanghai Cooperation Organization (SCO)** organized the Eurasian Economic Union meeting.

- The forum called for greater cooperation in the spheres of communication, technology, and development amongst its member-nations.
- The entire event was organized to discuss and deliberate upon China's **Belt and Road Initiative**, because of which India, despite being present in the **SCO** summit, decided to skip this meeting.



- It also promoted '**Eight Wonders Exhibition Tour**', in which one historical monument or place corresponding to each member country will be represented on the pamphlet.
  - For **Kazakhstan**, it was the **Petroglyphs of Tamgaly**.
  - For **China**, it was the **Daming Palace of the Tang dynasty**.
  - For **India**, the monument chosen was the **182-metre Statue Of Unity** of Sardar Vallabhbhai Patel.

Note:



### Ancient Silk Route

- It was a **network of trade routes** that linked ancient regions of the world for the promotion of trade & commerce.
- It was regularly used during **China's Han dynasty rule** from 2<sup>nd</sup> century BC to 14<sup>th</sup> century AD.
- It stretched from China via India to Mesopotamia, Africa, Greece, Rome & Britain.

### Eurasian Economic Union (EAEU)

- The Eurasian Economic Union is an international organization for regional economic integration that came into existence in **2015**.
- The EAEU provides for **free movement of goods, services, capital, and labor within its borders**.
- It pursues, coordinates, & harmonizes the policies in the sectors determined by the Treaty and international agreements within the Union.
- The member states of the Eurasian Economic Union are:
  - The Republic of Armenia,
  - The Republic of Belarus,
  - The Republic of Kazakhstan,
  - The Kyrgyz Republic, and
  - The Russian Federation.

### Belt and Road Initiative

- **One Belt One Road**, as the name suggests, has two main components:
  - **One Belt** refers the land-based belt, 'Silk Road Economic Belt' and **One Road** refers to the ocean going 'Maritime Silk Road'.
  - It aims to connect the East Asian economic region with the European economic circle and runs across the continents of Asia, Europe and Africa.
  - It is China's ambitious project announced in 2013.
  - It covers about 65% of the world population, 60% of the world GDP and about 60 countries in six economic corridors.

### Statue of Unity

- The Statue of Unity which is built in honour of **Sardar Vallabhbhai Patel** who united 560 princely states of Pre Independent India.
- It is located on the **Sadhu Bet island** on the **Narmada river**, which flows between the **Satpura and Vindhya mountain ranges**.
- The Statue of Unity is the **tallest statue in the world** (182 metres).

## Military Medicine Conference

Recently, India hosted the first conference of Armed Forces Medical Services (AFMS) of the **Shanghai Cooperation Organisation (SCO)** in New Delhi.



- This is the **first military cooperation event** being hosted by India, after it joined SCO in June 2017.
- The conference has been organised by the Indian Armed Forces supported by **Headquarters Integrated Defence Staff (HQ IDS)**.
- The **primary objectives** of the conference are to share best practices in the field of military medicine, build capacities and overcome common challenges.
- The conference gains importance in the background of building capabilities to deal with the menace of **bioterrorism**, a real threat the world is facing today.
  - The Regional Anti-Terrorist Structure (RATS) is a permanent organ of the SCO which serves to promote cooperation of member states against the three evils of terrorism, separatism and extremism. It is headquartered in Tashkent, Uzbekistan.

### Bio-terrorism

- A biological attack or bioterrorism is the **intentional release of viruses, bacteria**, or other germs that can sicken or kill people, livestock, or crops.
- **Bacillus anthracis**, the bacteria that causes anthrax, is one of the **most likely agents to be used in a biological attack**.

### India's Preparedness to fight Bioterrorism:

- **Early Detection:** The Ministry of Health and Family Welfare is tasked with providing directions and

Note:

technical support for capacity building, surveillance and early detection of an outbreak.

- **Assessment of Threat:** The Ministry of Home Affairs (MHA) is responsible for the assessment of the threat, intelligence inputs and implementation of preventive mechanisms.
  - **National Disaster Response Force (NDRF)** is a specialised force constituted under MHA to deal with chemical, biological, radiological and nuclear (CBRN) attacks.
- **Biowarfare:** The Ministry of Defence (MoD) is responsible for managing the matters and consequences of biowarfare.
  - The **Defence R&D Organization (DRDO)** is actively pitched into developing protective systems and equipment for troops to contend against nuclear, biological and chemical warfare.
- India has ratified the **Biological Weapons Convention (BWC)**, which effectively prohibits the development, production, acquisition, transfer, stockpiling and use of biological and toxin weapons.
- India is one of the member country in **Australia Group**.

#### Shanghai Cooperation Organisation (SCO)

- The Shanghai Cooperation Organisation, also known as the **Shanghai Pact**, is a Eurasian political, economic, and military organisation which was founded in 2001 in Shanghai.
- The founding members are China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan.
- The cooperation was renamed to Shanghai Cooperation Organisation after Uzbekistan joined the organisation in 2001.
- **India officially joined SCO in 2017 as a full member of the organisation.**

#### Integrated Defence Staff

- The Integrated Defence Staff was set up in 2001 under the Ministry of Defence in the aftermath of 'Operation Vijay' (Kargil Operations) **to promote synergy among the three Services and to integrate these with the Ministry of Defence.**

#### The Australia Group

- It is an informal arrangement which aims to allow exporting or transshipping countries **to minimise the risk of assisting chemical and biological weapon (CBW) proliferation.**

## India and South Korea Signs Logistics Pact

**India and South Korea** have concluded a **Military Logistics Agreement** during the ongoing visit of Defence Minister to Seoul.



- The two countries have also formulated a forward-looking road map to take bilateral defence industry cooperation to the next level.
- The roadmap has also listed other areas of cooperation like Land Systems, Aero Systems, Naval Systems, R&D cooperation and collaboration in testing, certification and quality assurance.
- The two Memoranda of Understanding (MOUs) were signed during the meeting which covers:
  - Defence Educational Exchanges,
  - Extension of Logistical Support to each other's Navies.
- The above agreements would ensure India:
  - **Assured logistic support** when India operates in the Indo-Pacific around the ports of South Korea.
  - To **extend the reach, presence and sustainability** of Indian Navy ships when deployed at great distances.
- The recent meeting has also been considered as an opportunity to combine India's '**Act East Policy**' with the Republic of Korea's '**New Southern Policy**'.

#### New Southern Policy

- South Korea's "New Southern Policy" of 2017 seeks to make the **regional bloc of the Association of Southeast Asian Nations (ASEAN)** as a diplomatic and economic partner of South Korea.
- It aims to **better connect South Korea to ASEAN** and expand the economic influence of Korea - which is Asia's fourth-largest economy and home to more than half a billion people.

Note:



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## India-South Korea Relations

### ➤ Political

- During the **Korean War (1950- 53)**, India has played a major role in cease-fire agreement signed between both the warring sides and the ceasefire was declared on 27 July 1953.
- Relations between India and South Korea were **raised to the level of Strategic Partnership in January 2010**.
- In May 2015, the bilateral relationship was upgraded to **'special strategic partnership'**.

### ➤ Economic

- India and South Korea have signed the **Comprehensive Economic Partnership Agreement (CEPA), 2010** which has facilitated the growth of trade relations.
- To facilitate investment from Korea, **India has launched "Korea Plus"** facilitation cell under **'Invest India'** to guide, assist and handhold investors.

### ➤ Cultural

- **Korean Buddhist Monk Hyecho (704–787 CE)** or **Hong Jiao** visited India from 723 to 729 AD and wrote travelogue **"Pilgrimage to the five kingdoms of India"** which gives a vivid account of Indian culture, politics & society.
- **Nobel Laureate Rabindranath Tagore** has composed a short but evocative poem – **'Lamp of the East' - in 1929** about Korea's glorious past and its promising bright future.

## 7<sup>th</sup> Regional Comprehensive Economic Partnership (RCEP) Ministerial Meeting

Recently, the **7<sup>th</sup> Regional Comprehensive Economic Partnership (RCEP) Ministerial meeting** was held in Bangkok to review developments in the RCEP negotiations.

- RCEP is a **proposed Free Trade Agreement (FTA)** between **ten ASEAN members states** and **their six FTA partners** namely India, Australia, China, Japan, New Zealand and South Korea.
- It can boost India's inward and outward foreign direct investment, particularly export-oriented FDI.
- It presents a decisive platform for India which could enhance strategic and economic status in the Asia-Pacific region and can **complement its Act East Policy**.

## Association of South-East Nations (ASEAN)

- The Association of Southeast Asian Nations is a regional organization which was established to promote political and social stability amid rising tensions among the Asia-Pacific's post-colonial states.
- The motto of ASEAN is **"One Vision, One Identity, One Community"**.
- **8<sup>th</sup> August** is observed as ASEAN Day.
- ASEAN Secretariat is at **Indonesia, Jakarta**.
- Member Nations includes: Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar, Cambodia.
- It can augment India's existing free trade agreements with the **Association of South-East Asian Nations (ASEAN)**.
- Once implemented, it would result in one of the largest free trade bloc accounting for **45% of the world's population**, and a **combined GDP would be 40% of the world trade**.

## US-China Move to WTO

Recently, China has lodged a complaint at the **World Trade Organization (WTO)** over raised import duties by the US.

- China claims that the US duties are inconsistent with the **WTO's General Agreement on Tariffs and Trade (GATT) 1994** as they are applied solely to products of Chinese origin and exceed the United States' bound duty rates.
- The US move is to retaliate against China for widespread theft of American **Intellectual Property (IP)**.
- This has further escalated the **trade war** ongoing between the two.
  - A trade war happens when one country retaliates against another by raising import tariffs or placing other restrictions on the opposing country's imports.

## Motihari-Amlekhgunj Pipeline

Recently, the Prime Ministers of India and Nepal have jointly inaugurated a **cross-border petroleum products pipeline**.

- Pipeline carries petroleum products from **Motihari in India** to **Amlekhgunj in Nepal**.

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- This is **South Asia's first cross-border petroleum products pipeline**.
- It is **69 km** long having a capacity of 2 million metric ton per annum, will provide cleaner petroleum products at affordable cost to the people of Nepal.

## World Trade Organization

- The World Trade Organization (WTO) is the only global international organization **dealing with the rules of trade** between nations.

- It deals with three broad principles:
  - **The General Agreement on Tariffs and Trade (GATT):** It deals exclusively with trade in goods, and aims to promote international trade by reducing or eliminating trade barriers such as tariffs or quotas.
  - **The General Agreement on Trade in Services (GATS):** It applies in principle to all service sectors, with two exceptions.
    - Two exceptions are services in the exercise of governmental authority and air traffic rights.
  - **The Trade-Related Aspects of Intellectual Property Rights (TRIPS):** It contains rules for **trade in ideas and creativity**. The rules state how copyrights, patents, trademarks, geographical names used to identify products, industrial designs and undisclosed information such as trade secrets – “intellectual property” – should be protected when trade is involved.
    - TRIPS does not explicitly address the sort of direct IP theft.
- It has its **headquarters in Geneva, Switzerland**.

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Note:



# Science and Technology

## Highlights

- ISRO Loses Connection with Vikram Lander
- Asteroid Impact Deflection Assessment (AIDA)
- K2-18b: Potentially Habitable Planet
- WHO Regional Committee for South-East Asia
- Global Fund for AIDS, TB and Malaria
- Controlling Hepatitis B
- Avian Influenza
- Bombay Blood Group
- Hydrogels with Tunable Bactericidal Activities
- Mobile Science Exhibition

## ISRO Loses Connection with Vikram Lander

India's attempt to create history by becoming the first nation to land close to the south pole of the Moon turned to despair after **Chandrayaan 2's lander 'Vikram' lost communication**, with the base station.

- The Chandrayaan-2 approached the Moon as normal until an error occurred about 2.1km (1.3 miles) from the surface, seconds before the ship was expected to land.
- The descent hoped to reduce its speed from 6048 km per hour to about 7 km per hour or lower to enable a soft landing.
- India would have been **the fourth nation to make a soft landing** on the Moon if Chandrayaan-2 mission had gone successfully.
- However, according to the **Indian Space Research Organisation (ISRO)**, only 5% of the mission has **been lost (Vikram the lander and Pragyan the rover)**, as Chandrayaan-2 orbiter - is orbiting the moon successfully.
  - The mission life of the Orbiter is one year.
  - The Orbiter is meant to map the **lunar terrain**, **examine the intensity of solar radiation and the presence of major elements such as Magnesium, Aluminium, Silicon, Calcium, Titanium, Iron, and Sodium etc.**
  - It will also conduct a quantitative estimation of water-ice in the polar regions of the Moon.

### Chandrayaan-2

- **Chandrayaan-2** is an integrated 3-in-1 spacecraft comprising of an **Orbiter of the Moon; Vikram-the**

**lander and Pragyan-the rover**, all equipped with scientific instruments to study the moon.

- India launched Chandrayaan-2, its second lunar exploration mission after Chandrayaan-1 from Satish Dhawan Space Centre, Sriharikota on 22 July 2019.
- Chandrayaan-2 was ISRO's first attempt to land on any extraterrestrial surface.
- The project began in 2007 with an agreement between India's space agency ISRO and Russia's ROSCOSMOS for mutual cooperation.
- Later, after Russia's withdrawal, India decided to develop the lunar mission independently.
- The Chandrayaan-2 mission is a precursor to other ambitious missions like:
  - The **Gaganyaan project**, which aims to place three Indians in space by 2022,
  - Interplanetary probes and a **solar spacecraft mission (Aditya-L1)**,
  - **Permanent space station** in line with the **International Space Station (ISS)**.

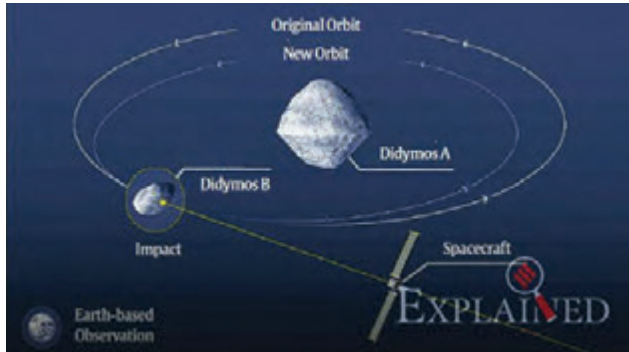
## Asteroid Impact Deflection Assessment (AIDA)

The Asteroid Impact and Deflection Assessment (AIDA) mission is the proposed experiment (by 2022) to **demonstrate asteroid impact hazard mitigation by using a kinetic impactor to deflect an asteroid.**

- The progress of Asteroid Impact Deflection Assessment (AIDA) is being discussed to **establish a planetary defence mechanism against huge asteroid** which may eventually cause the extinction of life on Earth.

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- In general, there are **two different ways** of planetary defence against an asteroid:
  - Blowing up the asteroid before it reaches Earth,
  - Deflecting it off its Earth-bound course by hitting it with a spacecraft.
- AIDA seeks to explore the **defence mechanism through deflection**.



- It is a **joint mission** of **NASA** and the **European Space Agency (ESA)**.
- It is an ambitious double-spacecraft mission to deflect an asteroid in space.
- It targets to deflect the smaller of two bodies in the **“double Didymos asteroids”** which are in orbit between **Earth and Mars**.
- **Didymos** is a near-Earth asteroid system.
- NASA has developed the **Double Asteroid Impact Test (DART)** to deflect asteroids. By 2022, DART will crash into the asteroid moon.
- European Space Agency (ESA) will be developing **Hera** which is a **pair of CubeSats for close-up asteroid surveys**. Hera will arrive about three years later, to characterise the consequences of DART’s kinetic impact.
- An Italian-made miniature CubeSat, called **LICIACube**, will record the moment of impact.

#### CubeSats

- CubeSats are a class of research spacecraft called **nanosatellites**.
- CubeSats are built to standard dimensions (Units or “U”) of 10 cm × 10 cm × 10 cm.
- They can be 1U, 2U, 3U, or 6U in size, and typically weigh less than 1.33 kg (3 lbs) per U.

#### Double Asteroid Impact Test (DART)

- DART is a planetary defense-driven test of technologies for preventing an impact of Earth by a hazardous asteroid.

- It will be the first demonstration of the kinetic impactor technique to change the motion of an asteroid in space.
- It is being developed by NASA.

## K2-18b: Potentially Habitable Planet

Scientists have found signatures of **water vapour** in the **atmosphere** of K2-18b.

- K2-18b is the only planet orbiting a star outside the Solar System (**exoplanet**) that is known **to have both water and temperatures that could support life**.
- However, K2-18b’s size and surface gravity are **much larger than Earth’s**. Its radiation environment, too, maybe hostile.
- K2-18b orbits the cool dwarf star K2-18, which is about **110 light-years from Earth** in the **Leo constellation**.
- It is **eight times the mass of Earth**. It was discovered in 2015 by NASA’s **Kepler spacecraft**.
- It resides in a habitable zone or **Goldilocks zone**, the **area around a star where it is not too hot and not too cold for liquid water to exist on the surface of surrounding planets**.
  - The size of the habitable zone clearly depends on the **luminosity of the star**, which determines the **equilibrium temperature** of the planet.
  - For low-mass, cool stars, the region is closer to the star, and for higher mass, hotter stars, the region is more distant from the star.

## WHO Regional Committee for South-East Asia

Recently, 72<sup>nd</sup> meeting for **World Health Organisation (WHO) Regional Committee for South-East Asia** held in New Delhi.

- The member countries have resolved **to eliminate highly infectious diseases Measles and Rubella by 2023**.
- The member-countries resolved **to strengthen immunization systems** and also calls for ensuring a **highly sensitive laboratory supported case-based surveillance system**.
- Apart from the above initiatives, India has also **pledged to contribute \$2,00,000 towards the implementation**

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**of the preparedness stream under the South-East Asia Health Emergency Response Fund (SEARHEF).**

- Under this initiative, Special surveillance is to be mounted for early detection and control of vector-borne and waterborne diseases.
- Following **observations about India** were noted during Conference:
  - India's disease burden is **shifting from communicable to non-communicable diseases** (such as diabetes, hypertension, and obesity).
  - The government is observing the **entire month of September as "Poshan Maah"** (Nutrition Month) to sensitize the public towards healthy eating,
    - It intends **to address the twin issues of malnutrition and the problem of obesity** in some sections of the population, and intensifying the campaign towards a '**Malnutrition-Free India**'.
  - To curb a vicious cycle of diseases and malnutrition the Food Safety and Standards Authority of India (FSSAI) has adopted a "**Food Systems approach**" to ensure our citizens have access to safe and healthy food.
  - Citizens are being sensitized through a people's movement called '**Eat Right India**' to cut down on salt, sugar and oil consumption by 30% in three years.
  - Recently, the Prime Minister of India launched the '**Fit India Movement**' to fight lifestyle diseases like hypertension, obesity, and diabetes effectively.
  - **Ayushman Bharat** has been launched to pave the way to Universal Health Care.
  - India also plans to increase full immunization coverage to 90% people through intensification of campaigns under **Mission Indradhanush**.

#### Measles

- It is a highly contagious **viral** disease and is a cause of death among young children globally.
- It attacks malnourished children and those with reduced immunity.
- It can cause blindness, encephalitis, severe diarrhea, ear infection, and pneumonia.

#### Rubella

- It is also called German Measles.
- Rubella is a contagious, generally mild **viral** infection that occurs most often in children and young adults.

- Congenital Rubella Syndrome (CRS) causes irreversible birth defects.

#### WHO's Regional Committee for South-East Asia

- The Regional Committee for South-East Asia is the **World Health Organization's** governing body in the South-East Asia Region, with representatives from all **11 Member States** of the Region.
- It meets **every year** to review progress in health development in the Region.
- It formulates resolutions on health issues for the Member States, as well as considers the regional implications of World Health Assembly resolutions.
- The Member Countries are: Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, Timor-Leste.

#### Mission Indradhanush

- It aims to give maximum protection to the children against Vaccine-Preventable Diseases (VPDs) which covers more than 89 lakh children who are either unvaccinated or partially vaccinated under UIP.
- It targets children **under 2 years of age and pregnant women for immunization**.
- The Intensified Mission Indradhanush (IMI) has been launched by the government of India in 2017 to reach each and every child who has been left uncovered under the routine immunization programme.

## Global Fund for AIDS, TB and Malaria

India has recently announced a **contribution of \$22 million** to the **Global Fund for AIDS, TB and Malaria (GFTAM)**.

- The Global Fund to fight AIDS, Tuberculosis, and Malaria was created to raise, manage and invest the world's money in **eliminating** three of the deadliest infectious diseases the world has ever known.
- India shares a **sustained partnership** with the Global Fund since its formation, **both as a recipient and as a donor**.

#### Global Funds

- Global Fund (with a total investment of \$2 billion) was created in **2002** to pool the world's resources & invest

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them strategically in programs to **end Tuberculosis (TB), Acquired Immuno-Deficiency Syndrome (AIDS) and Malaria as epidemics.**

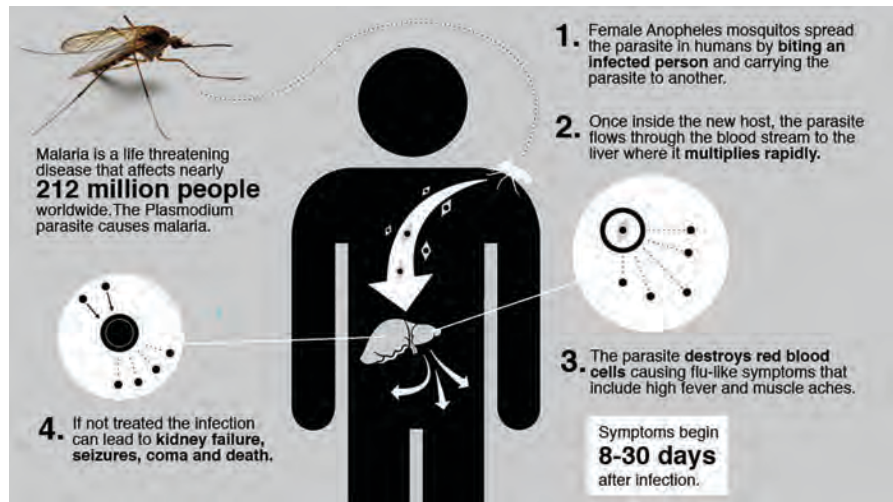
- It is a partnership of governments, civil society, technical agencies, the private sector and people affected by the diseases.

### Tuberculosis (TB)

- Tuberculosis (TB) is caused by **bacteria** (Mycobacterium tuberculosis) that most often affects the lungs. Tuberculosis is **curable and preventable.**
- TB is spread from person to person through the air.
- About **one-third of the world's population** has latent TB, which means people have been infected by TB bacteria but are not (yet) ill with the disease and cannot transmit the disease.
- **World TB Day is observed on 24 March** to earmark the discovery of Mycobacterium tuberculosis, a bacterium due to which TB is caused, by German microbiologist Dr. Robert Koch in 1882.
- The Universal Immunization Programme (UIP) launched by the Government of India in 1985 includes vaccination for 12 diseases including TB.

### Human Immuno-Deficiency Virus, Acquired Immuno-Deficiency Syndrome (HIV-AIDS)

- HIV is a type of **virus** called a **retrovirus**, and the combination of drugs used to treat it is called **Antiretroviral Therapy (ART).**
- HIV attacks CD4, a type of White Blood Cell (T cells) in the body's immune system.
  - T cells are those cells that move around the body detecting anomalies and infections in cells.
- With **neither a vaccine nor a cure** in sight, Antiretroviral Therapy (ART) is the only option available for people living with HIV-AIDS.
- **World AIDS Day** is observed on **1<sup>st</sup> December.**
- **"Mission Sampark"** was launched in **2017** to restart the AntiRetroViral Treatment (ART) of people living with HIV.
- **'Project Sunrise'** was launched in 2016 to tackle the rising HIV prevalence in north-eastern states, especially among people injecting drugs.



### Malaria

- Malaria is caused by **Plasmodium parasites.**
- The parasites are spread to people through the bites of infected **female Anopheles mosquitoes**, called "malaria vectors"
- **World Malaria Day** is observed on the **25<sup>th</sup> of April.**
- The vaccine named **"Mosquirix"** has been released against Malaria but it is not yet registered in India.
- The recent **Lancet Report on Malaria** states that since 2000, **global malaria incidence and death rates declined by 36% and 60% respectively.**
- Today, **more than half of the world's countries are malaria-free.**
- However, malaria cases are rising in **55 countries in Africa, Asia and Latin America.**
- It can be noted that for **only four diseases viz. HIV-AIDS, TB, Malaria, and Hepatitis (28 July),** the World Health Organization (WHO) officially endorses disease-specific global awareness days.

### Controlling Hepatitis B

Recently, Bangladesh, Bhutan, Nepal and Thailand became the first four countries in the **Southeast Asia region** to have successfully controlled Hepatitis B.

- When the disease prevalence is reduced to less than 1% among children less than five years of age the Hepatitis B virus is said to be controlled.
- Hepatitis B infection at a young age turns chronic, causing over 1,00,000 premature deaths annually from liver cirrhosis or liver cancer.

Note:



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- Despite the introduction of hepatitis B vaccine in the **Universal Immunisation Programme** in 2002 and scaling-up nationwide in 2011, about one million people in India become chronically infected with the virus every year.
- High prevalence among children aged less than five years has not dropped below 1% due to suboptimal coverage of birth dose in all infants within 24 hours of birth.
- Hepatitis B birth dose, given in the first 24 hours, helps to prevent vertical transmission from mother to child.
- Nearly, 70-90% newborns infected and 20-30% carriers are the result of vertical transmission of Hepatitis B, in India.
- Although the Health Ministry has approved the birth dose in 2008, its coverage remained low — 45% in 2015 and 60% in 2016 — according to a 2019 Health Ministry report.
- Reasons for the low coverage are:
  - The fear of wastage of vaccine when a 10-dose vial is used. This was because of unawareness of health-care workers about WHO recommendation that allows Hepatitis B Open-Vial Policy.
  - The policy states that vaccine can be kept for a maximum duration of 28 days for use in other children if the vaccine meets certain conditions.

#### Hepatitis B

- It is a viral infection that attacks the liver and can cause both acute and chronic disease.
- The virus is most commonly transmitted from mother to child during birth and delivery, as well as through contact with blood or other body fluids.
- It is the primary cause of liver cancer.
- Hepatitis B can be prevented by vaccines that are safe, available and effective.
- Every year, World Hepatitis Day is celebrated on the 28<sup>th</sup> of July.
- It is among the four diseases apart from HIV-AIDS, TB, Malaria for which, the **WHO** officially endorses disease-specific global awareness days.

## Avian Influenza

With effect from 3<sup>rd</sup> September 2019, India has been **declared free from Avian Influenza (H5N1)**, which has also been **notified to the World Organization for Animal Health (OIE)**.

- The declaration is a result of measures taken to control the recent outbreak of the disease at several places in Jharkhand, Bihar and Odisha and hence, there is no presence of the **Highly Pathogenic Avian Influenza (HPAI) Virus**.
- The status **will last only till another outbreak is reported**. India was **last declared free of the disease in 2017**.
- This declaration is important not just from the poultry industry standpoint, but also because humans can come in contact with disease from animals. Though the pathogen is **not capable of sustained human-to-human transmission**.

#### About Avian Influenza

- Avian influenza (AI) is a highly contagious viral disease affecting several species of food-producing birds (chickens, turkeys, quails, guinea fowl, etc.), as well as pet birds and wild birds.
  - Occasionally mammals, including humans, may contract avian influenza.
- Influenza A viruses are **classified into subtypes based on two surface proteins, Hemagglutinin (HA) and Neuraminidase (NA)**. For example, a virus that has an HA 7 protein and NA 9 protein is designated as subtype H7N9.
  - Avian influenza virus subtypes include A (H5N1), A (H7N9), and A (H9N2).
  - HPAI A (H5N1) virus occurs mainly in birds and is highly contagious among them. HPAI Asian **H5N1** is especially deadly for poultry.
- Avian Influenza outbreaks can lead to devastating consequences for the country, particularly the poultry industry.
  - Farmers might experience a high level of mortality in their flocks, with rates often around 50%.
- **Prevention:** Strict biosecurity measures and good hygiene are essential in protecting against disease outbreaks.

#### World Organization for Animal Health

- The OIE is an intergovernmental organisation responsible for improving animal health worldwide.
- It is recognised as a **reference organisation by the World Trade Organization (WTO)**.
- In 2018, it had a total of 182 Member Countries.
- It is headquartered in **Paris, France**.

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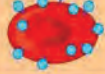

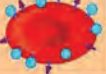
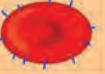


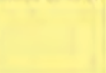

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- **Eradication:** If the infection is detected in animals, a policy of culling infected and contact animals is normally used in an effort to rapidly contain, control and eradicate the disease.

## Bombay Blood Group

Under the **ABO blood group system**, blood group are classified into **four common** blood groups i.e. **A, B, AB and O**.

- Each **red blood cell has antigen** over its surface, which helps determine which group it belongs to.
- The Bombay blood group (also called **hh**), is **deficient** in expressing **antigen H**.
  - It means the RBC of hh blood group has no antigen H.
  - Often the hh blood group is confused with the O group. **The difference is that the O group has Antigen H, while the hh group does not.**
  - The rare Bombay blood group was **first discovered in Mumbai** (then Bombay) in 1952 by Dr. YM Bhende.
- Globally, the hh blood type has an incidence of one in four million. However, this blood type is **more common in South Asia** than anywhere else because of **inbreeding and close community marriages**.
  - In India, one person in 7,600 to 10,000 is born with this type.
- Due to the rarity of hh blood type, patients **face problems** during a blood transfusion, often leading to death due to non-availability of hh blood.
  - The individuals with Bombay blood group can only be transfused blood from individuals of Bombay hh phenotype which is very rare.
  - In contrast, hh blood group can donate their blood to ABO blood types.

	Type A	Type B	Type AB	Type O
Antigen (on RBC)	Antigen A 	Antigen B 	Antigens A + B 	Neither A or B 
Antibody (in plasma)	Anti-B Antibody 	Anti-A Antibody 	Neither Antibody 	Both Antibodies 
Blood Donors	Cannot have B or AB blood Can have A or O blood	Cannot have A or AB blood Can have B or O blood	Can have any type of blood Is the universal recipient	Can only have O blood Is the universal donor

- This group is generally **not stored in blood banks**, mainly because it is rare and the **shelf life of blood is 35-42 days**.

## Hydrogels with Tunable Bactericidal Activities

Recently, researchers at the Indian Association for the Cultivation of Science (IACS), Kolkata has fabricated Hydrogels which can be tuned with different bacteria-killing properties.

- These hydrogels were fabricated when the naturally occurring nucleoside molecule cytidine was self-assemble into a hydrogel in the presence of silver acetate and phenylboronic acid.
  - This hydrogel was found to exhibit antibacterial activity against Gram-negative bacterial strains such as E.coli.
- **Silver Acetate**
  - Silver is known to have antibacterial property but it may not be used due to its toxicity.
  - However, when silver acetate was incorporated in the hydrogel the toxicity was reduced and thus suitable for treating bacterial infections.
  - The hydrogel with the presence of silver reduces the cell size of the E.coli and disrupts its cell membrane, leading to leakage of cellular contents.
  - The hydrogel containing silver acetate was found to be non-toxic to normal kidney epithelial cells and red blood cells.
- **Boronic Acid**
  - By changing the Boronic Acid component in Hydrogel, a large number of hydrogels with different bacteria-killing properties can be created.

### Unique Physical Properties of the Hydrogel

- **Thixotropic property**
  - It is an ability to change a gel to a sol phase when subjected to mechanical shaking or stirring. When allowed to stand, it returns to its original gel phase.
  - The property of certain gels or fluids that are thick or viscous under static conditions and becomes fluid (become thin, less viscous) over time when shaken, agitated, sheared or otherwise stressed is termed as Thixotropy. E.g. Paint, the fluidity vanishes quickly and the surface sets permanent as water (or oil) evaporates.

Note:

**Sol**

- Sol is a colloid (aggregate of very fine particles dispersed in a continuous medium) in which the particles are solid and the dispersion medium is fluid.
- If the dispersion medium is water, the colloid may be called a hydrosol and if air, an aerosol.
- They do not settle or separate over time
- They display the Tyndall effect.
  - Tyndall effect is a phenomenon of scattering of a beam of light by a medium containing small suspended particles – e.g., smoke or dust in a room, which makes visible a light beam entering a window.
  - This effect is exhibited by all colloidal solutions and some very fine suspensions. Therefore, it can be used to verify if a given solution is a colloid.
- **pH-Responsive**
  - The hydrogel is stable between pH 3 and 6, whereas it becomes unstable at more acidic or alkaline pH.
  - The low pH helps to increase intrinsic antibacterial activities as well as changing the pH would act as an external stimulus for drug delivery through hydrogels.

**Uses of Hydrogel**

- It can be used for drug delivery applications.
- Intrinsic antibacterial activities.
- Cancer drug chemotherapy

**Indian Association for the Cultivation of Science (IACS)**

- Indian Association for the Cultivation of Science (IACS) is the oldest institute in India devoted for research in frontier areas of basic sciences.
- It was founded in 1876.
- It is here that Professor C V Raman discovered the celebrated Raman Effect for which he was awarded the Nobel Prize in Physics in 1930.
  - The Raman Effect is a change in the wavelength of light that occurs when a light beam is deflected by molecules.

**E.Coli Bacteria**

- It is a **Gram-negative**, anaerobic, rod-shaped bacteria.
- It is commonly found in the lower intestine of warm-blooded organisms.
- Most E. coli strains are harmless, but some can cause serious food poisoning in their hosts.

**Mobile Science Exhibition**

Recently, the **first-ever** Mobile Science Exhibition (Science Explorer) for the Ladakh region was launched by the **Ministry of Culture** in Leh.

- Apart from this, 25 new Mobile Science Exhibition buses for **Aspirational Districts** of India were also launched.

**Mobile Science Exhibitions**

- Mobile Science Exhibitions (MSE) are basically **science exhibitions on buses** based on various themes of science and technology.
- It is an attempt at the National Council of Science Museums (NCSM) **to communicate science in rural and remote areas**.
- Its vision says '**If the people cannot visit the museum, let the museum visit the people at their doorsteps**'.
- It covers various topics like Food & Health, Chemistry & Life with a focus on Water, Energy, Hygiene & Sanitation, Space Science for Human Welfare, etc.
- MSE is the largest and longest-running outreach programme of NCSM.
- The **First MSE** was launched by Birla Industrial and Technological Museum (BITM), Kolkata in the year **1965**.

**Aspirational Districts Programme**

- It was launched in 2018, with an objective to quickly and effectively transform some of the most underdeveloped districts of the country.
- 117 districts have been identified until now, at least one from each state except Goa.
- Each district is assigned a **Prabhari (in-charge) officer from the Centre** (of the additional secretary or joint secretary rank); a **Prabhari officer from the State** (of the rank of Secretary to State government) who will work in cooperation with the district administration.

**National Council of Science Museums (NCSM)**

- In 1978, the National Council of Science Museums (NCSM) was established as a central coordinating agency for national science museums.
- NCSM, an **autonomous** Science & Technology institution under the **Ministry of Culture jointly with the Department of Science & Technology (DST)**.



Note:

# Environment and Ecology

## Highlights

- UN Convention to Combat Desertification: COP 14
- Equatorial Indian Ocean Monsoon Oscillation (EQUINOO)
- Indoor Air Pollution
- Hurricane Dorian
- Augmenting Nature by Green Affordable New-habitat (ANGAN)
- National Conference on Crop Residue Management
- Single-Use Plastics Ban
- Nilgiri Tahr
- Svalbard: Fastest Warming Town on the Earth

## UN Convention to Combat Desertification: COP 14

The 14<sup>th</sup> edition of the Conference of Parties (COP-14) to the UN Convention to Combat Desertification (UNCCD) ended on 13<sup>th</sup> September 2019.

- It was held in **Greater Noida, (NCR)** and was the **first time that India hosted** an edition of the UNCCD COP.
- The theme of the Conference was **'Restore land, Sustain future'**.
- India being the global host for COP 14 has **taken over the COP Presidency from China** for the next two years **till 2021**.
- India is among the **select few countries** to have hosted the COP of **all three Rio conventions** on climate change, biodiversity and land.
  - The **1992 Rio Earth Summit** gave rise to the **three Rio Conventions**:
    - The Convention on **Biological Diversity (CBD)**,
    - The United Nations Framework Convention on **Climate Change (UNFCCC)**, and
    - The United Nations Convention to **Combat Desertification (UNCCD)**.

### Desertification

- It is the **degradation of land in arid, semi-arid and dry sub-humid areas**. It is caused primarily by human activities and climatic variations.
- Desertification **does not refer to the expansion of existing deserts**.

- It occurs because dryland ecosystems, which cover over one-third of the world's land area, are extremely vulnerable to overexploitation and inappropriate land use.
- The **World Day to Combat Desertification and Drought** is observed every year on **17<sup>th</sup> June** to promote public awareness of international efforts to combat desertification.

### Bonn challenge

- The Bonn Challenge is a global effort to bring 150 million hectares of the world's **deforested and degraded land into restoration** by 2020, and 350 million hectares by 2030.
- At the **UNFCCC Conference of the Parties (COP) 2015 in Paris**, India also joined the voluntary Bonn Challenge pledge to bring into restoration 13 million hectares of degraded and deforested land by the year 2020, an additional 8 million hectares by 2030.

### Key Takeaways

- **Delhi Declaration:** Commitment for a range of issues, including gender and health, ecosystem restoration, taking action on climate change, private sector engagement, **Peace Forest Initiative** and recovery of five million hectares of degraded land in India.
  - The country parties have agreed to make the Sustainable Development Goal target of achieving **land degradation neutrality by 2030**, a national target for action.
  - **Peace Forest Initiative:** It is an initiative of **South Korea** to use ecological restoration as a peace-building process. It aims at addressing the issue of land degradation in conflict-torn border areas

Note:



and would go a long way in alleviating tensions and building trust between communities living there and between enemy countries in particular.

- **Drought Toolbox:** It is launched as a one-stop-shop for all actions on drought. It is a sort of knowledge bank which contains tools that strengthen the ability of countries to anticipate and prepare for drought effectively and mitigate their impacts as well as tools that enable communities to anticipate and find the land management tools that help them to build resilience to drought.
- **International coalition for action on Sand and Dust storms (SDS):** The coalition will develop an SDS source base map with the goal of improving monitoring and response to these storms. SDS affects approximately 77% of UNCCD country parties or approximately 151 countries.
- **The initiative of Sustainability, Stability and Security (3S):** Launched by 14 African countries to address migration driven by land degradation. It aims at restoring land and creating green jobs for migrants and vulnerable groups.
- **Cooperation From Youth:** The Global Youth Caucus on Desertification and Land convened its first official gathering in conjunction with the UNCCD COP14 to bring together youth advocates from different parts of the world, to build their capacity, share knowledge, build networks and to engage them meaningfully in the UNCCD processes.

### High-Level Segment Meeting of the COP14

- The **Prime Minister of India** inaugurated and addressed the high-level segment meeting of the COP-14.
  - India seeks to propose initiatives for greater **South-South cooperation** in addressing issues of climate change, biodiversity and land degradation.
  - India would raise its ambition of the **total area that would be restored** from its land degradation status, from twenty-one million hectares to twenty-six million hectares between now and 2030.
  - India has proposed to set up a global technical support institute for the member countries of the UNCCD for their capacity building and support regarding the **Land Degradation Neutrality Target Setting Program**.
  - India called upon the leadership of UNCCD to conceive a global water action agenda which is central to the Land Degradation Neutrality strategy.
  - India advocated on the need to **eradicate the menace of single-use plastic**.

### Wetland Restoration

On the **sidelines of the conference**, the Government of India has **also identified 130 wetlands for priority restoration** in the next five years and asked states to submit their respective integrated management plan.

- Each of these wetlands will be restored under a comprehensive scheme of the **National Plan for**

## Land in trouble

The decline in the productive capacity of land due to climatic factors and human intervention is land degradation. A look at important conclusions from the Desertification and Land Degradation Atlas of India, 2016, which was the latest survey done on the subject

**94.53**

*million hectares (mha)*  
Area of India undergoing the process of land degradation, as of 2003-05 – 28.76% of the total geographic area

**96.4**

*million hectares (mha)*  
Area of India undergoing the process of land degradation, as of 2011-13 – 29.32% of the total geographic area

**26 million hectares (mha)**

The number of hectares of degraded land which India now aims to rehabilitate by 2030, up from the previous commitment of 21 mn hectares



Note:

**Conservation of Aquatic Ecosystems (NPCA)** for conservation and restoration of wetlands and lakes.

- Apart from this, the government also proposed the concept of '**Wetland Health Card**' to be introduced to monitor the entire ecosystem based on multiple parameters.
- In order to increase community engagement, the government declared to form '**Wetland Mitras**' (the group of self-motivated individuals) for taking care of the identified wetlands across the country.

#### ➤ Importance of Wetlands

- The wetlands are actually land areas covered by water, either temporarily or permanently. Marsh, fen and peatland come under this category.
- They play a key role in the hydrological cycle and flood control, water supply and providing food, fibre and raw materials.
- They not only act as a source of water but also as ecosystems that prevent land degradation and desertification.
- Besides, such land areas also support lakhs of migratory birds from colder regions of the world in summers.
- Mangroves protect coastlines and filter pollutants, that's why wetlands are referred to as kidneys of the ecosystem.

#### ➤ Wetlands in India

- In 2011, ISRO came out with a national wetlands atlas on the basis of satellite images, mapping over two lakh wetlands covering around 4.63% of the total geographic area of India.

#### National Plan for Conservation of Aquatic Ecosystems (NPCA)

- NPCA is a single conservation programme for **both wetlands and lakes**.
- It is a **centrally sponsored scheme**, currently being implemented by the Union Ministry of Environment and Forests (MoEF).
  - It was formulated in 2015 by merging of the National Lake Conservation Plan and the National Wetlands Conservation Programme.
- NPCA seeks to promote better synergy and avoid overlap of administrative functions.

- India's prominent wetlands include Chilika lake areas (Odisha), Wular lake (J&K), Renuka (Himachal

Pradesh), Sambhar Lake (Rajasthan), Deepor Beel (Assam) etc.

- All these falls in the list of 27 wetlands of India under **Ramsar Convention**.

## Equatorial Indian Ocean Monsoon Oscillation (EQUINOO)

Recently, the Indian Institute of Sciences (IISc), Bengaluru has released a study about **Equatorial Indian Ocean Oscillation (EQUINOO)** and its effects over **Indian Summer Monsoon**.

- The **positive phase** of Equatorial Indian Ocean Oscillation (EQUINOO) is **favorable to the Indian summer monsoon**.

#### El Nino

- Under 'normal' conditions, the western tropical Pacific is warmer than its eastern basin. The warmer area of the ocean is also a source for convection and is associated with cloudiness and rainfall.
- During El Nino years, the warmth shifts to Central and East Tropical Pacific and along with it, cloudiness and rainfall.
- El Nino has been found to impact almost half the world triggering droughts in Australia, India, southern Africa and floods in Peru, Ecuador, the United States, the Gulf of Mexico, and the Colorado River basin.

#### Indian Ocean Dipole

- IOD refers to warming in the western Indian ocean. A positive Indian Ocean Dipole — where the western portions of the Indian Ocean are warmer than the east and thereby push rain-bearing clouds over India.

#### ENSO (El Nino Southern Oscillation)

- It refers to the oscillation between the El Nino and La Nina.
- ENSO shifts irregularly back and forth between El Nino and La Niña every two to seven years.
- Each phase triggers predictable disruptions of temperature, precipitation, and winds disrupting large-scale air movements in the tropics, triggering a cascade of global side effects.

Note:



## EQUINOO

- It is an oscillation between **enhanced cloud formation and rainfall over the Western Equatorial Indian Ocean (WEIO)** and **suppressed clouding over the Eastern Equatorial Indian Ocean (EEIO)**, west of Sumatra.
- **Positive EQUINOO Phase**
  - When the **surface sea temperature** in **WEIO** is above **27.5 degree Celsius** leading to enhanced clouding and **produces good rains over India**.

## Indoor Air Pollution

According to the **Centre for Science & Environment (CSE)**, the three-year average levels of **PM 2.5** atmospheric particulate matter (with a diameter less than 2.5 microns) during 2016-18 were 25% lower than the 2011-14 baseline (three-year average).

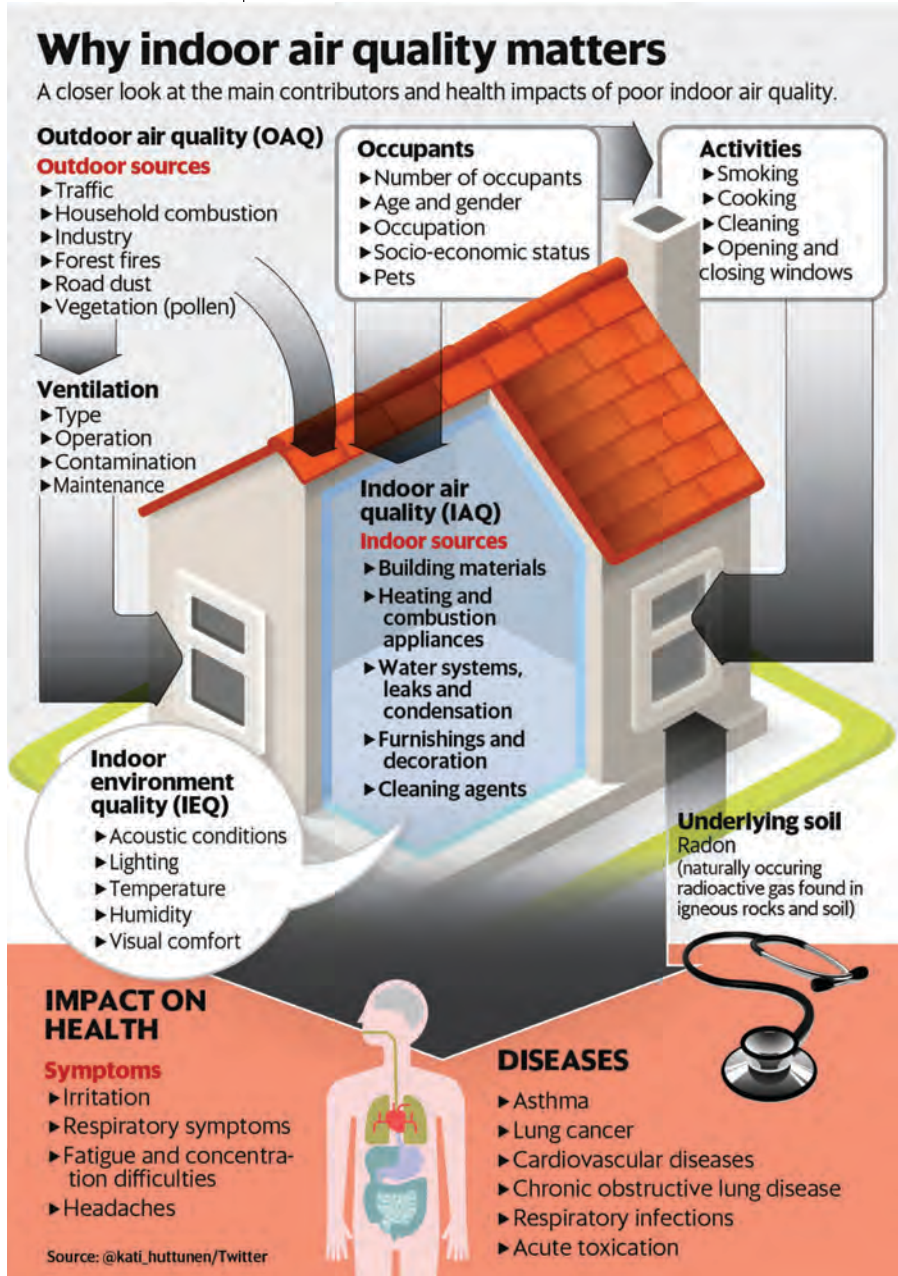
- Though the number of days with severe PM 2.5 levels have come down since 2015, Delhi still needs to cut pollution levels by 65% to meet global air quality standards.

### Indoor Pollution

- The environmental **air pollution** and indoor air pollution are inseparably linked, as people spend around 90% of their time staying indoors.
- According to the State of Global Air Report 2019, an estimated 846 million people in India were exposed to household air pollution in 2017, that forms around 60% of the country's population.
- In 2017, exposure to PM 2.5 was the third leading risk factor for type 2 diabetes-related deaths and disability.
- Gases and particles in the air can be divided into two categories: primary and secondary sources.
  - Primary gases and components are emitted directly

from sources that include the building itself, consumer products (e.g. personal care products, cleaning or cooking products, equipment and office products, off-gassing from items brought into the home), microbial and human metabolic emissions, and also the entry of outdoor air into the house through openings, ventilation systems or leaks.

- Secondary gases are produced through chemical reactions in the air. For e.g, cooking releases a large amount of VOCs (Volatile Organic Compounds), CO<sub>2</sub>



Note:

(Carbon Dioxide), NO<sub>x</sub> (Nitrogen Oxide) and other particles. VOCs and NO<sub>x</sub> react in the presence of sunlight to form ozone.

- The ground-level ozone not only has long-term effects on human health but is also a critical pollutant in smog.

### Related Findings

- Cooking, cleaning, and other routine household activities generate significant levels of volatile and particulate chemicals.
- The purpose of the experiment HOMEChem (House Observations of Microbial and Environmental Chemistry) conducted by The University of Texas was to identify the sources of chemical oxidants in the indoor environment, and how they were affected by human activities and changes in light conditions.
  - There are two main associated issues that were identified are:
    - First, the issue of solid fuel use in homes- a problem associated with rural households, and
    - Second, the issue of exposure related to cooking, smoking, use of incense and/or mosquito coils, consumer products, infiltration of outdoor air, etc. This has more relevance in urban households, offices and public spaces.

### Way Forward

- It is important to note that buildings in India often have natural ventilation and tend to be leaky. Special care is needed to fully seal the building.
- There is a big gap in the lack of a standard to measure indoor air pollution that needs to be resolved. In India, indoor air is as bad as outdoor air.
- Household air pollution needs to remain a focus for policy action, especially in Asia and Africa, where the use of solid fuel for residential cooking and heating is still very high.

## Hurricane Dorian

Hurricane Dorian became the strongest storm in modern records to hit the northwestern Bahamas (a country in the Caribbean Islands).

- It was an extremely powerful **tropical cyclone** with initial sustained winds of 285 km per hour.

- Initially categorised as a Category 5 storm on **Saffir-Simpson Hurricane Wind Scale (SSHWS)**, it was later downgraded to a Category 3 storm.
  - The Saffir-Simpson Hurricane Wind Scale is a 1 to 5 rating, based on a hurricane's sustained wind speed. It also estimates potential property damage.

### Tropical Cyclones

- Cyclone is a large system of winds that circulates about a **centre of low atmospheric pressure in a counterclockwise direction north** of the Equator and in a **clockwise direction to the south**. Depending on the location of formation, cyclones can be **Extratropical and Tropical**.
- Extratropical Cyclones are storm systems emerging in the **mid and high latitudes**, away from the tropics.
- Tropical Cyclones are violent storms that **originate over oceans in tropical areas**.
- **Conditions for the Formation:**
  - Large sea surface with temperature higher than 27°C
  - Presence of the Coriolis force
  - Small variations in the vertical wind speed
  - A pre-existing weak low-pressure area
  - Upper divergence above sea level system.
- **Characteristics:**
  - **Torrential rain and maximum sustained wind speeds** (near centre) exceeding 119 kilometers per hour.
  - **Eye:** A mature tropical cyclone is characterised by the strong spirally circulating wind around the centre, called the eye. The diameter of the circulating system can vary between 150 and 250 km. It is a region of calm with subsiding air.
- Different names in different regions
  - Cyclones - Indian Ocean
  - Hurricanes - Atlantic Ocean
  - Typhoons - Western Pacific and South China Sea
  - Willy-willies - Western Australia

## Augmenting Nature by Green Affordable New-habitat (ANGAN)

Recently, an international conference on Augmenting Nature by Green Affordable New-habitat (ANGAN) commenced in New Delhi.

Note:



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- The conference focuses primarily on **achieving Energy Efficiency in the building sector**.
- It is being **organized by the Bureau of Energy Efficiency (BEE), Ministry of Power** in collaboration with GIZ under the Indo German Technical Cooperation initiative.

### Key Highlights

- The conference **aims to identify economically viable alternatives and technologies** in the field of design and construction of **energy-efficient commercial and residential buildings**.
- It is estimated that an investment of Rs. 2000 billion in building energy efficiency activities would lead to a cumulative savings of 388 billion units of electricity for the next ten years.
- As buildings have become an important component of our integrated energy policy in India, consideration of energy efficient buildings have become need of the hour.
- Apart from energy savings, the emphasis will also be given to other resources like water and other materials that can be saved in the building sector.

#### Bureau of Energy Efficiency (BEE)

- It is a **statutory body** under the Ministry of Power.
- BEE assists in developing policies and strategies with the primary objective of reducing the energy inefficiency of the Indian economy.
- BEE launched the Energy Conservation Building Code (ECBC) in 2007 to set energy efficiency standards for the design and construction of buildings, as a first step towards promoting energy efficiency in the building sector.

## National Conference on Crop Residue Management

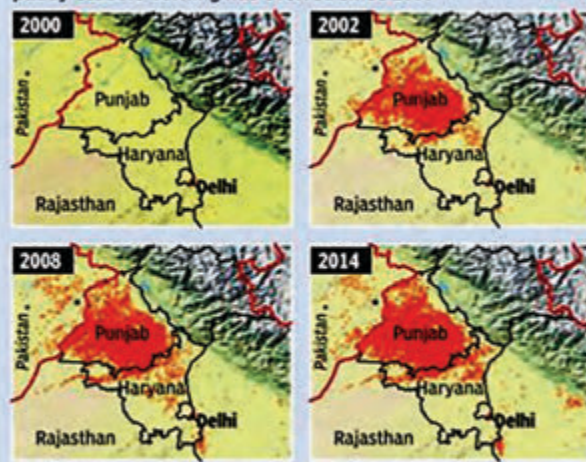
National Conference on Crop Residue Management was held **for the farmers from the states of Punjab, Haryana, Uttar Pradesh & Delhi**.

- The conference was **organized by the Ministry of Agriculture and Farmers Welfare in collaboration with Indian Council of Agricultural Research (ICAR)** in order to address concerns of farmers and State Governments.
- The **straw burning incidents** in 2018 have reduced **by 15% and 41% as compared to that in 2017 and 2016 respectively**.

- The conference has proposed to intensify **in-situ management of Crop Residue** to stop the straw burning.
- The multilingual **mobile app "Custom Hiring Centre (CHC) Farm Machinery"** has also been launched for the farmers.
- Custom Hiring Centre (CHC) Farm Machinery Mobile App: It will connect the farmers with Custom Hiring Service Centres in their area.

### A BURNING ISSUE

NASA satellite pictures reveal how the problem of paddy-stubble burning has evolved since 2000



➤ Each orange dot represents a 1sqkm area where significant fires were observed. Each map shows cumulative farm fires from Oct 1 to Nov 10

➤ As the maps reveal, stubble-burning wasn't widespread in 2000. But the problem had grown alarmingly by 2002 and continues to be a major health hazard

#### Indian Council of Agricultural Research (ICAR)

- It is an autonomous body responsible for coordinating agricultural education and research in India.
- It reports to the Department of Agricultural Research and Education, Ministry of Agriculture and Farmers Welfare.
- The Union Minister of Agriculture serves as its president.
- It is the largest network of agricultural research and education institutes in the world.

#### Stubble Burning Incidents

- Burning crop residue causes phenomenal **pollution problems in the atmosphere** and **huge nutritional loss and physical health deterioration to the soil**.
- These gases affect human health due to general degradation in air quality resulting in aggravation

Note:

of eye and skin diseases. Fine particles can also aggravate chronic heart and lung diseases.

#### In Situ Management of Crop Residue

- It is a **central sector scheme** launched in the states of Punjab, Haryana, Uttar Pradesh and National capital territory of Delhi for the **period from 2018-19 to 2019-20**.
- It has a clause for subsidizing the machinery required for in-situ management of crop residue.
- It includes the harvested crop stalks/stubbles are chopped into small pieces and incorporated in-situ into the soil with varying efficiencies depending upon the left over residue.

#### Customer Hiring Centre for Farm Machinery

- Government to launch a new mobile application, **"Uber for tractors"**, which will help in hiring of expensive agricultural equipment.
- Customer Hiring Centres (CHCs) will be connected with the help of this app, just like the Uber connects an individual with cabs.

## Single-Use Plastics Ban

The Union government has declared a **nationwide ban on single-use plastic** to free India of single-use plastics by **2022**.

- The ban will be comprehensive and will cover every sector from manufacturing to the usage and import of such items.
- The nodal **Ministry for the scheme is the Ministry of Environment, Forests and Climate Change (MoEF&CC)**.
- Single-use plastics, or disposable plastics, are **used only once** before they are thrown away or recycled.
- **Challenges faced by the ban on single-use products:**
  - **Petroleum-based plastic is not biodegradable.**
  - In the process of breaking down, it **releases toxic chemicals** that make their way into our food and water supply.

#### Note:

- **Extended Producer Responsibility**
  - A policy approach under which producers are given a significant responsibility financially and/or physically for the treatment or disposal of post-consumer products.

- On **World Environment Day, 2018** the world leaders vowed to **"Beat Plastic Pollution"** & to eliminate its use completely.
- **Plastic Waste Management Rules, 2016.**
  - According to these rules, the minimum thickness of plastic carry bags has been increased to 50 microns from 40 microns.
  - The existing law, limited to municipal districts earlier has been **extended to villages because plastic has found its way to the villages as well.**
  - By **prior-registration** of plastic manufacturers, suppliers and vendors, collection of plastic waste management has also begun.

#### KVIC's Initiative For Reducing Plastic

- **Khadi and Village Industries Commission (KVIC)** has started manufacturing of **plastic-mixed handmade paper**.
- It is being manufactured under the project **REPLAN (REducing PLastic in Nature)**.
- REPLAN aims to remove the existing waste plastic material from nature and use it in a semi-permanent manner, so that the availability of plastic in nature is reduced to a large extent.
- In this project, the waste plastic from nature is collected, de-structured and de-graded and then mixed with paper pulp in a ratio of 20:80.

#### Khadi and Village Industries Commission

- KVIC is a **statutory body** established under the Khadi and Village Industries Commission Act, 1956.
- The KVIC is charged with the planning, promotion, organisation and implementation of programmes for the development of Khadi and other village industries in the rural areas in coordination with other agencies engaged in rural development wherever necessary.
- It functions under the **Ministry of Micro, Small and Medium Enterprises**.

## Nilgiri Tahr

Recently, Nilgiri tahr's population has reported an **increase from 568 in 2018 to 612 in 2019** in the **Mukurthi National Park, Tamil Nadu**.

- The recent increase has favoured a healthy sex ratio i.e. slightly skewed in favour of female goats.

Note:



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- There has been almost **27% increase** in the population of the tahr in the Nilgiris over the last three years.
- **Factors responsible** for maintaining an increase in the population of Nilgiri Tahr are:
  - Keeping the **national park closed to tourists and free from poaching**.
  - Fighting the **spread of invasive flora**.

### Nilgiri Tahr

- Nilgiri Tahr is also known as **Nilgiri Ibex**.
- It has been listed as "**Endangered**" by IUCN.
- It has been listed under **Schedule 1 of the Wildlife (Protection) Act, 1972** which provides absolute protection and offences under these are prescribed the highest penalties
- The **adult males of Nilgiri Tahr** species develop a **light grey area or "saddle"** on their backs and are hence called "**Saddlebacks**".
- It is the **state animal of Tamil Nadu**.
- It is found in **open montane grassland** habitat of rain forests ecoregion.
- It is endemic to the Nilgiri Hills and the southern portion of the **Western Ghats** in
  - Tamil Nadu
  - Kerala
- Threats:
  - **Habitat loss** (mainly from domestic livestock and spread of invasive plants)
  - **Poaching**,
  - Populations of these animals are **small and isolated**, making them vulnerable to local extinction,
  - **Climate Change**: A recent study has predicted that most of the existing habitats of the Nilgiri Tahr in the Western Ghats will become unsuitable because of **global warming**.

### Western Ghats

- Western Ghats lie parallel to the western coast. They are **continuous** and can be crossed **through passes only**. E.g.: Thal, Bhor and the Pal Ghats.
- The Western Ghats are **higher** than the Eastern Ghats.
- The **Western Ghats cause orographic rain** by facing the rain bearing moist winds to rise along the western slopes of the Ghats.
- Several important rivers such as the **Tungabhadra, the Krishna, the Godavari** originates from the western ghats.
- The Western Ghats are known by different local names. E.g.: **Sahyadri**.
- The height of the Western Ghats **progressively increases from north to south**. The highest peaks include the Anai Mudi (2,695metres) and the Doda Betta (2,637 metres). Mahendragiri (1,501 metres) is the highest peak in the Eastern Ghats.

### Mukurthi National Park

- It is a protected area located in the northwest corner of Tamil Nadu in the Western Ghats.
- The park was created to protect its **keystone species, the Nilgiri Tahr**.
- The park is characterised by montane grasslands and shrublands interspersed with sholas in a high altitude area of high rainfall, near-freezing temperatures and high winds.
- It is also home to an array of endangered wildlife, including royal Bengal tiger and Asian elephant, but its main mammal attraction is the Nilgiri tahr.
- The park was previously known as Nilgiri Tahr National Park.
- It is part of **Nilgiri Biosphere Reserve** along with Mudumalai Wildlife Sanctuary, Bandipur National Park, Nagarhole National Park, Wayanad Wildlife Sanctuary and Silent Valley.

## Svalbard: Fastest Warming Town on the Earth

**Longyearbyen**, the de facto capital of the Svalbard (a Norwegian archipelago), is the **fastest warming place on the earth**.

Note:



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- One of the causes of faster warming is the **disruption of a system known as the 'jet stream'**.
  - High-level perennial wind systems known as jet streams exist in the upper layers of the atmosphere.
  - When they are disrupted, **high pressure blocking**

**systems are formed** in the lower strata of the atmosphere.

- When such systems are in place, they do not allow the regular weather systems to progress.
  - The formation of localised low-pressure systems or convections which are responsible for bringing down the temperature, becomes comparatively weak.
- One of the **possible reasons** for the disruption of a jet stream is **global warming especially in the Arctic region**.
  - Since 1979, the Arctic sea ice extent has declined by nearly 12% per decade.

**Note:**

- **Svalbard Global Seed Vault** is the world's **largest seed storage facility** situated at Norway.
- **India's Seed Vault** is located at **Chang La (Ladakh)**.

■■■

Note:



# Art & Culture

## Highlights

• Indus Valley Civilization's Independent Origin

• Lord Nataraja

## Indus Valley Civilization's Independent Origin

According to a study of DNA (DeoxyriboNucleic Acid) from skeletal remains excavated from the Harappan cemetery at Rakhigarhi (the biggest IVC site located in Haryana), the researchers found that the people in the **Indus Valley Civilization (IVC)** have an independent origin.

- The study **negates the theory of the Harappans having Steppe pastoral or ancient Iranian farmer ancestry**. As per the study, the DNA does not contain any genome from either the Steppe region or the ancient Iranian farmers.
- The finding also refuses the hypothesis about mass migration that happened during Harappan times from outside South Asia.
- According to the study, the genetic continuity from hunter-gatherer to modern times is clearly visible in the DNA results. The same hunter-gatherer communities developed into agricultural communities and formed the Harappan civilization.
- The researchers, therefore, concluded that farming in South Asia was not due to the movement of people from the farming cultures of the west to the Indian subcontinent, & people during IVC developed their own farming culture.

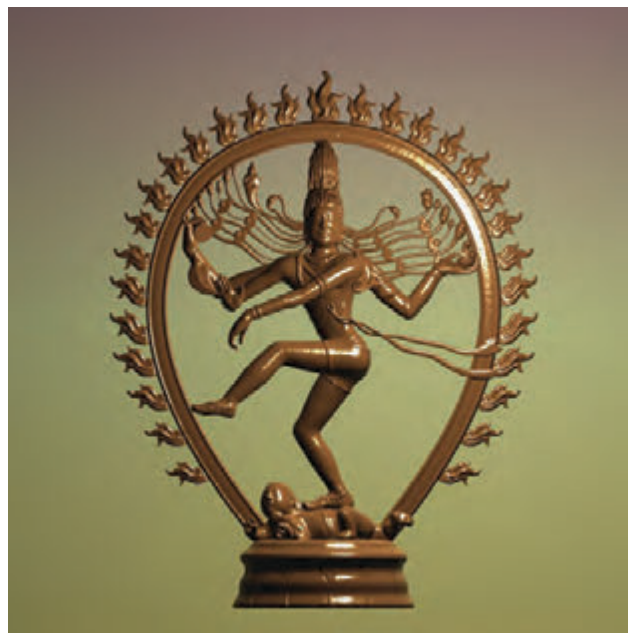
### Indus Valley Civilization

- It is popularly known as Harappan Civilization.
- It flourished around 2,500 BC, in the western part of South Asia, in contemporary Pakistan and Western India.
- The Indus Valley was home to the largest of the four ancient urban civilizations of Egypt, Mesopotamia, India, and China.
- In the 1920s, the Archaeological Department of India carried out excavations in the Indus valley wherein the ruins of the two old cities, viz. Mohenjodaro and Harappa were unearthed.

## Lord Nataraja

An antique **panchaloha**- an alloy of Gold (Au), Silver (Ag), Copper (Cu), Zinc (Zn) and Iron (Fe) idol of **Lord Nataraja**, stolen from a temple in southern Tamil Nadu and smuggled to Australia 37 years ago, has been brought back to India.

- **Nataraja (Lord of the Dance)**, the Hindu god Shiva in his form as the **cosmic dancer**, is represented in metal or stone in many Shaivite temples, particularly in South India.



- It is an important piece of Chola sculpture.
- Some of the **features of the Nataraja sculpture** are:
  - The upper **right-hand holds the drum**, which signifies the **sound of creation**. All creations spring from the great sound of the damru.
  - The upper **left-hand holds the eternal fire**, which represents the **destruction**. Destruction is the precursor and inevitable counterpart of creation.

Note:

- The **lower right hand** is raised in the gesture of **Abhay mudra** signifying benediction and reassuring the devotee to not be afraid.
  - The **lower left-hand** points towards the upraised foot and indicates the **path of salvation**.
  - Shiva is dancing on the figure of a small dwarf. The **dwarf symbolises ignorance and the ego of an individual**.
  - The matted and flowing locks of Shiva represent the flow of river Ganges.
- In ornamentation, one ear of **Shiva has a male earring while the other has female**. This represents the **fusion of male and female** and is often referred to as **Ardhanarishwar**.
  - A snake is twisted around the arm of Shiva. The **snake symbolises the kundalini power**, which resides in the human spine in the dormant stage. If aroused, one can attain true consciousness.
    - The Nataraja is surrounded by a **nimbus of glowing lights** which symbolises the vast unending **cycles of time**.



Note:

# Social Issues

## Highlights

- *Girls Drop Out of Higher Education*

### Girls Drop Out of Higher Education

A recent study titled '**Educating the Girl Child: Role of Incentivisation and other enablers and disablers**', done by CRY (Child Rights and You – a Non-Government Organization) has highlighted a few reasons behind **girls dropping out of higher secondary schools**.

- The study, across the four States of Andhra Pradesh, Bihar, Gujarat and Haryana, is based on 3,000 interviews in 1,604 households.

#### Reasons Behind Dropouts

- **Early Marriage.**
- Safe Environment.
- Predetermined gender roles:

- Not having a female teacher in school keeps some of the girls away from the school.
- Household chores discourage girls from going to school.
- Poor infrastructure i.e., Roads & Transport facilities.
- Menstruation.
- **High Cost of education and child labour.**
- People being **unaware** of government schemes such as **Beti Bachao, Beti Padhao.**

#### Suggestions

- An enabling environment, self-motivation or motivation by parents and community inspired the girls to go to school.
- People need to be made aware of different government schemes.



Note:



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# Security

## Highlights

- Exercise HimVijay
- Exercise MAITREE
- Samudra Laksamana
- Induction of Apache Helicopter

## Exercise HimVijay

The Army is scheduled to conduct a major Exercise 'HimVijay' in Arunachal Pradesh and Assam with its newly created Integrated Battle Groups (IBG).

- IBGs have been carved out of the 17 Mountain Strike Corps.
- The Indian Airforce (IAF) will also participate for airlifting of soldiers and equipment as well as inter-valley transfer.

### Integrated Battle Groups

- The Integrated Battle Groups are part of overall force transformation initiated by the Army.
- They are brigade-sized agile self-sufficient combat formations which can swiftly launch strikes against an adversary in case of hostilities.
- Each IBG is tailor-made based on three T's (Threat, Terrain and Task) and resources will be allotted based on the three T's. They are tailored to mobilise within 12-48 hrs based on their location.

### 17 Mountain Strike Corps

- The creation of the Corps was cleared by the Cabinet Committee of Security in 2013.
- These are formed to launch offensive operations against the northern adversary.
- These are based at Panagarh, West Bengal.

## Exercise MAITREE

Exercise MAITREE is an annual training event that is conducted in **India and Thailand** alternatively, since 2006.

- It aims to combat terrorism.
- In the backdrop of changing facets of global terrorism, this exercise is a significant for both the nations as they face the security challenges from terrorism.



- The Royal Thailand Navy and the Indian Navy have been participating in **Coordinated Patrols (CORPATs) in the Indian Ocean** region since 2005.

### Joint Military Exercises of India with Other Countries

Name of Exercise	Country
Garuda Shakti	Indonesia
Ekuverin	Maldives
Hand-in-Hand	China
Kurukshetra	Singapore
Mitra Shakti	Sri Lanka
Nomadic Elephant	Mongolia
Shakti	France
Surya Kiran	Nepal
Yudh Abhyas	USA

## Samudra Laksamana

The Indian Navy and the Royal Malaysian Navy will be participating in the bilateral exercise 'Samudra Laksamana'.

- From the Indian side, Indian Navy Ships **Sahyadri** and **Kiltan** will participate in the exercise.

Note:





#### INS Sahyadri and Kiltan

- INS Sahyadri is a Shivalik-class **multi-role guided missile stealth** frigate.
- INS Kiltan is a Kamorta-class **anti-submarine warfare** corvette.
- INS Sahyadri and Kiltan, are the latest, **indigenously designed** and built **multi-role ships** of the Indian Navy.

## Induction of Apache Helicopter

Recently, the Indian Air Force has formally inducted the **AH-64E Apache Attack Helicopter** into its inventory at Air Force Station Pathankot.



#### AH-64E Apache Attack Helicopter

- Better known as **attack helicopters** are received from the **Boeing** production facility in Mesa, Arizona, **USA**.
- Apache will **replace Russian origin MI-35** helicopters and a step towards modernisation of forces.
- These are **all-weather** capable, easily maintainable and have **high agility** and survivability against battle damage.
- The capabilities of the AH-64E Apache Attack Helicopter includes:
  - **Precision attacks.**
  - It can transmit and receive battlefield picture through **data uplinking and networking**.
  - It can also **shoot fire and forget** anti-tank guided missiles, air to air missiles, rockets.
  - It also carries a **fire control radar**, which has a **360° coverage** and **nose-mounted sensor** suite for target acquisition and night vision systems.



Note:

# Miscellaneous

## Highlights

- Time-Bank in Madhya Pradesh
- INTERPOL Notices
- Craniopagus Twins
- The Decline in Cotton Exports
- Iodized Salt Coverage in India
- Global Liveability Index
- Travel and Tourism Competitiveness Index
- India: 10th largest Gold Reserve in the World

## Time-Bank in Madhya Pradesh

Recently, the Madhya Pradesh government's Happiness department has planned to set up a TimeBank. TimeBank is a **reciprocal service exchange** which **uses units of time as a currency**.

- Time-Bank would lend currency in exchange for an hour.
- This earned hour could be used to learn a new skill, without the need to pay any paper money.

### The Underlying Idea

- The core value behind this idea is that we all are assets that are driven by reciprocity. Giving focused attention to each & every voice will help promote the equality and dignity of labour.
- It is a new way to link untapped social capacity to unmet social needs.
- Whenever a bank member needs a service or wants to acquire a skill, for e.g, gardening or playing the guitar, the member could exchange a credit worth an hour with another member knowing that particular skill.
- In the beginning, the 50,000 volunteers registered with the department through local networks will form community-level banks and list skills they could impart or services they could offer. This will help in building the trust factor as known individuals will interact with one another.
- Later, an experienced volunteer will induct new members and keep a record of all the transactions.
- It can be considered as a **modern barter system**.

### Background

- The idea of Timebank was conceived in 1827. But the concept gained popularity with the setting up of the **first Time Bank in Japan in 1973**.

- Later, the CEO of TimeBanks U.S.A popularized the idea of Time Dollars.
- Today, there are more than 500 such communities across 32 countries.
- It can also be noted that earlier in October 2018 a panel of **National Human Rights Commission (NHRC)** on disability and elderly persons had **recommended the "time bank" scheme** to take care of senior citizens who are living alone without any support from their family.
- Madhya Pradesh is the first state in the country that created the Happiness Department in 2016.

## INTERPOL Notices

The INTERPOL has issued a **Red Corner Notice (RCN)** against fugitive diamond merchant Nirav Modi's brother Nehal in connection with the multi-billion dollar Punjab National Bank (PNB) scam.

- INTERPOL Notices are international requests for cooperation or alerts **allowing police in member countries to share critical crime-related information**.
  - The International Criminal Police Organization (INTERPOL) is an intergovernmental organization that helps **coordinate the police force of 194 member countries**.
  - Each of the member countries hosts an **INTERPOL National Central Bureau (NCB)**. This connects their national law enforcement with other countries and with the General Secretariat.
    - The **Central Bureau of Investigation (CBI)** is designated as the National Central Bureau of India.
    - The General Secretariat provides a range of expertise and services to the member countries.
    - It is **headquartered in Lyon, France**.

Note:

### Central Bureau of Investigation

- The Central Bureau of Investigation (CBI) was set up in 1963 on the recommendation of the **Santhanam Committee on Prevention of Corruption (1962-1964)**.
- It was set up by a **resolution of the Ministry of Home Affairs** but later transferred to the **Ministry of Personnel, Public Grievances and Pensions**.
- The CBI is **not a statutory body**. It derives its powers from the **Delhi Special Police Establishment Act, 1946**.
- It is the main investigating agency of the Central Government. It also provides assistance to the Central Vigilance Commission and Lokpal.
- With the enactment of CVC Act, 2003, the superintendence of Delhi Special Police Establishment vests with the Central Government. However, **investigations of offences under the Prevention of Corruption Act, 1988 the superintendence vests with the Central Vigilance Commission**.
- The Director of CBI has been provided security of **two-year tenure** in office by the CVC Act, 2003.



## Craniopagus Twins

Recently, India has successfully performed rarest of the **rare surgery on Craniopagus Twins**.

- This was the first successful craniopagus conjoined twin separation surgery from India wherein both the children had survived.

### Craniopagus Twins

- Craniopagus twins are conjoined twins that are **fused at the skull**.
- It represents the rarest of congenital abnormalities.
- Conjoined twins are **genetically identical** and always **share the same sex**.

- Worldwide only 10-15 children have survived after surgical separation of this condition in the last 50 years.

## The Decline in Cotton Exports

According to the Cotton Textiles Export Promotion Council the **cotton yarn exports declined** by 44% in July 2019, compared with the same month in 2018.

- According to it, Cotton yarn exports are at a **five-year low**.
- Along with this India's share in global textile and clothing exports has also seen a downfall.
- While India was the **second-largest exporter** of textile and clothing in 2014-2017, it has come down to the **fifth position in 2019**.

### Cotton Cultivation

- The first evidence of cotton use was found in the Indus valley civilisation dating back to 6000 BC.
- Cotton grows well in drier parts of the **black cotton soil of the Deccan plateau**.
- It is a **Kharif crop (grown with the onset of monsoon and harvested in September-October)** and requires **6 to 8 months to mature**.
- Major cotton-producing states are— Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Andhra Pradesh, Telangana, Tamil Nadu, Punjab, Haryana and Uttar Pradesh.

### Conditions required for the cultivation of cotton are:

<b>Temperature</b>	➤ Cotton grows in the <b>tropical and subtropical</b> warm humid climate. Annual temperature requirement is 20°-28°C. <b>Equitable temperature distribution and bright sunshine is desirable.</b>
<b>Rainfall</b>	➤ Annual rainfall of 55-100 cm is ideal for cotton Cultivation. ➤ However, the Rainfall during harvesting is harmful.
<b>Frost-free Days</b>	➤ About <b>180 frost-free days</b> are the minimum requirement for cotton cultivation. While, <b>200 frost-free days are desirable</b> for cotton cultivation.

Note:

Soil	➤ Fertile, saline soil with high water-retention capacity is ideal for cotton cultivation. Loamy soil with high calcium carbonate is best for cotton cultivation.
Relief	➤ The slight slope of the land drains the soil and is good for cotton cultivation.

## Iodized Salt Coverage in India

Recent **National Survey to Measure the Coverage of Iodized salt** revealed that **Tamil Nadu had the lowest consumption of iodized salt.**

### Key Findings

- The study shows that 76.3% of Indian households consumed adequately iodized salt.
- The **North-Eastern states were doing well** with respect to the consumption of iodized salt as **compared to the rest of India.**
- Iodine is a **vital micro-nutrient** for optimal mental and physical development of human beings.
- Deficiency of iodine can result in a range of disabilities and disorders such as **goitre**, hypothyroidism etc.
- In **1992**, India made **fortification of salt with iodine mandatory, for direct human consumption.**

### Jeevan Bindi

- An iodine patch designed like a regular bindi was started to help one lakh tribal women in **north-west Maharashtra to battle iodine deficiency** as these tribals did not consume iodized salt.

### Goitre

- It is an abnormal enlargement of the thyroid gland.
- The thyroid gland located in the front of the neck below the Adam's apple is an essential organ for producing thyroid hormones.
- The most common cause of goitre worldwide is a lack of iodine in the diet.

## Global Liveability Index

Indian cities have not fared too well in the **Economist Intelligence Unit's Global Liveability Index for 2019.**

- **New Delhi** with 118<sup>th</sup> rank has registered the **biggest decline in Asia** whereas Mumbai also fell two places since last year to rank 119<sup>th</sup>.
- The decline in Mumbai's rank was mainly due to a downgrade in its culture score.
- New Delhi has fallen in the index because of downgrades to its culture and environment score as well as a fall in the stability score owing to rising crime rates.
- The **list is topped by Vienna (Austria)** for the **second consecutive year.**
- **Asian cities** overall have scored slightly **below the global average.**
- Among the **BRICS countries**, Suzhou from China was ranked highest at 75, while India's capital New Delhi was ranked lowest at 118<sup>th</sup>.

### Global Liveability Index

- The **Economic Intelligence Unit** considered **140 cities for rankings.**
- The ranking is based on a particular country's scores in five broad categories, namely:
  - Stability
  - Healthcare
  - Culture and Environment
  - Education
  - Infrastructure
- Each factor in a city is rated as acceptable, tolerable, uncomfortable, undesirable or intolerable.

## Travel and Tourism Competitiveness Index

India has moved up **six places to rank 34<sup>th</sup>** on the World Travel and Tourism Competitiveness Index 2019, released by the **World Economic Forum.**

- India was ranked 40<sup>th</sup> in 2018.
- Spain, France, Germany, Japan, and the United States are the world's most travel-ready nations.
- It is published **biennially**, Travel & Tourism Competitiveness Report and Index benchmark the Travel & Tourism (T&T) competitiveness of **140 economies.**

### International Monetary Fund (IMF)

- The IMF, also known as the Fund, was conceived at a **UN conference in Bretton Woods** in July 1944.
- It is an organization of 189 member countries.

Note:



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- The 140 economies are ranked in four sub-indexes:
  - Enabling environment,
  - Travel and tourism policy and enabling conditions,
  - Infrastructure, and
  - Natural and cultural resources.

## India: 10<sup>th</sup> largest Gold Reserve in the World

According to the **World Gold Council**, India has gold reserves totalling 618 tonnes, the **10<sup>th</sup> largest gold reserve in the world**.

- **U.S** has the **highest gold reserves** with 8,133.5 tonnes of total gold reserves, followed by Germany with 3,366.8 tonnes and the International Monetary Fund (IMF) with a holding of 2,451.8 tonnes.

- India's gold reserves have grown substantially in the past couple of decades from 358 tonnes in 2000 to the current 618 tonnes.
- **India's entry into the list of top ten countries comes at a time when the quantum of monthly purchases is the lowest in over three years.**

### World Gold Council

- The World Gold Council (WGC) is the market development organisation for the gold industry.
- It is Headquartered in London.
- It is global authority for the gold market.
- It intervenes in global markets to make gold more accessible, devising solutions to broaden the understanding and use of gold as an investment asset.



Note:

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Summary

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Summary



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# Current Affairs (CONSOLIDATION)

**SEPTEMBER 2019**  
**(PART – II)**

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# Polity and Governance

## Highlights

- National Population Register
- Regulating Right to Freedom of Religion
- Rural Sanitation Strategy: 2019-2029
- Hindi Divas 2019
- J&K Public Safety Act
- Special Expenditure Observers
- Right To Be Forgotten
- Access to Internet
- Inclusive Programming

## National Population Register

The National Population Register (NPR) updation exercise will be undertaken alongside **Census 2021**.

- It will be conducted by the **Office of the Registrar General of India (RGI)** under the **Home Ministry**.
- Only Assam will not be included, given the recently completed **National Register of Citizens (NRC)**.
- **Definition:**
  - It is a list of “usual residents of the country”.
  - A “usual resident of the country” is one who has been residing in a local area for at least the last six months, or intends to stay in a particular location for the next six months.
- **Legal Provisions:**
  - The NPR is being prepared under provisions of the **Citizenship Act 1955 and the Citizenship (Registration of Citizens and Issue of National Identity Cards) Rules, 2003**.
  - It is mandatory for every “usual resident of India” to register in the NPR.
- **Background:**
  - The data for the NPR was first collected in 2010 along with the house listing phase of Census 2011.
  - In 2015, this data was further updated by conducting a door-to-door survey.
  - However, with the use of **Aadhaar** as the key vehicle for transfer of government benefits in the last few years, the NPR has taken a backseat.
- **Scope:**
  - The NPR exercise is conducted at the local, sub-district, district, state and national levels.

- The NPR will collect both demographic data and biometric data. Biometric data will be updated through Aadhaar details.
  - In the 2010 exercise, the RGI had collected only demographic details.
  - In 2015, it updated the data further with the mobile, Aadhaar and ration card numbers of residents.
  - For the 2020 exercise, it has dropped the ration card number but added other categories.
- **Advantages:**
  - It will streamline data of residents across various platforms.
    - For instance, it is common to find a different date of birth of a person on different government documents. NPR will help eliminate that.
  - It will help the government formulate its policies better and also aid national security.
  - It will help to target government beneficiaries in a better way and also further cut down paperwork and red tape in a similar manner that Aadhaar has done.
  - It will help in implementing the idea of ‘One Identity Card’ that has been recently floated by the government.
    - ‘One Identity Card’ seeks to replace duplicate and siloed documentations of Aadhaar card, voter ID card, banking card (such as a debit card), passport, and more.
- **Privacy Concern:**
  - There is no clarity on the mechanism for protection of the vast amount of data that will be collected through NPR.

Note:

➤ **NPR and the NRC:**

- Unlike the NRC, the **NPR is not a citizenship enumeration drive**, as it would **record even a foreigner** staying in a locality for more than six months.
- With the government insisting that the NRC would be implemented across the country, the NPR has raised anxieties around the idea of citizenship in the country.
  - All this is happening in the backdrop of the NRC in Assam which has excluded 19 lakh among the 3.3 crore who had applied.
  - NRC countrywide would only happen on the basis of the upcoming NPR.
  - After a list of residents is created (i.e. NPR), a nationwide NRC could go about verifying the citizens from that list.

**Census**

- The responsibility of conducting the decennial census rests with the **Office of the Registrar General and Census Commissioner, India under Ministry of Home Affairs, Government of India**.
- 'Rig-Veda' reveals that some kind of population count was maintained during 800-600 BC in India.
- During the regime of the Mughal king Akbar, the administrative report '**Ain-e-Akbari**' included comprehensive data pertaining to population, industry, wealth and many other characteristics.
- A systematic and modern population census, in its present form was conducted non synchronously between 1865 and 1872 in different parts of the country.
- However, the **first synchronous census in India was held in 1881**. Since then, censuses have been undertaken **uninterruptedly once every ten years**.
- India's **last census was carried out in 2011** when the country's population stood at 121 crore.

**Census 2021**

- The **Census 2021** will be conducted in **18 languages out of the 22 scheduled languages** (under 8<sup>th</sup> schedule) and English, while Census 2011 was in 16 of the 18 scheduled languages declared at that time.
- It will also introduce a code directory to streamline the process.
  - Code directory will provide different codes for different aspects such as location, caste etc.

- The option of **"Other"** under the gender category will be changed to **"Third Gender"**.
- For the first time in the 140 year history of census in India, data is proposed to be **collected through a mobile app** by enumerators and they will receive an additional payment as an incentive.
- The Census data would be available by the year 2024-25 as the entire process would be conducted digitally and data crunching would be quicker.

## Regulating Right to Freedom of Religion

The High Court of Karnataka has issued guidelines to **all city municipal corporations** regarding granting permission for temporarily using public roads and footpaths.

➤ **Major Observation:**

- The **right under Article 25 (freedom to the free profession, practice and propagation of religion)** of the Constitution of India **does not extend** to public road and footpath.
- One cannot get the rights to use public roads and streets just because it is for religious purposes.

➤ **Inspection is Mandatory:**

- Authorities cannot mechanically process applications filed under the State Municipal Corporations Act for grant of permission to temporarily use public roads or footpaths for any purposes, including for the celebration of religious festivals or functions.
- The authorised officers will have to compulsorily inspect the premises, including roads and footpaths, and will have to take a report from the traffic police on the impact on traffic, before granting any permission.
- Putting up temporary structures can be permitted only after ensuring that such structures would not cause any obstruction to the free flow of traffic or curtail the right of citizens to free use of footpaths.
- The corporations have been directed **not to permit digging up of roads** or footpaths while granting permission to put up temporary structures.
  - The Supreme Court has already held that it is a **fundamental right of citizens to use public roads for passage of vehicles**, and footpaths to walk (in line with Article 21 of the Constitution).

Note:



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➤ **Display of the Permission at the Location:**

- The copy of the permission and conditions imposed for putting up temporary structures, including the period of permission, should be displayed prominently by those to whom the permission has been granted.
- Any structures not displaying a copy of the permission can be treated as illegal and removed.

**Article 25: Freedom of Conscience and Free Profession, Practice and Propagation of Religion**

- Article 25 says that all persons are equally entitled to freedom of conscience and the right to freely profess, practice and propagate religion.
- **The implications of this are:**
  - **Freedom of conscience:** Inner freedom of an individual to mould his relation with God or Creatures in whatever way he desires.
  - **Right to Profess:** Declaration of one's religious beliefs and faith openly and freely.
  - **Right to Practice:** Performance of religious worship, rituals, ceremonies and exhibition of beliefs and ideas.
  - **Right to Propagate:** Transmission and dissemination of one's religious beliefs to others or exposition of the tenets of one's religion.
- **Scope:**
  - Article 25 covers **religious beliefs (doctrines)** as well as **religious practices (rituals)**.
  - Moreover, these rights are **available to all persons—citizens as well as non-citizens**.
- **Restrictions:**
  - These rights are **subject to public order, morality, health** and other provisions relating to fundamental rights.
  - The State is permitted to regulate or restrict any economic, financial, political or other secular activity associated with religious practice.

**Article 21: Protection of Life and Property**

- It declares that no person shall be deprived of his life or personal liberty except according to the procedure established by law.
- This right is available to **both citizens and non-citizens**.

## Rural Sanitation

### Strategy: 2019-2029

Recently, the Department of Drinking Water and Sanitation (DDWS) under the **Ministry of Jal Shakti** has launched the **10-year Rural Sanitation Strategy starting from 2019 to 2029**.

- The strategy has been prepared by DDWS, in consultation with the State Governments and other stakeholders.
- It lays down a framework to guide local governments, policy-makers, implementers and other relevant stakeholders in their **planning for Open Defecation Free (ODF) Plus status, where everyone uses a toilet, and every village has access to solid and liquid waste management**.
- The strategy aims to sustain the **behavioral change** regarding sanitation that has been achieved under the **Swachh Bharat Mission Grameen (SBM-G)** and ensure that the focus is shifted to increasing access to solid and liquid waste management in the rural areas of the country.
- The 10-year strategy also demands focused intervention through capacity strengthening, IEC (Information, Education, and Communication), organic waste management, plastic waste management, and water management.
- Public financing has played an important role in the ODF journey but for the maintenance of toilets and infrastructure, the need is there for innovative models for sanitation financing.
  - With regard to waste management elements, there will have to be a convergence of funds from the Centre, States, Panchayati Raj Institutions (PRIs) and alternative sources of financing, including private funds.
  - Discussions are still underway on the budget requirement and whether funds will be disbursed via a centrally sponsored scheme or through Finance Commission transfers to PRIs.
  - The strategy highlights the potential collaborations with development partners, civil society and intergovernmental partnerships.

**Open Defecation Free (ODF), ODF+, ODF++ Status**

- **ODF:** An area can be notified or declared as ODF if at any point of the day, not even a single person is found defecating in the open.

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- **ODF+**: This status is given if at any point of the day, not a single person is found **defecating and/or urinating in the open, and all community and public toilets are functional and well maintained.**
- **ODF++**: This status is given if the area is already ODF+ and the faecal sludge/septage and sewage are **safely managed and treated, with no discharging or dumping of untreated faecal sludge and sewage into the open drains, water bodies or areas.**

### Background

- India has seen a sanitation revolution in the form of SBM-G that transformed itself into a Jan Andolan (a people's movement).
- Since the launch of the **SBM-G** in 2014, over 10 crore toilets have been built in rural areas.
  - Till now, over 5.9 lakh villages in 699 districts and 37 States/UTs have declared themselves as Open Defecation Free (ODF).

### Conclusion

- It is because of the SBM-G that India is now an inspiration, in terms of sanitation for other countries.
- To mark the 150<sup>th</sup> birth anniversary of Mahatma Gandhi on 2<sup>nd</sup> October 2019, the Central government started Swachh Bharat Mission in 2014.
  - The State Governments ensured that no one is left behind, and in case any household does not have access to a toilet, they are facilitated to build a toilet on priority.

## Hindi Divas 2019

Rashtriya Hindi Divas is observed across India **every year on 14<sup>th</sup> September.**

- The Hindi language is the single largest spoken language **(43.63% of people in India).**
- It is also the **fourth most spoken language in the world**, after Mandarin, Spanish and English.

### Background

- The Constituent Assembly of India adopted **Hindi written in Devnagari Script along with English as the official language** of the country on **September 14, 1949, under Article 343(1).**
  - Initially, English was granted the official language status for only 15 years since the adoption of the

constitution. During these 15 years, Hindi's reach was to be promoted for official purposes as well as in the education sector so that English would fade out, giving ground to Hindi.

- The imposition of Hindi was contested in many non-Hindi states, especially in the southern state of Tamil Nadu. Violent protests broke out in southern India leading the then Prime Minister Jawaharlal Nehru, to introduce the **'Official Languages Act' in 1963**, which assured the continuation of English along with Hindi as the official language of the Union of India.
- Anti-Hindi protests of 1965 marked an important turn in India's official language policy. The 'Official Languages Act' was amended in 1967 guaranteeing the "virtual indefinite policy of bilingualism" for all official purposes of the Union.
- Given the linguistic diversity of India, there is **no national language** as all the states are free to decide their own official languages.

### Constitutional Provisions

- **Article 343(1)** states that the Official Language of the Union government shall be Hindi in Devanagari script.
- **Article 351** gives power to the Union Government to issue a directive for the development of the Hindi language.
- The **Hindi language** is one of the **22 languages of the Eighth Schedule** of the Constitution of India.

### Worldwide Promotion for the Hindi Language

- In **2018**, the Indian Prime Minister became the **first head of government to address the World Economic Forum in a national language other than English.**
- The Government of India in collaboration with the Government of Mauritius has set up the **World Hindi Secretariat in Port Louis, Mauritius** for promotion and propagation of Hindi globally.
- Indian Government's effort led to the creation of **Hindi Twitter account of the UN in 2018.**
- The **first World Hindi Conference** was organized in **Nagpur** on January 10, **1975**. To commemorate the occasion, the government of India since 2006 is celebrating 10<sup>th</sup> January as World Hindi Day.
- The then Minister of External Affairs Atal Bihari Vajpayee was first to give a speech in Hindi at the **United Nations** in 1977.

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## J&K Public Safety Act

The former Jammu and Kashmir Chief Minister Farooq Abdullah has been detained under the state's **Public Safety Act (PSA)**.

### Public Safety Act

- **Preventive Detention Law:** Under **Jammu & Kashmir Public Safety Act, 1978**, a person is taken into custody to prevent him or her from acting in any manner that is prejudicial to the security of the state or the maintenance of public order.
- **Period of Detention:** Up to 2 years.
- **Enforcement:** Detention order is passed either by Divisional Commissioner or the District Magistrate.
- **Challenging the Detention:** The **only way** the administrative preventive detention order can be challenged is through a **habeas corpus** petition filed by relatives of the detained person.
  - The High Court and the Supreme Court have jurisdiction to hear such petitions and pass a final order seeking quashing of the PSA.
  - If the order is quashed, there is no bar on the government passing another detention order under the PSA and detaining the person again.
  - There can be no prosecution or any legal proceeding against the official who has passed the order.
- The **similarity to the National Security Act (NSA)** that is used by other state governments for preventive detention.
  - The NSA empowers the Central or a State government to detain a person to prevent him from acting in any manner prejudicial to national security.
  - The government can also detain a person to prevent him from disrupting public order or for maintenance of supplies and services essential to the community.
  - The maximum period for which one may be detained is **12 months**. But the term can be extended if the government finds fresh evidence.

### Preventive Detention and Constitutional Provisions

- Preventive detention involves the detainment (confinement) of a person in order to keep him/her

from committing future crimes and/or from escaping future prosecution.

- It is **different from 'being arrested'** Where 'Arrest' is done when a person is charged with a crime.
- **Punitive detention** is punishment for **illegal acts** done.
- **Article 22(1)** of the Constitution states that no person who is arrested shall be denied the right to consult, and to be defended by, a legal practitioner of his choice.
  - However, under Preventive Detention Laws like the PSA, the detained person does not have the right to move a bail application before a criminal court, and cannot engage any lawyer to represent him or her before the detaining authority.
- When a person is arrested he/she has to be produced before a magistrate within the next 24 hours. However, in the case of 'preventive detention', **a person can be detained for three months**.
  - **Article 22(2)** states that every person arrested and detained shall be produced before the nearest magistrate within a period of 24 hours (excluding the time necessary for the journey from the place of arrest to the court) and no such person shall be detained beyond this period without the authority of a magistrate.
  - **Article 22(3)(b)** allows for preventive detention and restriction on personal liberty for reasons of state security and public order.
  - **Article 22(4)** states that no law providing for preventive detention shall authorise **the detention of a person for a longer period than three months unless:**
    - **An Advisory Board** reports sufficient cause for extended detention.
    - Such a person is detained in accordance with the provisions of any law made by the Parliament.

#### Note:

The **44<sup>th</sup> Amendment Act of 1978** has reduced the period of detention without obtaining the opinion of an advisory board from three to two months. However, this provision has not yet been brought into force, hence, the original period of three months still continues.

#### Controversies:

- **No democratic country in the world** has made preventive detention an integral part of the Constitution as has been done in India.

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- The governments sometimes use such laws in an extra-judicial power. Also, there remains a **fear of arbitrary detentions**.

### **Habeas Corpus**

- It is a Latin term which literally means '**to have the body of**'.
- This writ is a **bulwark of individual liberty** against arbitrary detention.
- The writ of *habeas corpus* **can be issued** against **both public authorities as well as private individuals**.
- The writ, on the other hand, is **not issued** where the:
  - detention is lawful,
  - the proceeding is for contempt of a legislature or a court,
  - detention is by a competent court, and
  - detention is outside the jurisdiction of the court.

## **Special Expenditure Observers**

The **Election Commission of India (ECI)** appointed two **Special Expenditure Observers** for the elections to the Legislative Assembly of Maharashtra.

- The Special Expenditure Observers are **appointed in the exercise of the powers conferred on ECI under Article 324 of the Constitution** and the **Representation of the People Act, 1951**.
- The **functions** of the Special Expenditure Observers include:
  - To watch the conduct of Elections with special emphasis on **controlling the abuse of money power**, in consultation with the Chief Electoral Officer at respective constituencies.
  - To **supervise and monitor the work** being done by the electoral machinery.
  - To ensure **stringent and effective enforcement action** is undertaken **based on intelligence inputs and complaints received through C-VIGIL** and Voter Helpline.
    - The Citizens' Vigil (C-VIGIL) app allows people to record any violation of the code of conduct and send it to the relevant election authority.

## **Right To Be Forgotten**

The European Union's (EU's) top court has ruled that **Google does not have to apply the right to be forgotten globally**.

### **Right to be forgotten**

- Right to be forgotten **refers to the ability of an individual to limit, delink, delete, or correct the disclosure of the personal information on the Internet** that is misleading, embarrassing, or irrelevant.
  - It allows for the lawful removal of personal information of an individual if such request is made.
- The right to be forgotten is **distinct from the right to privacy** because **right to privacy comprises of information that is not publicly known**, whereas the **right to be forgotten involves removing information that was publicly known at a certain time** and not allowing third parties to access the information.

### **Background**

- According to the EU's General Data Protection Regulation (GDPR), the right to be forgotten empowers individuals to ask organisations to delete their personal data.
- After a search engine company like **Google gets requests under the privacy law** to get information deleted, it first reviews and then **removes links on country-specific sites** within the European Union.
- In 2015, the **internet regulating agency** of France required that Google go beyond its practice of region-specific delinking, and **ordered the search engine to delete links from its global database**. Google challenged the order at the European Court of Justice (ECJ).
- The case between France and Google, to remove sensitive information available globally on Google related to certain class of people, was a test of whether individuals have the right to demand the removal of personal data from internet search results without stifling free speech and legitimate public interest.

### **Highlights of the Ruling**

- The court in its judgment **limited the reach of the online privacy law known as 'right to be forgotten'**, restricting people's ability to control what information is available about them on the Internet.

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- Google only needs to remove links from its search results in Europe - and not elsewhere - after receiving an appropriate request.
- It stated that the **balance between privacy and free speech** must be taken into account while deciding if websites should be delisted over the Internet.
- Also, the EU cannot enforce the 'right to be forgotten' on countries which do not recognise such a right.

### ***Right to be Forgotten in Indian Context***

- **Legislative Stand:** In India, there are **no legal provisions** related to it.
  - Neither the **Information Technology (IT) Act, 2000 (amended in 2008)** nor the IT Rules, 2011 deals with right to be forgotten.
  - Only **Section 27 of the draft Data Protection bill** has listed out **three scenarios** in which an individual will have the right to restrict or prevent continuing disclosure of personal data (i.e. the right to be forgotten).
    - This will be applicable if data disclosure is no longer necessary, or the consent to use data has been withdrawn, or if data is being used contrary to the provisions of the law.
- **Judicial Stand:** There have been instances, where the **High Courts have upheld the right of an individual to be forgotten**.
  - For instance, the **Karnataka High Court upheld a woman's right to be forgotten** stating that the right is in line with the trend in the western countries. In the sensitive cases involving women in general and highly sensitive cases involving rape or affecting the modesty and reputation of the person concerned, it must be adhered to.
  - The **Delhi High Court**, in another case had asked the Centre and Google whether the right to privacy included the right to delink from the Internet the irrelevant information.
- **Way Forward**
  - There must be a **balance between the right to privacy and protection of personal data** (as covered under Article 21 of the Indian constitution), on one hand, **and the freedom of information of internet users** (under Article 19), on the other.
  - A comprehensive data protection law must address these issues and minimize the conflict between

the two fundamental rights that form the crucial part of the golden trinity (Art. 14, 19 and 21) of the Indian constitution.

## **Access to Internet**

Recently, the Kerala High Court upheld the **right to have access to the Internet** as a **part of the fundamental right to education** along with the **right to privacy under Article 21** of the Indian Constitution.

### ***Observations by the Court***

- The Court observed that the **internet acts as a learning tool** and nobody can impose restrictions on it, citing discipline.
- The petitioner argued that the restriction on the use of internet amounted to a **violation of the fundamental right to freedom of speech and expression under Article 19(1)(a)** of the Constitution.
- The Kerala HC in response cited the Supreme Court judgment in the **S. Rengarajan and others v/s P. Jagjivan Ram case (1989)** that the fundamental freedom under **Article 19(1)(a) can be reasonably restricted** only for the purposes mentioned in **Article 19(2)**.
- It is noteworthy that the **Human Rights Council of the United Nations** also regards the **Right of access to the Internet as a fundamental freedom** and a tool to ensure the right to education.

**Article 19(1)(a):** Freedom of speech and expression, provides every citizen with the right to express one's views, opinions, beliefs, and convictions freely by word of mouth, writing, printing, picturing or in any other manner.

**Article 19(2)** confers the right on the State to impose reasonable restrictions on the exercise of the freedom of speech and expression on the grounds of,

- Sovereignty and integrity of India,
- Security of the state,
- Friendly relations with foreign states,
- Public order, decency or morality,
- Contempt of court, defamation, and incitement to an offence.

**Article 21** declares that no person shall be deprived of his life or personal liberty except according to procedure established by law. This right is available to both citizens and non-citizens.

Note:

**Article 21-A** states that the State shall provide free and compulsory education to all children of the age of six to fourteen years in such manner as the State by law may determine.

## Inclusive Programming

The Ministry of Information and Broadcasting has mandated the **captioning for TV programs, in order to make it accessible to the deaf or hard of hearing population (aurally challenged people)**.

- India's phase-wise implementation plan requires **all channels to start captioning, on at least one programme per week**, starting from August 15, 2019.
  - The target is to ensure that 10% of all programming channels have captions by 2020, which will grow by 10% every year.
  - It is expected to finally cover up to 50% of all the programming by 2025.
- The **Rights of Persons with Disabilities Act, 2016** made subtitles on TV a right of an individual.
- **Same Language Subtitling (SLS)**, if implemented in India, can make a massive contribution to **Sustainable Development Goal (SDG-4)** on quality education, as quality education foundationally depends on good reading skills.
- The major challenge for the Ministry is to ensure compliance by all channels both state and private-owned.

- The Ministry of Information and Broadcasting together with the Ministry of Electronics and Information Technology needs to mandate a policy of SLS in Indian languages on all digital **Over-The-Top (OTT) platforms**.

### Right of Persons with Disabilities Act 2016

- **Article 41** of the **Directive Principles of State Policy (DPSP)** states that State shall make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness, and disablement, within the limits of its economic capacity and development.
- This **act defines disability** based on an evolving and dynamic concept.
- Under the act, the types of disabilities have been increased from **7 to 21**.
  - In addition, the Government has been authorized to notify any other category of specified disability.
- The act is implemented by the Ministry of Social Justice & Empowerment.

### Over-The-Top (OTT) Platform

- An Over-The-Top (OTT) platform is any application service that provide a product over Internet and bypasses traditional distribution.
- Services that come over-the-top are most typically related to media and communication.
- For example, Netflix (replacing regular TV provider) and Skype (replacing long distance provider).



Note:

# Economic Scenario

## Highlights

- Steps To Spur Economic Growth
- Certificates of Origin
- Saudi-Aramco Drone Attack
- Draft National Resource Efficiency Policy (NREP), 2019
- Liberalised Remittance Scheme
- Enterprise Development Centres
- GST Council and Corporate Tax
- Unitary Taxation System for Multinational Enterprises

## Steps To Spur Economic Growth

The Finance Minister has announced a number of measures to help reignite the slowing economy.

- The **primary reasons for slowdown** include **weak consumption** (e.g. reduction in auto sales, housing sales, etc.) and a **deteriorating global environment** (US-China trade war, Brexit, etc.).

### Measures to Boost Export Sector

- **Use of Information and Communications Technology (ICT):**
  - A fully **Electronic Refund Module** for a quick and automated refund of Input Tax Credits (ITC) to be implemented by the end of September 2019.
    - ITC means deducting the tax paid on inputs from the tax payable on the final output.
  - An **Online "Origin Management System"** for exporters to enable them to obtain Certificates of Origin (CoO) will be launched.
    - **Certificate of Origin** is an instrument which establishes evidence on the origin of goods imported into any country. These certificates are essential for exporters to prove where their goods come from and therefore stake their claim to whatever benefits goods of Indian origin may be eligible for in the country of exports.
  - Technology will be further leveraged to further **reduce "Time to export"** – through seamless process digitization of

all export clearances (port/airport/customs, etc) and elimination of offline/manual services.

### ➤ Remission of Duties or Taxes on Export Product (RoDTEP):

- It will **replace the Merchandise Exports from India Scheme (MEIS)**, which is **not compliant with world trade rules**.
- It will be more than adequately incentivize exporters than existing schemes put together.

### ➤ Export Financing:

- To increase bank credit to exporters, the Export Credit Guarantee Corporation (ECGC) will expand the scope of its Export Credit Insurance Scheme (ECIS) to provide a higher insurance cover to banks that are lending working capital for exports.
  - At present, banks are covered for 60% of what they lend to exporters for working capital. With the new move, it is expected to be increased to 90%.
  - It has been seen that the credit flow to exporters has come down by 35%.

## Export promotion : Steps taken so far

Export promotion measures taken in last few years

- **Interest Equalization Scheme (IES)** on pre and post shipment rupee export credit introduced from 1.4.2015 providing interest equalisation at 3% to exporters on 416 lines and for all MSME exporters.
- **The IES rate increased to 5% for MSME exporters with effect from 2.11.2018 and merchant exporters were covered under the scheme with effect from 2.1.2019.**
- India's rank in World Bank 'Ease of doing business' ranking improved from 142 in 2014 to 77 in 2018, with the **sub-rank in 'Trading across borders' moving up from 122 to 80.**
- **"Trade Infrastructure for Export Scheme (TIES)"** launched with effect from 1<sup>st</sup> April 2017 to address the export infrastructure gaps in the country.
- Comprehensive **"Agriculture Export Policy"** launched on 6th December, 2018 with an aim to double farmers' income by 2022
- **"Transport and Marketing Assistance" (TMA) scheme** launched in 05<sup>th</sup> March 2019 for mitigating disadvantage of higher cost of transportation for export of specified agriculture products.
- **Scheme for Rebate of State and Central Taxes and Levies (RoSCTL)** covering export of garments and made-ups notified on 7.3.2019 providing refund of duties/taxes at higher rates.

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- At present banks are covered for 60% of what they lend to exporters for working capital. With the new move, it is expected to be increased to 90%.
- It would also enable a **reduction in the overall cost of export credit** including interest rates, especially to MSMEs.
  - Effective monitoring of export financing will be done by the Department of Commerce.
- **Effective Use of FTAs:**
  - **Free Trade Agreement (FTA) Utilisation Mission** will be set up under the **Ministry of Commerce**, to work exclusively with export houses to utilise concessional tariffs in each FTA.
- **Mega Shopping Festivals:**
  - To boost exports, Dubai-like annual mega shopping festivals in India will be organized in 4 places across March 2020.
  - These will focus on four themes: **Gems & Jewellery, Handicrafts/Yoga/Tourism, Textiles and Leather.**

### Measures to Boost Housing Sector

- **Increasing Bank Credit for Homebuyers:**
  - The **External Commercial Borrowing (ECB)** guidelines will be relaxed to facilitate financing for homebuyers who are eligible under the **Pradhan Mantri Awas Yojana**.
    - External Commercial Borrowing refers to commercial loans, in the form of bank loan and buyers' credit etc., availed of from non-resident lenders with a minimum average maturity of 3 years.
  - The **interest rate on house building advances will be lowered** and linked with the 10 Year Government Security yields.
- **A Special Window Fund**
  - It aims to provide **last-mile funding to non-NPA (Non-Performing Assets)** and non-NCLT (**National Company Law Tribunal**) projects in the affordable and middle-income housing category.
  - The government will contribute up to Rs 10,000

crores alongside other investors including LIC and private banks.

### The Merchandise Exports from India Scheme (MEIS)

- It was introduced in the Foreign Trade Policy (FTP) 2015-20 with the objective to offset infrastructural inefficiencies and associated costs involved in exporting goods/products which are produced / manufactured in India including products produced / manufactured by MSME Sector.

### Export finance

- It refers to financial assistance extended by banks and other financial institutions to businesses for the shipping of products outside a country or region.

### Pradhan Mantri Awas Yojana

- Pradhan Mantri Awas Yojana – Gramin is managed by the **Ministry of Rural Development** which aims to help rural people below the poverty line (BPL) in construction of dwelling units and upgradation of existing unserviceable kutch houses.
- Pradhan Mantri Awas Yojana – Urban is managed by **Ministry of Urban Affairs** which aims to provide central assistance to Urban Local Bodies (ULBs) and other implementing agencies through States/UTs.

### National Company Law Tribunal (NCLT)

- It was constituted under section 18 of the Companies Act, 2013
- The National Company Law Tribunal (NCLT) is a **quasi-judicial body** that adjudicates issues relating to Indian companies.

## Steps taken so far

- **Affordable Housing - Additional deduction** up to Rs. 1.5 lakhs for interest paid on loans borrowed up to 31<sup>st</sup> March, 2020 for purchase of house valued up to Rs. 45 lakh.
- **Banks to launch Repo rate /external benchmark linked loan products**
  - Reduced EMI for housing loans by directly linking Repo rate to interest rates
- **Support to NBFCs/HFCs**
  - More credit support for purchase of houses, vehicles, consumption goods.
  - Additional liquidity support to HFCs Rs. 20,000 Cr by NHB thereby increasing it to Rs. 30,000 Cr.
  - Partial Credit Guarantee scheme for purchase of pooled assets of NBFCs/ HFCs upto Rs 1 lakh Cr - to be monitored at highest level in each bank
- Establish an organisation to provide Credit Enhancement for infrastructure and housing projects
- Requirement for creation of a Debenture Redemption Reserve (DRR) of outstanding debentures in respect of listed companies, NBFCs and for HFCs removed.
- **Pradhan Mantri Awas Yojana – Gramin (PMAY-G)** aims to achieve "Housing for All" by 2022: Eligible beneficiaries to be provided 1.95 crore houses with amenities like toilets, electricity and LPG connections during its second phase (2019-20 to 2021-22).

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## Certificates of Origin

Recently the Ministry of Commerce & Industry launched a **common digital platform** for the issuance of **Electronic Certificates of Origin (CoO)**.

- This platform will act as a **single access point** for all exporters, all Free Trade Agreements (FTAs)/Preferential Trade Agreements (PTAs), and all concerned agencies.
- The platform also provides administrative access to the Department of Commerce for reporting and monitoring purposes.
- Authorities of the partner countries will now be able to verify the authenticity of certificates from the website.

New Platform	Existing Process
The issuance process is electronic, paperless and transparent.	The current process requires the exporter to visit the agency thrice for each certificate.
Real-time tracking of FTA utilization at the product level & country-level.	Real-time tracking is not possible as data is fragmented across various agencies.
Electronic Certificate of Origin is issued.	Physical Certificates of Origin are currently issued by the concerned authorities manually.
It is possible now to electronically exchange CoO with the partner countries.	The electronic exchange of CoO is not possible.
Reduces transaction costs and time for the exporters.	The current process takes more time and is costly.

### A Certificate of Origin

- It is an instrument which establishes evidence on the origin of goods imported into any country.
- These certificates are essential for exporters to prove where their goods come from and therefore stake their claim to whatever benefits goods of Indian origin may be eligible for in the country of exports.

## Saudi-Aramco Drone Attack

The twin drone attacks on Aramco crude oil production in Saudi Arabia have caused the biggest-ever disruption

in global crude oil supplies and has further escalated tensions in the Persian Gulf.

- **Yemen's Shia Houthi rebels**, who have been locked in war with a Saudi-UAE-led coalition since 2015, claimed responsibility for the attacks.



### The Extent of the Oil Price Shock

- Saudi Arabia supplies **10% of the global world oil** and is **the world's largest crude oil** exporter.
- Crude oil prices have already shot up by over 10% and oil prices are likely to trend around the \$75 per barrel mark in the coming months.

### Global Impact

- The attack, executed by drones, has **suspended** the production of **6% of global oil supply** which may hike oil prices.
- The attack would be the adding of a **geopolitical tensions as well as Security premium** to the price of oil worldwide
- The **discovery of oil reserves in the USA** made it less reliant on oil from the middle east which **helped to prevent a situation of "World Oil crunch"** which would have been otherwise.

### Impact on India

- India **imports 80% of the oil** it consumes, which means there are multiple ways in which the country will be impacted by this disruption.
- India is already trying to make up for the loss of supply from Iran after US-imposed sanctions.

Note:

- **Saudi Arabia is India's second-largest supplier of crude oil** — it accounts for almost 17% of the country's imports.
- If the process of restoration takes more time than anticipated then India may face a crisis, as global supply has been fairly volatile because of disruptions in some of the other big suppliers such as Venezuela, Libya, and Nigeria.
- As the dollar prices of crude oil rise, India would need to buy more dollars for the same amount of oil, thus **depreciating the value of the rupee** vis-à-vis the dollar.
- As a result, rise in oil prices may worsen the **Indian government's fiscal balance**.

#### Drone Attacks

- With growing animosity between Iran and Saudi Arabia, **besides having a war-torn Yemen in the neighbourhood**, the Gulf, which has been far from being peaceful, faces a new challenge in the form of drone attacks.
- The primary reason for this proliferation is that drones are relatively **cheaper** in comparison to conventional weapons and yet can achieve far **more destructive** results.
- The biggest **advantage** that comes with using a drone for combat purpose is that it **can be controlled from a remote distance** and **does not endanger any member of the attacking side**.

#### Houthis

- The Houthis, a group of **Zaidi Shia Muslims** who ruled a kingdom there for nearly 1,000 years, used widespread anger against President Hadi's decision to postpone the long-awaited elections and his stalled negotiations over a new constitution to protest against the government.
- They marched from their stronghold of Saada province to the capital Sanaa and surrounded the presidential palace, placing Hadi under house arrest.
- A military coalition led by Saudi Arabia intervened in Yemen on March 26, 2015, at Hadi's request, after the Houthis continued to sweep the south and threatened to conquer the last government stronghold of Aden, prompting one of the world's worst humanitarian crises ever.

## Draft National Resource Efficiency Policy (NREP), 2019

The Ministry of Environment, Forest and Climate Change (MoEFCC) has released Draft National Resource Efficiency Policy (NREP) 2019.

- The draft policy is guided by the **5 principles**:
  - Reduction in primary resource consumption to 'sustainable' levels,
  - Creation of higher value with less material through resource-efficient and circular approaches,
  - Waste minimization,
  - Material security, and
  - Creation of employment opportunities and business models beneficial to the cause of environment protection and restoration.

### Key Highlights

- **National Resource Efficiency Authority:**
  - The policy envisions setting up a National Resource Efficiency Authority which will **help develop resource efficiency strategies for different sectors** and adopt them into a **three-year action plan**.
  - To begin with, seven key sectors have been identified—automobile, plastic packaging, building and construction sector, electrical and electronic equipment sector, solar photo-voltaic sector, and steel and aluminium sector.
- **Circular Economy:**
  - The agenda is to develop a circular economy. This can be achieved by two measures – firstly by recycling the materials, and secondly, by increasing the efficiency of use of these resources.
  - The aim is to **double the recycling rate of key materials to 50% in the next five years** and enable upcycling of waste.
- **Dismantlers:**
  - The National Green Tribunal had imposed ban on diesel vehicles more than ten years old in the National Capital Region in view of the rising pollution levels. Following which, more vehicles will end up as end-of-life vehicles.
  - Under the policy, the government plans to **set up centres to collect such vehicles and carry out the deregistration process**, and shredding centres which would segregate materials for recycling.

Note:



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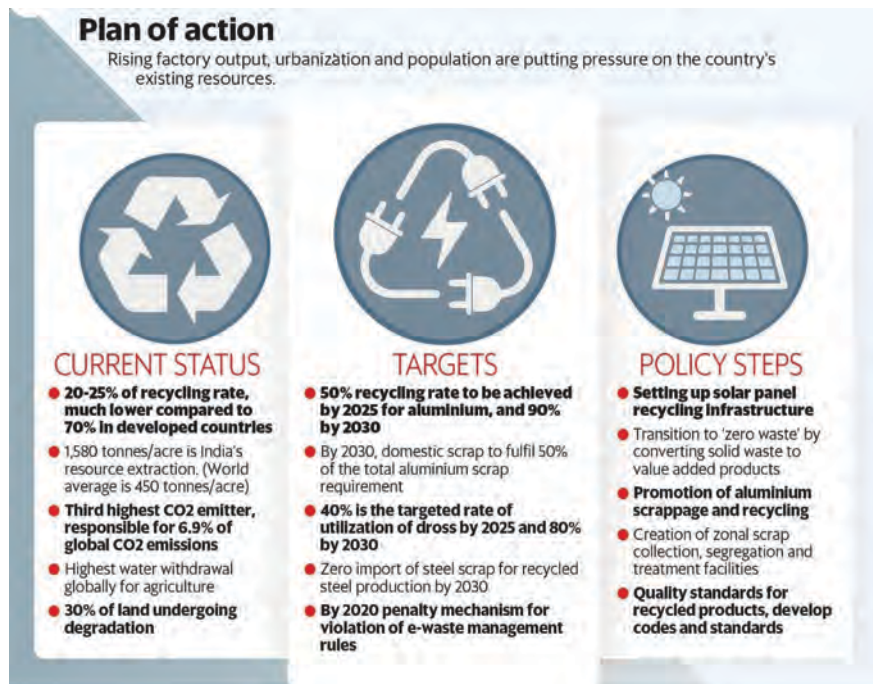
- As many as **20 official dismantlers** would be established across major urban centres by 2020.

#### ➤ Tackling Plastic Waste:

- The draft policy aims to achieve a **100% recycling and reuse rate of polyethylene terephthalate (PET) plastic** by 2025.

#### ➤ Secondary Raw Materials:

- The draft policy aims to gradually **reducing dependence on virgin materials** and **enhance re-use of construction and demolition waste**.
- There will be emphasis on **developing codes and standards for quality of secondary raw materials** to ensure confidence in the product, so that by 2025, at least 30% of total public procurement of materials for civil construction can be from recycled materials.



### Background

- There has been **growing concerns over resource depletion in India** owing to **rising factory output, urbanization and population**. India is also import-dependent for critical materials such as molybdenum, copper and nickel which makes it vulnerable to the global supply shocks as well.
- **Linear production and consumption are leading to a lot of wastage** in the entire value chain.

### Way Forward

- Opportunities exist at each and every stage of the product cycle which can be utilized, especially at a time when the economy is going through a rough patch.
- Be it the electronics and telecommunication sector, plastic industry, photovoltaic, battery manufacturing and storage, **the future depends on how efficiently the raw materials needed are used**.
- The document has come at the right time when **sustainable uses of resources really need to be pushed forward**. The policy is like a guiding document. It is up to the respective ministries and departments to take action on the ground.

## Liberalised Remittance Scheme

India has witnessed its **highest-ever monthly outflow of \$1.69 billion** under the Liberalised Remittance Scheme (LRS) in July 2019.

- The sharp rise in the outflow of funds under LRS scheme over the last five years indicates the **flight of capital from the country**.

### Liberalised Remittance Scheme

- It was introduced by the **Reserve Bank of India** in 2004.
- Under the scheme, all resident individuals, **including minors**, are allowed to freely remit **up to USD 2,50,000** per financial year for any permissible current or capital account transaction or a combination of both.
- The scheme is **not available** to corporations, partnership firms, Hindu Undivided Family (HUF), Trusts etc.
- **Remitted Money can be used for:**
  - Expenses related to travelling (private or for business), medical treatment, study, gifts and donations, maintenance of close relatives and so on.
  - Investment in shares, debt instruments, to buy immovable properties in the overseas market or to open, maintain and hold foreign currency accounts with banks outside India.

Note:



➤ **Prohibited Transactions:**

- Any purpose specifically prohibited under Schedule-I (like the purchase of lottery tickets, proscribed magazines, etc.) or any item restricted under Schedule II of Foreign Exchange Management (Current Account Transactions) Rules, 2000.

### Foreign Exchange Management Act, 1999 (FEMA)

- The legal framework for the **administration of foreign exchange transactions** in India is provided by the Foreign Exchange Management Act, 1999.
- All transactions undertaken by a resident that do not alter his/her assets or liabilities, including contingent liabilities, outside India are **Current Account Transactions**.
  - **Example:** payment in connection with foreign trade, expenses in connection with foreign travel, education etc.
- **Capital Account Transactions** includes those transactions which are undertaken by a resident of India such that his/her assets or liabilities outside India are altered (either increased or decreased).
  - **Example:** investment in foreign securities, acquisition of immovable property outside India etc.

### Foreign portfolio investment (FPI)

- It consists of securities and other financial assets passively held by foreign investors.
- It **does not provide the investor with direct ownership of financial assets** and is **relatively liquid** depending on the volatility of the market.
- Foreign portfolio investment is **part of a country's capital account** and is **shown on its Balance of Payments (BOP)**.

## Enterprise Development Centres

The Union Micro, Small and Medium Enterprises Sector (MSME) Minister will soon launch Enterprise Development Centres (EDCs) for developing a cadre of indigenous entrepreneurs in the **MSMEs**.

- Planned for every district, the ministry is targeting the launch of 20 EDCs out of a planned 500 by the end of the current financial year (2019-20).

➤ **Structure**

- The EDCs will be similar to incubators for start-ups.
- The centres will be broad-based and shall be run by special purpose vehicles in partnership with the private sector, business management organisations, local industry associations.

➤ **Focus Areas**○ **Incubation:**

- For the first time, an integrated unit will help new and existing businesses develop by providing services such as management training, and office space etc.
- It will also offer "enterprise development courses, vocational guidance and skill development for budding entrepreneurs".

○ **For Struggling Firms:**

- The EDCs will also have "enterprise clinics" for struggling firms, which the government hopes to reduce the number of small businesses falling into a debt trap financed by bank loans.

○ **Plugging Financial Difficulties:**

- The centres would offer credit facilitation and syndication, export promotion and supplier inclusion.
- In the distant future, incentives and loans by the government for the sector will also flow through the EDCs, after determining the capabilities of the firm through set parameters.

- **Expanding Entrepreneur Base:** The government hopes that EDCs will also expand the entrepreneur base by drawing individuals from diverse demographics such as youth, women, scheduled castes and tribes and disabled backgrounds.

### Micro, Small and Medium Enterprises

- In India, enterprises have been classified broadly into **two categories**:
  - Manufacturing.
  - Those engaged in providing/rendering of services.
- Both categories of enterprises have been further classified into micro, small and medium enterprises based on their investment in plant and machinery (for manufacturing enterprises) or on equipment (in the case of enterprises providing or rendering services).
- The present ceiling on investment to be classified as micro, small or medium enterprises is as follows:

Note:



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Classification	Manufacturing Enterprises	Services Enterprises
Micro	Up to Rs.25 lakh	Upto Rs.10 lakh
Small	Above Rs.25 lakh & upto 5 crore	Above Rs.10 lakh & upto 2 crore
Medium	Above Rs.5 crore & upto 10 crore	Above Rs.2 crore & upto 5 crore

## GST Council and Corporate Tax

Recently, The **Goods & Services Tax (GST) Council** held to **decide on tax moderation, keeping in mind the revenue position and the need to boost sagging economic growth.**

- To factor in the **creation of Union Territories of Jammu and Kashmir as well as Ladakh**, suitable amendments in the Central GST Act, the Union Territories' GST Act, and the corresponding State GST Acts were approved.
- It also slashed tax rates on various products and services, including jewellery stones, hotel stay and outdoor catering, besides easing the compliance burden for small and medium enterprises.

### Corporate Tax Rate Slashed

- The central government has also **slashed corporate tax rates for domestic firms from 30% to 22%** and for **new manufacturing companies from 25% to 15%** to boost economic growth.
  - Corporate tax is a tax imposed on the net income of the company.
- The **new effective tax rate inclusive of surcharge and cess** for domestic companies would be 25.17% and for new domestic manufacturing companies would be 17.01%.
  - These rates would be applicable to those companies **who forego the current exemptions and incentives.**

### Key Decisions

#### Cheer for hospitality

Lower tax rate and slab rejig for room tariffs

Tax cut to 5% on outdoor catering

#### Easier compliance

Small taxpayers needn't file returns

New returns only from next fiscal yr

#### Higher tax load

Caffeinated beverages to attract 28% tax + 12% cess

Rail wagons to be taxed at 12%, up from 5%

#### Minor relief for auto

Lower cess of 1-3% (on top of 28% tax) for passenger vehicles carrying up to 13 people

**No decision on biscuits**



- Also, the **Minimum Alternate Tax (MAT)** will not apply to such companies

- The reduction in the corporate tax rate for domestic companies **would be effective from 1<sup>st</sup> April 2019.**
- The **provisions** affecting these changes have been **inserted in the Income-tax Act through an ordinance.**
- **Impact of slashing corporate tax:**
  - The move will cost the government Rs 1.45 lakh crore annually which **increases the chances of higher fiscal deficit** and government may have to resort to spending cuts or embark on higher disinvestments.
  - It is expected that it will give a **great stimulus to 'Make In India'**, attract private investment from across the globe, improve the competitiveness of the private sector, create more jobs.
  - The reduction in corporate tax, effectively, **brings India's 'headline' corporate tax rate broadly at par with an average of 23% rate in Asian countries.**

### GST Council

- It is a **constitutional body** for making recommendations to the Union and State Government on issues related to Goods and Service Tax.
- It is **chaired by the Union Finance Minister** and other members are the Union State Minister of Revenue or Finance and Ministers in-charge of Finance or Taxation of all the States.
- It is considered as a **federal body** where both the centre and the states get due representation.

### Minimum Alternate Tax (MAT)

- A taxpayer being a company, may have generated income during the year, but by taking advantage of various provisions of Income-tax Law (like exemptions, deductions), it may have reduced its tax liability or may not have paid any tax at all.
- Due to an increase in the number of zero tax paying companies, Minimum Alternate Tax (MAT) was introduced by the GOVERNMENT.
- MAT is calculated at 18.5% on the book profit (the profit shown in the profit and loss account) or at the usual corporate rates, and whichever is higher is payable as tax.

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## Unitary Taxation System for Multinational Enterprises

Recently, the United Nations Conference on Trade and Development (UNCTAD) in its Trade and Development Report 2019 has recommended for the adoption of a unitary taxation system for Multinational Enterprises (MNEs).

- The **theme** of the report was '**Financing a Global Green New Deal**'.
- The report stated that such an approach would simplify the global taxation system and is expected to increase tax revenues for all countries.
- The report took cognizance of the fact that the profits of MNEs are generated collectively at the group level. Hence, unitary taxation should be applied by combining it with a global minimum effective corporate tax rate on all MNE profits.
- There was a dire need for this change, as the current international corporate taxation norms consider affiliates of MNEs as independent entities and treat taxable transactions between different entities of MNEs as unrelated.
  - This move facilitates the tax-motivated illicit financial flows.
  - According to the report, the tax-motivated illicit financial flows of MNEs are estimated to deprive developing countries of \$50 billion to \$200 billion a year in terms of the fiscal revenues.

- The report also highlights that the fiscal revenues of a country could be augmented through fair taxation of the digital economy. The rapid digitalization of economic activities is changing the way how values are created, measured and distributed, adding new challenges to the international tax framework.

### United Nations Conference on Trade and Development (UNCTAD)

- UNCTAD is a permanent intergovernmental body established by the United Nations General Assembly in 1964.
- Its headquarters are located in Geneva, Switzerland.
- It is part of the UN Secretariat.
  - It reports to the UN General Assembly and the Economic and Social Council, but UNCTAD has its own membership, leadership, and budget. It is also a part of the United Nations Development Group.
- It supports developing countries to access the benefits of a globalized economy more fairly and effectively. Along with other UN departments and agencies, it also measures the progress made in the Sustainable Development Goals, as set out in Agenda 2030.
- Some of the reports published by UNCTAD are:
  - Trade and Development Report
  - World Investment Report
  - Technology and Innovation Report
  - Digital Economy Report



Note:

# International Relations

## Highlights

- *Solomon Islands and Taiwan*
- *President's Three Nations Visit*
- *India – The Top Source of Immigrants*
- *India and Belgium-Luxembourg Economic Union*
- *India – Mongolia Relations*
- *74<sup>th</sup> UNGA*
- *PACEsetter Fund Programme*

## Solomon Islands and Taiwan

The Solomon Islands' government has **cut official ties** with Taiwan and is **switching diplomatic allegiance to China**.



- This is line with **'One China' principle**.
  - China considers Taiwan to be part of its territory and wants to bring the island back into its fold.
  - Taiwan split from mainland China during a **civil war in 1949** and set up a rival government.
- Now **only 16 countries worldwide continue to recognise Taiwan** as an independent state and **India is not among them**.
  - With a population of 660,000, the **Solomon Islands were easily Taiwan's largest remaining ally in the Pacific**.
  - Taiwan's economy relies on agriculture, fishing and forestry, and the country has a wealth of undeveloped mineral resources.
  - The **Solomon Islands** are located **directly between Australia and the U.S.** and was the site of fierce battles during World War II.



## President's Three Nations Visit

The President of India recently concluded his visit to the three nations namely, Iceland, Switzerland, and Slovenia.

### India-Iceland

- Iceland was the **first Nordic country** that publicly **extended support to India's candidature** for permanent membership at the **United Nations Security Council (UNSC)**.
- Iceland was one of the countries that co-sponsored the resolution at the UN to declare **June 21 as the International Day of Yoga**.

Note:



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- Recently, India and Iceland signed and exchanged three agreements in the fields of,
  - Fisheries collaboration,
  - Cultural cooperation, and
  - Visa waiver for the holders of diplomatic and official passport.
- India's long-pending demand for setting up a **Hindi Chair at the University of Iceland has been fulfilled recently.**
- The Hindi language will now be taught at the University of Iceland.
- Iceland's pioneering efforts in **green technologies**, be it carbon capture, energy-efficient buildings or waste-to-wealth projects can leverage significant benefits to India.
- The **future areas** of cooperation between India and Iceland lie in the field of pharma, healthcare and biotech space, finance, hospitality and tourism services.

### India-Switzerland

- India is one of Switzerland's **principal partners in Asia**. The two countries signed the **Treaty of Friendship** in the year **1948**.



- Recently, the Indian President addressed the Federal Council of Switzerland (which is the highest executive authority of Switzerland) and unveiled a statue of Mahatma Gandhi at Villeneuve, Switzerland.

- Both the countries **agreed** to have their **first automatic exchange of information on tax matters**.
- Switzerland is the **largest exporter to India from Europe**.

### India-Slovenia

- India recognized the independent state of Slovenia in **1992** and supported its **candidature for the membership at the UN**.



- The balance of trade between the **two nations is tilted in favour of India**.
- **First time Indian President** visited Slovenia recently in **2019**.
- India and Slovenia signed and exchanged seven MoUs and Programmes of Cooperation in the fields of Investment, Sports, Culture Science & Technology and Standards.
- India sought for Slovenia's support in its bid to get permanent membership at the UN Security Council and the membership of the **Nuclear Suppliers Group**.

### International Yoga Day 2019

- The theme for the **fifth** International yoga 2019 day is '**Yoga for Heart**'.
- Yoga is inscribed in the list of **UNESCO Intangible Cultural Heritage of Humanity of India**.

### Nuclear Supplier Group

- The Nuclear Suppliers Group (NSG) was created following the explosion in **1974 of a nuclear device by a non-nuclear-weapon State (India)**.
- It is a group of nuclear supplier countries that seeks to contribute to the non-proliferation of nuclear weapons through the implementation of Guidelines for nuclear exports and nuclear-related exports.
- The grouping has 48 participating governments where decisions are taken by consensus.

Note:



## India – The Top Source of Immigrants

According to the **International Migrant Stock 2019 report**, released by the **United Nations Department of Economic and Social Affairs (UNDESA)**, India has emerged as the leading country of **origin for immigrants** across the world.

### Highlights of the Report

- The report provides the latest estimates of the number of international migrants **as per their age, sex, and origin**, for all countries and areas of the world.
- **India** remained the top source of international migrants constituting **6.4% of the total world's migrant population**.
  - The **most preferred destination of the Indian migrants** was the **UAE** followed by the **US** and then **Saudi Arabia**.
  - In **India**, the highest number of international migrants came from **Bangladesh, Pakistan and Nepal**.
- The **percentage of international migrants** of the total global population has increased to **3.5% from 2.8%** in 2000.
- The **one-third of all international migrants** originated from mostly 10 countries.
  - India (17.5 million international migrants) followed by Mexico (12 million migrants), China (11 million), Russia (10 million) and Syria (8 million).
- The **European region** hosted the **highest number of immigrants** (82 million), followed by North America (59 million) and Northern Africa and Western Asia (49 million).
  - Among **countries**, the **U.S. hosted the highest number of international migrants** that constitute about **19% of the global population**.

### United Nations Department of Economic and Social Affairs (UNDESA)

- It was formed in the year **1948** as the development pillar of the **United Nations**.
- UN DESA is a **pioneer of the Sustainable Development Goals (SDGs)**.
- It helps countries translate their global commitments into national action in the economic, social and environmental spheres.

- The **share of women and girls** in the global number of **international migrants** fell slightly from **49% in 2000 to 48% in 2019**.
- In terms of **age**, **one out of every seven** international migrants is **below the age of 20 years**.

## India and Belgium-Luxembourg Economic Union

The 16<sup>th</sup> Session of the **Joint Economic Commission (JEC)** between India and Belgium Luxembourg Economic Union (BLEU) was held in New Delhi.

- India and BLEU reiterated the importance of the **Joint Economic Commission (JEC)** towards the development of bilateral economic and trade relations.
- It was established in **1997** organized **biennially** at the **respective capital cities of the three countries alternatively**.



### Belgium Luxembourg Economic Union

- Belgium Luxembourg Economic Union (BLEU) was created by a treaty signed in **1921**.
  - Under the terms of the treaty, the economic frontier was lifted and the Belgian franc and Luxembourg franc were set at a fixed parity establishing a monetary union, which existed until the introduction of the euro.
  - A new convention was signed in 2002, between the two nations.
- Most of the aims of BLEU have largely been taken up by the **Benelux Union (between Luxembourg, Belgium, and the Netherlands)** and the **European Union**.
- The Belgium-Luxembourg Economic Union is the **world's 13<sup>th</sup> largest export economy**.

### India-Belgium

- Belgium was among the **first European countries** to establish **diplomatic relations** with **independent India** in 1947.
- India is **Belgium's second-largest export destination** and **fourth-largest trade partner** outside the **European Union**.

Note:



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- Trade in **diamonds** dominates India-Belgium bilateral trade.

- Belgium is the **22<sup>nd</sup> largest investor in India**.

### India-Luxembourg

- India and Luxembourg established diplomatic relations in **1948**.
- Luxembourg is the **16<sup>th</sup> most important investor in India** and among EU member states it ranks **4<sup>th</sup> among the combined FDI and FII investors in India**.
- The sectors that attracted maximum investments from Luxembourg include trading, computer software & hardware, services sector, agricultural machinery, and chemicals.
- India and Luxembourg have had **longstanding cooperation in the steel sector**.



## India – Mongolia Relations

Recently, the Mongolian President visited India as both the countries emphasized not only the expansion of strategic partnerships but also **the conversion of a strategic relationship into the spiritual brotherhood**.

- The two countries have also signed **Memorandum of Understandings (MoUs) on Space Cooperation and Disaster Management** that will provide a new dimension to the India-Mongolia strategic partnership.
  - A joint statement on space cooperation would allow **peaceful exploration of outer space and include remote sensing and weather forecasting services** for both the countries.
- Both sides took stock of the project to build a **Cyber Security Training Centre** to be established in Mongolia with Indian support.
- The scope of India and Mongolia regular military exercises named **“Nomadic**



**Elephant”** and **“Khaan Quest”** is expected to be broadened.

- The year **2020** will mark the **65<sup>th</sup> anniversary** of the establishment of diplomatic relations between India and Mongolia.

### Timeline of India-Mongolia Relations

- The common **Buddhist heritage and civilizations** link two countries and peoples.
- India established diplomatic relations with Mongolia in **1955** as Mongolia declared India as a **“spiritual neighbour”** and strategic partner
- Mongolia along with India and Bhutan co-sponsored the famous **UN Resolution for the recognition of Bangladesh as an independent country in 1972**.
- The **first-ever visit by Prime Minister of India to Mongolia** was in **2015** marked the **60<sup>th</sup> anniversary** of the establishment of diplomatic relations between India and Mongolia.
- Mongolia voted in favour of India’s proposal to **Yoga’s inscription into the list of UNESCO’s Intangible Cultural Heritage**.
- **Mongolia has publicly reiterated its support** for India’s membership to the permanent seat of expanded UNSC.

### SAMVAAD dialogue

- SAMVAAD dialogue brings Buddhist religious leaders, experts and scholars from different countries together to deliberate on contemporary issues related to Buddhism.
- The conference urged open and truthful global dialogue on conflicts and the environment.

### General Assembly of Asian

#### Buddhist Conference for Peace (ABCP)

- It was initiated at **Ulaanbaatar, (Mongolia) in 1969-70** as a **voluntary movement** of followers of Lord Buddha, both monks and lay, striving to disseminate and implement the teachings of the Enlightened One on peace and harmony, compassion and loving-kindness for all sentient beings on Earth.
- It aims to bring together the efforts of Buddhists in support of consolidating universal peace, harmony, and cooperation among the peoples of Asia.
- The year 2019 marks the 50th anniversary of the Assembly of Asian Buddhist Conference for Peace (ABCP).

Note:



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## 74<sup>th</sup> UNGA

The Prime Minister of India addressed the 74<sup>th</sup> session of the United Nations General Assembly (UNGA) on September 27, 2019.

- The **General Assembly is the main deliberative, policymaking and representative organ of the UN.**
- All **193 Member States** of the UN are represented in the General Assembly, making it the only UN body with universal representation.
- **Each year, in September**, the full UN membership meets in the General Assembly Hall in **New York** for the **annual General Assembly session** and general debate, which many heads of state attend and address.

### Events on the sidelines of the Meeting

#### Climate Action Summit

It was hosted by the UN Secretary. It had the key focus on raising ambition and accelerate action to implement the **Paris Agreement**.

#### Key Takeaways

- **Renewable Energy:** India will increase renewable energy capacity to beyond 175 GW (capacity as committed under the Paris Climate Agreement) by 2022.
- **Water Conservation:** Spend approximately \$50 billion in the next few years on the **Jal Jeevan Mission** to conserve water, harvest rainwater and develop water resources.
- **Two International Initiatives:**
  - **Leadership Group:** India and Sweden together with other countries have announced a new 'Leadership Group for Industry Transition' that will drive transformation in hard-to-decarbonize and energy-intensive sectors.
  - **Coalition for Disaster Resilient Infrastructure (CDRI):** An international partnership that will support countries- developed and developing- to build **climate and disaster resilient infrastructure**.
    - The Government of India, the United Nations Office for Disaster Risk Reduction (UNDRR) and partners have together worked on the CDRI initiative.
    - The Coalition's secretariat is based in Delhi.
- **Gandhi Solar Park and Gandhi Peace Garden:** These were inaugurated by the Prime Minister of India at the headquarters (New York) of the United Nations. A special **UN Postage stamp on Gandhi's 150 years** was also released.

#### Gandhi Solar Park

- It is a **first of its kind symbolic Indian effort at the UN** that highlights India's willingness to go beyond the talk on climate change and climate action.
- At a contribution of about USD 1 million, India has **gifted solar panels** that have been installed on the roof of the UN Headquarters, **one panel each for every 193 UN member states**.

#### Gandhi Peace Garden

- It is an innovative initiative under which the Consulate-General of India in New York, Long Island-based NGO Shanti Fund and the State University of New York-Old Westbury have entered into an agreement **to plant 150 trees**.
- It is a crowd-sourced project, with people adopting trees in memory of their loved ones.
- The garden is in an open site within the 600-acre campus of the university.

#### High-Level Meeting on Universal Health Coverage

The Prime Minister of India, while addressing the **first-ever high-level meeting on Universal Health Coverage**, underscored that 'a healthy life is the right of every person'. He also outlined the **four main pillars of healthcare** that India focuses on:

- **Preventive Healthcare:** India has laid special emphasis on yoga, ayurveda and fitness which has helped in controlling lifestyle diseases such as diabetes, blood pressure and depression.
  - **Fit India Movement** has been launched recently.
  - The Clean India Campaign has contributed towards saving millions of lives.
  - Apart from introducing new vaccines, the government has improved access to vaccination in far flung areas.
- **Affordable Healthcare:** For this the government has rolled out the world's largest health insurance scheme: **Ayushman Bharat**.
  - Under this scheme, 500 million poor people have been given the facility of free treatment worth up to Rs. 500,000 every year. In 2018, 4.5 million people availed of this facility.
  - India has also helped in providing access to affordable healthcare by way of **telemedicine to several other countries**, especially African countries.

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- **Supply Side Intervention:** India's focus has been on establishment of modern institutions for quality medical education.
- **Mission Mode Intervention:**
  - In order to improve the health of women and children, a **National Nutrition Campaign** and other new programmes have been launched in mission mode.
  - Also, India is committed to eliminate Tuberculosis by 2025, five years ahead of the global goal of 2030.

#### Note:

At the meeting, the world leaders adopted a high-level **United Nations Political Declaration on Universal Health Coverage (UHC)**, to be achieved by 2030.

- **Universal health coverage** means that **all people have access to the health care they need, when and where they need it**, without facing financial hardship.
- The declaration is said to be the most comprehensive set of health commitments ever adopted.
- Countries, including India, made a financial and political commitment to accelerate progress towards universal health coverage by scaling up essential health services, affording financial risk protection and ensuring access to safe, quality, effective and affordable medicines and vaccines for all.

#### Line of Credit to Pacific Island Nations

India has announced a **\$150 million worth line of credit to the group of Pacific island nations** for undertaking solar, renewable energy and climate-related projects.

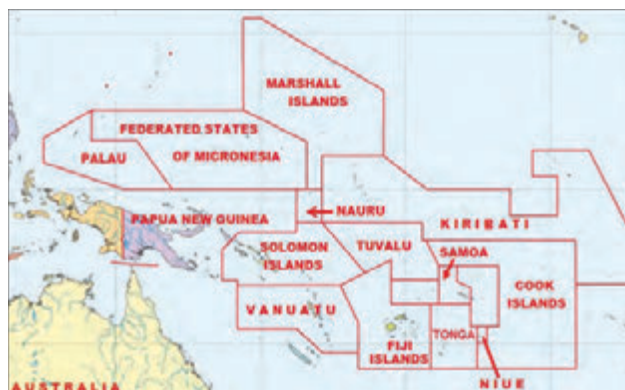
- The Indian PM also invited the leaders of the Pacific Small Island Developing States (PSIDS) to join the **Coalition for Disaster Resilient Infrastructure (CDRI)**.
- In the health sector, the Prime Minister **offered to organize a Jaipur Foot Artificial Limb Fitment Camp** in a Pacific regional hub under 'India for Humanity' programme.

#### India for Humanity

- As **part of the 150<sup>th</sup> Birth Anniversary celebrations of Mahatma Gandhi**, the 'India for Humanity' initiative was launched in **2018 in honour of Gandhiji's service to humanity**.
- The initiative was launched by the **Ministry of External Affairs**.
- It features a year-long series of **artificial limb fitment camps** in a number of countries spanning the globe.

#### India and PSIDS Relations

- With the evolution of the **Act East Policy of India**, India's relationship with Pacific Island nations has deepened.
  - This resulted in the setting up of an action-oriented multinational grouping named Forum for India-Pacific Island Cooperation (FIPIC) in 2014, between India and the 14 Pacific Island nations.
- The PSIDS **comprises of the 14 Pacific Island countries** viz. The Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, Niue, Palau, Papua New Guinea, Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.



- India and PSIDS have shared values and a shared future. The need today is for inclusive sustainable development policy in order to reduce inequalities and improve the quality of people's lives.

#### Quad Meet

The foreign ministers of the **Quad countries – India, US, Australia and Japan** – met on the sidelines of the UNGA meeting on 27th September 2019.

- The group is seen as a **regional counterweight to China** and has only met at the Joint or Assistant Secretary level since 2017. The latest meeting is seen as an upgrade by at least three levels.

#### Quad

- The Quadrilateral security dialogue or Quad was **first mooted by the Japanese Prime Minister in 2007**.
- However, the idea couldn't move ahead with Australia pulling out of it, apparently due to Chinese pressure.
- In **November 2017, India, the US, Australia and Japan gave shape to the long-pending "Quad" Coalition** to develop a new strategy to **keep the critical sea routes in the Indo-Pacific free of any influence (especially China)**.

Note:



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- **India has been hesitant about the Quad**, in part because it does not want to isolate China and because it has had a history of staying clear of security alliances.
- **Members of the Quad, barring Australia**, are currently engaged in the annual **Malabar exercises** – military exercises that started between India and the U.S. in 1994 and became trilateral (with Japan) in 2015.
  - India has not permitted Australia to participate in these exercises, concerned about what message it would send to China, which is wary of the exercise.

#### G-4 Meeting

- The foreign ministers of **G-4** grouping also held a meeting on the sidelines of the 74th session of the United Nations General Assembly (UNGA).
- **G-4** is a group of four countries i.e. **Brazil, Germany, India and Japan** which support each other's bids for permanent seats on the United Nations Security Council (UNSC).
- The G-4 countries have decided to **prepare for a fresh push for reforms at the UNGA in 2020** when the UN celebrates its 75<sup>th</sup> anniversary.
- It was highlighted that there is a clear **need for an enhanced role of developing countries** and of major contributors to the United Nations to make the UNSC more legitimate, effective and representative.
  - This means that India and Brazil — the two developing countries in G-4 grouping — should get a place along with China, which is the only developing country in the UNSC.
  - The countries also put a focus on the role of the African continent in the Council.
- G-4 said that the **reforms-related decisions should be by a two-third majority in the UN General Assembly**, which was enshrined in the 1998 resolution of the UNGA.
  - This is contrary to the position taken by China, which has always said that the decisions should be taken through "comprehensive consensus".

#### India – CARICOM

Indian Prime Minister met 14 leaders of the CARICOM group of countries.

- The meeting deliberated on the steadily intensifying and deepening relations between India and partner countries of the Caribbean, not only in the bilateral but also in the regional context.
- India has provided immediate financial assistance of

**USD 1 million** to recover from the destruction caused by **Hurricane Dorian** in the region and the worst-hit island of Bahamas.

- India also announced a USD 14 million grant for community development projects in the CARICOM and another **150 million Line of Credit for solar, renewable energy and climate-change-related projects**.

#### Caribbean Community (CARICOM)



- The Caribbean Community was **formed in 1973**.
- CARICOM has **15 members** – Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad & Tobago.
- The **Chairmanship** of the Community is **rotated every six months** among the member countries.
- The CARICOM Single Market and Economy are intended to benefit the people of the region by providing more and better opportunities to produce and sell goods and services and to attract investment.
- The **Government of India funded the US\$ 1.166 million information technology** and communication infrastructure, computer software and community studio **at the CARICOM Secretariat in 2005-2006**.

#### PACEsetter Fund Programme

Recently the **Ministry of New and Renewable Energy** awarded grants to the awardees of the **second round of PACEsetter fund programme**.

- The PACEsetter fund was constituted by **India and the USA in 2015** as a **joint fund**.
- The mission of the PACEsetter Fund is to accelerate the commercialization of innovative off-grid clean energy access solutions by providing early-stage grant funding that would allow businesses to develop and test innovative products, business models and systems.



Note:

# Science and Technology

## Highlights

- Indigenous Fuel Cell System
- Radiative Cooling & Electricity Generation
- Darknet
- Coal Gasification Plant for Urea Project
- Genetically modified *Aedes aegypti*
- Carcinogen Substances in Ranitidine
- Goldschmidtite
- Controlled Human Infection Model (CHIM)
- Methane: Space Fuel

## Indigenous Fuel Cell System

On the occasion of the Council of Scientific and Industrial Research (CSIR) Foundation Day, the President introduced India's first indigenously developed high-temperature based Fuel Cell System.

- It is developed under the Public-Private Partnership (PPP) model by the Council of Scientific and Industrial Research (CSIR) in partnership with Indian industries.
- It is built under India's flagship programme named 'New Millennium Indian Technology Leadership Initiative (NMITLI)'.

### Specifications

- The developed fuel cells are based on High-Temperature Proton Exchange Membrane (HTPEM) technology.
- It is a 5.0 kW fuel cell system that generates power in a green manner.
  - It takes methanol or bio-methane as the input and produces heat and water as its by-products, which can be further used.
- This helps to attain an efficiency that is greater than 70%, which is difficult to achieve by other energy sources.

### Applications

- This fuel system is most suitable to fulfil distributed stationary power applications demands like in small offices, commercial units, data centres, etc. where highly reliable power is essential with simultaneous requirement for air-conditioning.
- This system will meet the requirement of efficient, clean and reliable backup power generators that are demanded by telecom towers, remote locations, and strategic applications.

## High-Temperature Proton Exchange Membrane (HTPEM) Technology

- High - Temperature Proton - Exchange - Membrane (HTPEM) is the core of the fuel cells that run above 150°C. It works on two modes of operations with respect to the source of fuel.
- One mode is based on the conversion of natural gas into hydrogen by means of steam reforming. This mode is used to fulfill stationary power demands.
  - Steam reforming or steam methane reforming is a chemical synthesis process for producing syngas (hydrogen and carbon monoxide) from hydrocarbons such as natural gas.
- The second mode is based on the operation of Hydrogen with Oxygen obtained by the process of electrolysis. This is generally used in the space-related applications.
  - Electrolysis is a chemical decomposition process in which an electric current is passed through a liquid or a solution containing ions.

## Council of Scientific and Industrial Research (CSIR)

- CSIR is an autonomous research and development body established by the Government of India on 26<sup>th</sup> September 1942.
- It is established under the Ministry of Science and Technology.
- It covers a wide spectrum of science and technology fields from radio and space physics, oceanography, geophysics, chemicals, drugs, genomics, biotechnology, and nanotechnology to mining, aeronautics, instrumentation, environmental engineering, and information technology.

Note:



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**New Millennium Indian****Technology Leadership Initiative (NMITLI)**

- It is the largest Public-Private-Partnership effort within the R&D domain in the country.
  - NMITLI seeks to catalyze innovation centred scientific and technological developments as a vehicle to attain for Indian industry a global leadership position, in selected niche areas. It synergizes the best competencies of publicly funded R&D institutions, academia, and private industry.
  - NMITLI has so far evolved 60 largely networked projects in diversified areas viz. Agriculture & Plant Biotechnology, General Biotechnology, Bioinformatics, Drugs & Pharmaceuticals, Chemicals, Materials, Information and Communication Technology, and Energy.
- The Fuel Cells fit well in India's mission of replacing Diesel based Generating (DG) sets with the green and alternate fuels.
    - This development is therefore expected to reduce India's dependence on crude oil.
  - The technology has placed India in the league of developed nations which are in possession of such a knowledge base.

**Way Forward**

- In the field of clean energy, Fuel Cell distributed power generation systems are emerging as a promising alternative to grid power.
- The development of indigenous fuel cell technology carries immense national importance in terms of energy security.

## Radiative Cooling & Electricity Generation

Recently, a scientist of Indian-origin has demonstrated a new way **to generate electricity at night, without any active heat input.**

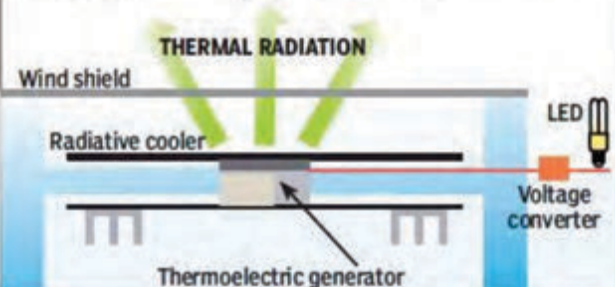
- According to the **laws of thermodynamics**, everything on Earth emits heat.
  - At night, when one side of Earth turns away from the sun, its buildings & streets cool off.
  - If no clouds are present to trap warmth, objects on the Earth can lose so much heat that they reach a lower temperature than the air surrounding them.

**POWERED BY TEMPERATURE CHANGE**

**Aaswath Raman's** device employs radiative cooling, a phenomenon that makes buildings and parks feel cooler than the surrounding air after sunset. His prototype uses a polystyrene disk coated in black paint and covered with a wind shield. At its heart is a thermoelectric generator

**How the device works**

- As the device releases heat, it does so unevenly, the top side cooling more than the bottom
- Thermoelectric generator at the centre of the device uses the difference in temperature between opposite sides of the device to generate a current

**This underlying method has been used for millennia**

Humans have taken advantage of this effect for millennia. Six thousand years ago, people constructed enormous beehive-shaped structures called **yakhcahl** to create and store ice in the desert

**Potential Application**

- This could be an effective approach for **power generation suitable for remote locations**, and anywhere where power generation at night is needed.
- While solar cells are an efficient source of renewable energy during the day, there is currently no similar renewable approach to generating power at night.

**Way Forward**

- Although the amount of electricity it generates per unit area remains relatively small, limiting its widespread applications for now, but the researchers predict it can be made twenty times more powerful with improved engineering – such as by suppressing heat gain in the radiative cooling component to increase heat-exchange efficiency.

Note:



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## Darknet

The Kerala Police has set up a 'state-of-the-art lab' to intervene and **crack down** on the rising **criminal activities** over the **Darknet**, also known as the **underworld of the Internet**.

- Spearheading the programme is **Cyberdome**, the **State police department's premier facility** dedicated to prevent cybercrime and mitigate security threats to the State's critical information infrastructure.
- According to Section 70(1) of the Information Technology Act, the **Critical Information Infrastructure (CII)** is **defined** as a "computer resource, incapacitation or destruction of which, shall have a debilitating impact on national security, economy, public health or safety".

### Darknet

- **Internet consists of three layers:**
  - The first layer is **public**, consisting of sites that one uses frequently such as Facebook, Twitter, Amazon and LinkedIn. This layer makes up only 4% of the entire internet.
  - The second layer, **the deep web**, is a network where data is **stored in inaccessible databases** (i.e. cannot be accessed through traditional search engines like Google). It is used to provide **access to a specific group of people**.
    - The data is generally sensitive and private (government private data, bank data, cloud data etc), so kept out of reach.
  - The third layer is **the darknet** which is also known as a part of the 'Deep Web'. It is a network built over the **internet which is encrypted**.
    - It is basically a layer of the Internet accessible **only by using special software like Tor (The Onion Router)**, or I2P, which stands for Invisible Internet Project.
    - Anything present on the dark web will not be pulled up in internet searches, thereby offering a **high degree of anonymity**.
- **Concerns over Darknet:**
  - In February 2016, in a study titled 'Cryptopolitik and the Darknet', researchers analysed content over the TOR network.
    - Of the 2,723 websites they could classify by content, 1,547 – 57 % – hosted **illicit material** ranging from **drugs** (423 sites), **illegitimate**

**pornography** (122) and **hacking** (96), among others.

- There were also reports of **log-in details of streaming sites** like Netflix being sold on the dark web marketplaces for cheap rates.
- The network is also **used by several activists** especially those living under oppressive regimes to communicate without any government censorship.
  - The TOR network was used by activists during the Arab Spring.
- **Darknet and India:**
  - The **Information Technology Act deals with cybercrime** and comes under the Ministry of Electronics and Information Technology. There are only six sections in the law that deal with cybercrime.
  - With the changing times, India **needs a code of criminal procedures** dealing with cybercrime **that would come under the Ministry of Home Affairs**, which deals with policing issues.
  - Also, there is a need for **police, trained in changing cyber trends** who are dedicated only towards investigation of cybercrimes.

## Coal Gasification Plant for Urea Project

The Minister of Chemicals & Fertilizers has signed a contract for the coal gasification plant for the urea project at Talchar, Odisha.

- Currently, the production of urea in the country is done by using **pooled natural gas** which comprises domestic Natural Gas and **imported Liquefied Natural Gas (LNG)**.
- Hence it is preferred that an indigenous raw material is used for the production of urea to reduce spending of valuable foreign exchange.

### Coal Gasification

- The process of Coal Gasification **chemically transforms the fossil fuel into Synthetic Natural Gas (SNG)**, instead of burning fossil fuel.
- It produces **Syngas** which is a mixture consisting primarily of methane (CH<sub>4</sub>), carbon monoxide (CO), hydrogen (H<sub>2</sub>), carbon dioxide (CO<sub>2</sub>) and water vapour (H<sub>2</sub>O).
- It is primarily used for electricity generation, as well as for the production of chemical feedstocks.

Note:



## Genetically modified *Aedes aegypti*

The genes from genetically-modified *Aedes aegypti* mosquito were found to have been transferred to naturally-occurring *Aedes aegypti* mosquito population in Brazil when the former transgenic mosquitoes were released.

- *Aedes aegypti* mosquitoes are responsible for **transmitting Dengue, Chikungunya and Zika virus**.
- It is **unclear** if the presence of transgenic mosquito genes in the natural population will affect the disease transmission capacity or make mosquito control efforts more difficult.
- The employed genetic strategy RIDL (Release of Insects Carrying Dominant Lethal Genes) **was supposed to only reduce the population of the naturally occurring *Aedes aegypti* mosquitoes and not affect or alter their genetics**.
- But the study has found **transgenic genes in 10-60% of naturally-occurring mosquitoes**.
- Also, the **naturally occurring *Aedes aegypti* mosquitoes carrying some genes of the transgenic mosquitoes are able to reproduce in nature**.

### Zika Virus

- Zika virus is a **mosquito-borne flavivirus** that was first identified in **Uganda in 1947 in monkeys**. Later, identified in **humans in 1952 in Uganda** and the United Republic of Tanzania.
- Zika virus disease is caused by a virus transmitted primarily by *Aedes* mosquitoes and can be passed from a pregnant woman to her foetus; and Sexual transmission of Zika virus is also possible.
- There is **no vaccine or medicine** for Zika.

### Dengue

- Dengue is transmitted by several species of mosquito within the genus *Aedes*.
- Symptoms include fever, headache, muscle, and joint pains, and a characteristic skin rash that is similar to measles.
- **Dengvaxia is the first dengue vaccine** but the **Indian drug controller is yet to grant approval** to it.

### Chikungunya

- Chikungunya is caused by a **mosquito-borne virus**.

- Its symptoms are characterized by abrupt fever and severe joint pain, often in hands and feet, and may include headache, muscle pain, joint swelling or rash.
- There is **no specific antiviral drug treatment or commercial vaccine** for chikungunya.

## Carcinogen Substances in Ranitidine

After the US Food and Drug Administration (FDA) flagged the **low-level presence of the carcinogenic substances in Ranitidine**, the **Central Drugs Standard Control Organisation (CDSCO)** has also issued directives to check the presence of carcinogenic substances in Ranitidine.

- **CDSCO** has also asked states to ensure that Ranitidine is sold only under prescription as it is a **prescription drug included in Schedule H**.

### Ranitidine

- Ranitidine is **one of the oldest drugs to be used in acidity** and upper intestinal ulcers and is available in various formulations including tablets, injections, etc.
- Some Ranitidine medicines contain a **Nitrosamine Impurity called N-nitrosodimethylamine (NDMA)** at low levels which is **considered as carcinogenic**.
  - Although NDMA may cause harm in large amounts, the levels the FDA found in Ranitidine from preliminary tests barely exceed amounts even found in common foods.
  - **Nitrosamine** is a type of chemical found in tobacco products and tobacco smoke. These are also found in many foods, including fish, beer, fried foods, and meats. Some nitrosamines cause cancer in laboratory animals and may increase the risk of certain types of cancer in humans.
  - A **carcinogen** is any **substance or radiation that promotes carcinogenesis, the formation of cancer**.
- It is on the **World Health Organisation's 'Model List of Essential Medicines'**.
- Under the Drugs and Cosmetics Rules, 1945, drugs under **Schedule H** shall have labels displaying the texts "Rx" and "Schedule H" drug.
  - Drugs under this schedule are **to be sold by retail on the prescription of a Registered Medical practitioner only**.

Note:



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**Central Drugs Standard Control Organisation**

- CDSO is the **Central Drug Authority** for performing functions assigned to the Central Government under the Drugs and Cosmetics Act.
- It functions under the **Ministry of Health and Family Welfare**.
- Major **functions** of CDSO:
  - **Regulatory control over the import of drugs**, approval of new drugs and clinical trials.
  - **Approval of certain licenses** as Central License Approving Authority is exercised by the CDSO.
- It has its **Headquarters in New Delhi**.

**Goldschmidtite**

Recently a new mineral has been discovered inside a diamond unearthed from a mine in South Africa.

- It has been found in Earth's Mantle (A part of **Interior of the Earth**) which covers 80% of earth's volume.
- Goldschmidtite has high concentrations of niobium, potassium and the rare earth elements such as lanthanum and cerium.
- The found single grain is dark green in colour and opaque.
- The mineral has been named after the Norwegian scientist Victor Moritz Goldschmidt, who is considered as the founder of Modern Geochemistry.

**Controlled Human Infection Model (CHIM)**

Recently, The Department of Biotechnology (DBT) has proposed to develop **new influenza vaccines** using a **Controlled Human Infection Model (CHIM)**.

- Under the CHIM approach, **volunteers who take part in trials will be infected with a virus or bacteria**, under expert supervision.
- Vaccines traditionally are made of a **weakened form of a disease-causing virus or bacteria** and injected into the body to **coax the immune system** into making antibodies that create **immunity against future infection**.
- A CHIM approach will speed up the process whereby scientists can comprehend/conjecture whether potential vaccine candidates can be effective in

people and identify the factors to determine why some people vaccinated with the new medicine get sick and others do not.

- It would also help to **study bacterial or enteric viruses** (residing in the intestine) like **cholera** which is **prevalent in India**.
- Earlier, The Hyderabad-based biotech company, **Bharat Biotech**, used the CHIM approach to develop a **Typhoid vaccine**.
  - Though the vaccine is already licensed in India the vaccine's potency was evaluated by infecting human volunteers at Oxford University in the **U.K. and not in India**.
- The risk in such trials is that **intentionally infecting healthy people** with an **active virus** and causing them to be sick is **against medical ethics**.

**Methane: Space Fuel**

The **Indian Space Research Organization (ISRO)** is developing **methane-powered rocket engines**.

- **Methane**, which can be **synthesised with water and carbon dioxide in space**, is often described as the **space fuel of the future**.
- ISRO **currently** prefers to use a fuel called **Unsymmetrical Di-Methyl Hydrazine**, along with Nitrogen tetroxide for oxidiser, in its liquid fuel engines, which are used in the lower stages of its rockets; **Polar Satellite Launch Vehicle (PSLV)** and **Geosynchronous Satellite Launch Vehicle (GSLV)**.
  - This fuel, like all hydrazine-based fuels, is said to be **highly toxic and cancer-causing**.
  - Globally, governments are keen on banning hydrazine.
- **Advantages of Methane over Hydrazine:**
  - Apart from being non-toxic, it has a **higher specific impulse** (which means one kg of the gas can lift one kg of mass for a longer time).
  - It is easy to store and does not leave a residue upon burning.
  - It is less bulky and can be synthesised up in space.
- **Disadvantage:** Methane-fired engines **need an igniter to start** the fire whereas **Hydrazine fuels are hypergolic**, which means they start burning on their own as soon as they come in contact with oxygen.



Note:

# Environment and Ecology

## Highlights

- World Ozone Day
- Vulture Culture
- Special Report on Climate Change: IPCC
- Ganga Data Collector App
- Climate Change and Ocean Currents

## World Ozone Day

Every year, **16<sup>th</sup> September** is observed as the **International Day for the Preservation of the Ozone layer**.

- The **theme** for the **year 2019** is '**32 Years and Healing**'.
  - It celebrates over three decades of remarkable international cooperation to protect the **ozone layer** and the climate under the **Montreal Protocol**.
- In 1994, the **United Nations General Assembly proclaimed** 16<sup>th</sup> September the International Day for the Preservation of the Ozone Layer, commemorating the **date of the signing, in 1987, of the Montreal Protocol on Substances that Deplete the Ozone Layer**.
- The latest Scientific Assessment of Ozone Depletion completed in 2018, shows that **parts of the ozone layer has recovered** at a **rate of 1-3% per decade since 2000**.
- Ozone layer protection efforts have also contributed to the fight against climate change by averting an estimated 135 billion tonnes of carbon dioxide equivalent emissions, from 1990 to 2010.

### Ozone

- Ozone (composed of three atoms of oxygen) is present **both in the Earth's upper atmosphere (Stratosphere) and at ground level (Troposphere)**.
  - **Stratospheric Ozone:**
    - It is also known as Good Ozone.
    - It forms a protective layer that **shields** living organisms from the **sun's harmful ultraviolet rays**.
  - **Tropospheric Ozone:**
    - Surface level ozone is a harmful air pollutant, thus it is also known as Bad Ozone.

- It is formed near **ground level** **when pollutants emitted** by cars, power plants, industrial boilers, refineries, and other sources **react chemically in the presence of sunlight**.

### Conventions and Protocols related to Prevention of Ozone Layer Depletion

- **The 1985 Vienna Convention** for the Protection of the Ozone Layer is an international agreement in which United Nations members recognized the fundamental importance of preventing damage to the stratospheric ozone layer.
- **The 1987 Montreal Protocol** on Substances that Deplete the Ozone Layer and its succeeding amendments were subsequently negotiated to control the consumption and production of anthropogenic ozone-depleting substances (ODSs) and some hydrofluorocarbons (HFCs).
- **2016 Kigali Amendment to the Montreal Protocol** will phase down the production and consumption of some HFCs and avoid much of the projected global increase and associated climate change.

## Vulture Culture

India is home to **nine species of vultures**, but most of them face the danger of extinction.

The nine species of vultures & their International Union for Conservation of Nature (IUCN) status is:

### Reasons for Death of Vultures

- The major reason behind the vulture population getting nearly wiped out was the **drug Diclofenac**.
- It is **found in the carcass of cattle** on which the vultures feed.
  - The **drug was commonly fed** to cattle to **treat inflammation**.

Note:

Sr. No.	Name of the Vulture Species	IUCN status	Pictorial Representation
1.	Oriental White-backed Vulture (Gyps Bengalensis)	Critically Endangered	
2.	Slender-billed Vulture (Gyps Tenuirostris)	Critically Endangered	
3.	Long-billed Vulture (Gyps Indicus)	Critically Endangered	
4.	Egyptian Vulture (Neophron Percnopterus)	Endangered	
5.	Red-Headed Vulture (Sarcogyps Calvus)	Critically Endangered	
6.	Indian Griffon Vulture (Gyps Fulvus)	Least Concerned	
7.	Himalayan Griffon (Gyps Himalayensis)	Near Threatened	
8.	Cinereous Vulture (Aegypius Monachus)	Near Threatened	
9.	Bearded Vulture or Lammergeier (Gypaetus Barbatus)	Near Threatened	

- Its veterinary use was **banned in 2008** by the Government of India.
- **Bioaccumulation** (the accumulation of a contaminant, such as pesticides, or other chemicals in an organism) of Diclofenac caused **kidney failure in Vultures, leading to death.**

### Conservation Efforts

- To study the cause of deaths of vultures in India, a **Vulture Care Centre (VCC)** was set up at Pinjore, **Haryana** in 2001.
- Later in 2004, the VCC was upgraded to being the **first Vulture Conservation and Breeding Centres (VCBC) in India.**

- At present, there are nine Vulture Conservation and Breeding Centres (VCBC) in India, of which three are directly administered by the Bombay Natural History Society (BNHS).
- The main objective of the VCBCs was to look after the vultures and **breed them in captivity** and also **release them into the wild.**
- So far **nine states** have undertaken programmes to **create safe habitats for vultures.**
- **White-backed Vulture, Slender-billed Vulture, Long-billed Vulture** and **Red-Headed Vulture** are three species found in India which are already **Critically endangered under IUCN Red List.**

## Special Report on Climate Change: IPCC

The Intergovernmental Panel on Climate Change (IPCC) made public '**The Special Report on the Ocean and Cryosphere in a Changing Climate**' at the United Nations Climate Summit.

- The published report is the last in a series of three reports on specific themes that IPCC has published, namely:
  - **Global Warming of 1.5° C:** A special report, which was commissioned to specifically explore the **scientific feasibility of the 1.5°C** goal set in the Paris Agreement.
  - **Land and climate change:** The report focuses on the **contribution of land-related activities to global warming** i.e how the different uses of land affect the emission of greenhouse gases.
- The report also **updates the IPCC's 5<sup>th</sup> Assessment Report** — and summarises the disastrous impacts of warming based on current status/scenario of global greenhouse gas emissions.

### Key Findings of the Report

- The ocean is projected to **transition to unprecedented conditions** with increased temperatures, **ocean acidification, marine heatwaves** and more frequent extreme **El Niño** and **La Niña** events, over the 21<sup>st</sup> century.
- **Ocean Warming:**
  - Since 1993, the **rate of ocean warming has doubled.**
  - Marine heatwaves have very likely doubled since 1982 and are increasing in intensity.

Note:



### ➤ Global Mean Sea-Level:

- Between 2006 and 2015, the global mean sea level recorded an **average rise of 3.6 mm per year**, which was more than double of 1.4 mm per year recorded in the first 90-year-period of the 20<sup>th</sup> century.
- Sea-level rise is not globally uniform and **varies regionally**. Regional differences, within 30% of global mean sea-level rise, result from land ice loss and variations in ocean warming and circulation.

### ➤ The Melting of Glaciers:

- Between 2006 and 2015, the **Greenland ice sheet lost ice-mass at an average rate of 278 billion tonnes every year**, which was enough to result in a global sea-level rise of 0.8 mm per year.
- During the same period, the **Antarctic ice sheet lost a mass of 155 billion tonnes on an average every year**.
- Snow over outside of these two poles, like the glaciers in the Himalayas, together lost an average of 220 billion tonnes of ice every year.
- Since the mid-20th century, the shrinking cryosphere has led to predominantly negative impacts on food security, water resources, water quality, livelihoods, health, and well-being, as well as the culture of human societies, particularly for Indigenous people.

### Intergovernmental Panel on Climate Change (IPCC)

- The Intergovernmental Panel on Climate Change (IPCC) is the **international body for assessing the reasons and causes behind climate change**.
- It was set up in **1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP)** to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.
- IPCC assessments provide a scientific basis for governments at all levels to develop climate-related policies, and they underlie negotiations at the **UN Climate Conference – the United Nations Framework Convention on Climate Change (UNFCCC)**.

### IPCC's 5<sup>th</sup> Assessment Report

- The IPCC **prepares comprehensive Assessment Reports** about the state of scientific, technical and socio-economic knowledge on climate change, its impacts and future risks, and options for reducing the rate at which climate change is taking place.

- The **Assessment Report** released by the IPCC in **2014 was the 5<sup>th</sup>** in a series of such reports.
- **6<sup>th</sup> Assessment Report** of the IPCC is expected to be released in **2022**.

## Ganga Data Collector App

**Wildlife Institute of India (WII)** has launched a mobile application **"Ganga Data Collector"** under the National Mission for Clean Ganga (NMCG) of **Union Ministry of Jal Shakti**.

- Ganga Prahari volunteers and staff of the forest department in the 11 states of the Ganga Basin will use this application **to collect and monitor data related to the quality of water, the presence of different species of fishes, amphibians and reptiles, crocodiles and turtles, dolphins, birds, water level and weather**.
- The Ganga basin covers 11 states including Uttarakhand, Uttar Pradesh, Madhya Pradesh, Rajasthan, Haryana, Himachal Pradesh, Chhattisgarh, Jharkhand, Bihar, West Bengal and Delhi.

### National Mission for Clean Ganga (NMCG)

- National Mission for Clean Ganga (NMCG) is the implementation wing of the National Ganga River Basin Authority (NGRBA).
- It is a registered society, originally formed by the Ministry of Environment, Forests and Climate Change (MoEFCC) on 12<sup>th</sup> August 2011 under the Societies Registration Act, 1860.
- But now both NGRBA and NMCG have been allocated to the Ministry of Water Resources, River Development and Ganga Rejuvenation.
- The main pillars of the programme include sewerage treatment infrastructure, river-front development, river-surface cleaning, biodiversity preservation, afforestation, public awareness industrial effluent monitoring, and Ganga gram.

### Ganga Guardians

- Ganga Praharis are self-motivated and trained volunteers from among the local communities working for biodiversity conservation and cleanliness of the Ganga River.
- They aim to:
  - Creating awareness about the benefits of a clean and vibrant Ganga and create a sense of belongingness among people towards the Ganga River.

Note:



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- Linking local communities and their livelihoods with the overall efforts of various agencies working for a clean Ganga, and thereby, creating a convergence point at the grassroots level for such efforts.
- Linking local people's livelihood and well-being with a clean and vibrant Ganga.

#### Wildlife Institute of India

- The Wildlife Institute of India (WII) is an autonomous institution under the Ministry of Environment, Forest and Climate change.
- It was established in 1982.
- It is based in Dehradun, Uttarakhand.
- It offers training programs, academic courses, and advisory in wildlife research and management.

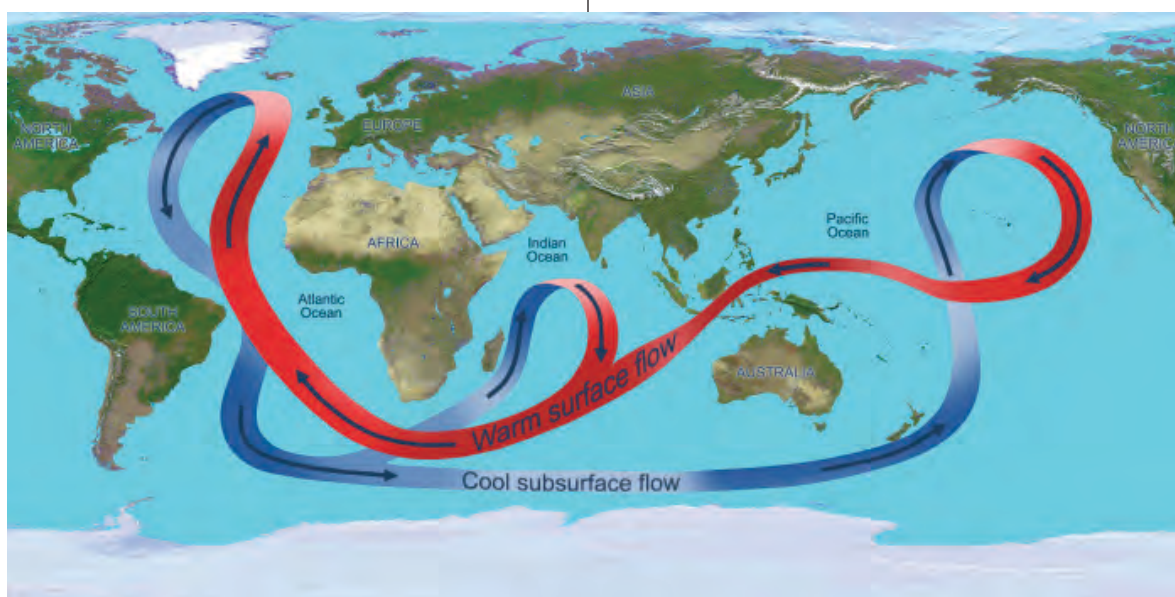
## Climate Change and Ocean Currents

A new study suggests a link between Atlantic Meridional Overturning Circulation (AMOC) and the Indian Ocean.

- For thousands of years, Atlantic Meridional Overturning Circulation (AMOC) has remained stable but in the last 15 years, signs show that AMOC may be slowing, which could have drastic consequences on the global climate.
- However, the rising temperatures in the Indian

Ocean can help to boost the AMOC and delay slow down.

- Warming in the Indian Ocean generates additional precipitation, which in turn, draws more air from other parts of the world including the Atlantic.
- With so much precipitation in the Indian Ocean, there will be less precipitation in the Atlantic Ocean.
- Lesser precipitation leads to higher salinity in the waters of the tropical portion of the Atlantic — because there won't be as much rainwater to dilute it.
- This saltier water in the Atlantic, as it comes north via AMOC, will get cold much quicker than usual and sink faster.
- The above process would act as a jump start for AMOC, intensifying the circulation.
- But if other tropical ocean's warming, especially the Pacific's, catches up with the Indian Ocean, the advantage of intensification of AMOC may stop.
- Moreover, it isn't clear whether the slowdown of AMOC is caused by global warming alone or it is a short-term anomaly related to natural ocean variability.
- Slow down of AMOC had taken place 15,000 to 17,000 years ago, which caused harsh winters in Europe, with more storms or a drier Sahel in Africa due to the downward shift of the tropical rain belt.
- Alternating oceanic system patterns like El Niño–Southern Oscillation (ENSO) also affects rainfall distribution in the tropics and can have a strong influence on weather in other parts of the world.



Note:

### **Atlantic Meridional Overturning Circulation**

- Atlantic Meridional Overturning Circulation (AMOC) — which is sometimes referred to as the “Atlantic conveyor belt” — is one of the Earth’s largest water circulation systems where ocean currents move warm, salty water from the tropics to regions further north, such as western Europe and sends colder water to the south.
  - As warm water flows northwards in the Atlantic, it cools, while evaporation increases its salt content.
  - Low temperature and high salt content increases the density of the water, causing it to sink deep into the ocean.
  - The cold, dense water deep below slowly spreads southward.

- Eventually, it gets pulled back to the surface and warms again, and the circulation is complete.
- This continual mixing of the oceans and the distribution of heat and energy across the planet contributes to the global climate.
- Atlantic Meridional Overturning Current (AMOC) ensures the oceans are continually mixed, and heat and energy are distributed around Earth.

### **El Niño-Southern Oscillation (ENSO)**

- It involves temperature changes of 1°-3°C in the central and eastern tropical Pacific Ocean, in between three to seven years.
- El Niño refers to the warming of the ocean surface and La Niña to cooling, while “Neutral” is between these extremes.



Note:



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# Art & Culture

## Highlights

- Galo Community
- Erra Matti Dibbalu
- Keeladi Findings

## Galo Community

The Galos are one of the major communities which dominate Siang, Lepa Rada, Upper Subansiri and Namsai districts of **Arunachal Pradesh**.

- The Galos belong to the **Tani group inhabiting Assam and Arunachal Pradesh**, besides Tibet.
- Communities like the Mising (Assam), Adi, Apatani, Nyishi, Tagin, and Galos trace their common origin to a primaeval ancestor, Abotani.
- Among all the communities only the Galos maintain genealogy through given names.
- Galo community has been **recognized as a Scheduled Tribe in the Amendment to the Constitution (ST), Order, 1950, Part-XVIII**.
- **Mopin** is the main festival among Galos which is celebrated for the prosperity of the villages
- The Galos perform **Popir dance**.

## Erra Matti Dibbalu

Erra Matti Dibbalu is dissected and stabilized coastal red sediment mounds, located between Visakhapatnam and Bheemunipatnam in Andhra Pradesh.

### ➤ Formation:

- Formed around 12,000 years ago due to sea-land interaction.
- Comprises a mixture of sand (40-50%), silt and clay (another 50%) with oxidation imparting the unique red colour.



### ➤ Significance:

- They are geologically important as they represent

the geological history of the late **Quaternary period** and carry the imprints of the fall of sea level and its subsequent rise, the impact of climate, monsoon and geological processes on the sediments.

- They are anthropologically and archeologically important as they possibly contain **mesolithic and neolithic** cultural materials as well.
- **Recognition:**
  - It was recognised as a national geo-heritage site in 2014 and as a protected site by the Andhra Pradesh Government in 2016.
    - The Geological Survey of India (GSI) declares geo-heritage sites/national geological monuments for protection and maintenance
- **Other Similar Place:** The only other place in the country to have a similar stretch of red sand dunes is Tamil Nadu, which has the Teri dune complex.

### Geological Survey of India

- The Geological Survey of India (GSI) was set up in 1851 primarily to find coal deposits for the Railways.
- The main functions of the GSI relate to creation and updation of national geo-scientific information and mineral resource assessment.
- It is headquartered in Kolkata, and has regional offices located at Lucknow, Jaipur, Nagpur, Hyderabad and Shillong and Kolkata and State Unit offices in almost all States of the country.
- Presently, GSI is an attached office to the Ministry of Mines.

## Keeladi Findings

The cultural deposits unearthed during the excavations at site Keeladi located in the Sivaganga district of **Tamil Nadu** could be dated to a **period between the 6<sup>th</sup> century BC and the 1<sup>st</sup> century AD**.

Note:



- It could be a major **turning point** in the **cultural historiography of the ancient Sangam Age**.
- The recent Tamil Nadu government report titled, '**Keeladi-An Urban Settlement of Sangam Age on the Banks of River Vaigai**' reveals that:
  - The new excavations at Keeladi artifacts are **300 years older than previously believed – 3<sup>rd</sup> century BCE**.
  - **The second urbanization** [the first being Indus Valley Civilization] of **Vaigai plains** happened in **Tamil Nadu around the 6<sup>th</sup> century BCE**.
    - The second Urbanisation of Vaigai plains was a **contemporary of the Iron Age in Gangetic plains** and also the period of the **rise of various Heterodox sects**.
  - It also **spells the site as Keeladi as against the erstwhile widely used Keezhadi**.
  - The date of the **origin of the Tamil-Brahmi script** (symbolizing the origin art of writing) as early as **6<sup>th</sup> century BCE**.
    - The Tamil-Brahmi script was the **earliest script** used by **Tamils** which later evolved the **Grantha script**, from which the modern Tamil is derived.
  - The society in Keeladi had **used animals predominantly for agricultural purposes**.

- Pottery specimens from Keeladi confirmed that **water containers and cooking vessels were shaped out of locally available raw materials**.
  - The pottery specimen also outlines the **various stages of the weaving industry** from spinning, yarning, looming, weaving and dyeing.

#### Sangam Age

- The word '**Sangam**' means a **group of persons** or an **association**.
- The **Tamil Sangam** was an **academy of poets** who flourished in **three different periods** and in **different places** under the patronage of the **Pandyan kings**.
- The **Sangam literature** includes Tolkappiyam, Ettutogai, Pattuppattu, Pathinenkilkanakku, and the two epics- Silappathigaram and Manimegalai.
  - It deals with the **secular matter** relating to the public and social activities.

#### Vaigai River

- It is an **east-flowing** river.
- This basin is bounded by the Cardamom Hills and the Palani Hills on the West and by the Palk Strait and Palk Bay on the East.



Note:

# Social Issues

## Highlights

- 'TB Harega Desh Jeetega' Campaign
- Silicosis and Mining Safety
- Population Pyramid
- National Nutrition Survey
- Malnutrition and Disease Burden
- 'UMMID' Initiative
- Promulgation of the Prohibition of Electronic Cigarettes Ordinance
- Pradhan Mantri Matru Vandana Yojana
- AISHE-2019

## 'TB Harega Desh Jeetega' Campaign

The Union Minister for Health and Family Welfare has launched the '**TB Harega Desh Jeetega Campaign**', along with the **National TB Prevalence Survey**.

- He also released the **TB India Report (2019)**.
  - As per the TB India Report 2019, 21.5 lakh **cases of tuberculosis** were notified to the **Revised National Tuberculosis Control Programme (RNTCP)** in 2018 — a **16% increase** from 2017.
- He also launched an **all-oral regimen kit** for multi-drug resistant **Tuberculosis (TB)** patients which does not include injections which are painful and can have side effects.
- He also announced a **partnership with the World Bank** which is providing a \$400 million credit for accelerating TB response in 9 states through private sector engagement and other critical interventions.

### TB Harega Desh Jeetega Campaign

- It has **three strong pillars** which include **clinical approach, public health component and active community participation**.
- It aims to **improve and expand the reach of TB care services** across the country by **2022**.
  - This includes preventive and promotive approaches and proposes potentially transformative interventions such as **engagement with the private sector health care providers**, inter-ministerial partnerships, corporate sector engagement, latent TB infection management, and community engagement.

- The interventions will be accompanied by a comprehensive, mass media and **communications campaign** to generate awareness about the disease and the free treatment services available under the government program.

### The National TB Prevalence Survey

- The Union Health Minister flagged off a van for the National TB Prevalence Survey.
- In all, 25 such vans will be part of the prevalence survey, which shall take 6 months and be carried out across the country.
- This shall present **national and state-level data**, which will be used as a **policy tool for further interventions**.

### Other Recent Initiatives

- India has a commitment to **eliminate Tuberculosis by 2025**, five years ahead of the global goal of 2030.
- The Government of India has partnered with the Global Fund to launch **JEET (Joint Effort for Elimination of TB)**, a private sector engagement program operating across the country.
- In April 2018, the government launched the **Nikshay Poshan Yojana**, a **direct benefit transfer (DBT) scheme to provide nutritional support to TB patients**.
  - Under the scheme, TB patients have been receiving Rs. 500 per month for the entire duration of treatment.

### Tuberculosis

- TB is caused by **bacteria (*Mycobacterium tuberculosis*)** that most often affect the lungs.
- **Transmission:** TB is spread from person to person through the air.

Note:

- **Symptoms:** Cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.
- **Prevention: Bacille Calmette-Guérin (BCG) vaccine** is effective against disseminated and meningeal TB in young children.
- **Treatment:** TB is **treatable and curable** disease. It is treated with a standard 6 month course of 4 antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer.
- Anti-TB medicines have been used for decades and strains that are resistant to 1 or more of the medicines have been documented in every country surveyed.
  - **Multidrug-resistant tuberculosis (MDR-TB)** is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most powerful, first-line anti-TB drugs. MDR-TB is treatable and curable by using second-line drugs.
  - **Extensively drug-resistant TB (XDR-TB)** is a more serious form of MDR-TB caused by bacteria that do not respond to the most effective second-line anti-TB drugs, often leaving patients without any further treatment options.
- **Revised National TB Control Programme (RNTCP):** It is based on the internationally recommended Directly Observed Treatment Short-course (DOTS) strategy and was launched in 1997 expanded across the country in a phased manner with support from the World Bank and other development partners.
  - Full nation-wide coverage was achieved in March 2006.
  - Under the programme, diagnosis and treatment facilities are provided free of cost to all TB patients.

#### Enhancing BCG Vaccine

A recent study has found that **curcumin in nanoparticle** form has the potential to **enhance the efficacy of BCG vaccine**.

#### Curcumin

- Curcumin is the **active ingredient of the dietary spice turmeric (Curcuma longa)** and has been consumed for medicinal purposes for thousands of years.
- It has a **wide range of applications** such as antibacterial activity, anti-inflammatory, anti-oxidant, chemotherapeutic, anti-proliferative, wound healing, antiparasitic, anti-malarial, diabetes, obesity,

neurologic, psychiatric disorders and cancer, as well as chronic illnesses affecting the eyes, lungs, etc.

- Although curcumin has shown therapeutic efficacy against many human ailments, one of the major problems with curcumin is its **poor bioavailability**.
- One of the **promising approaches** to increase the bioavailability of curcumin include the **use of nanoparticles**.

#### Lacuna in BCG Vaccine

- The vaccine induces **two types of immune cells** — **effector memory T cells** and **central memory T cells**.
- The **effector memory T cells** play a crucial role in mounting an **immediate immune response** against virulent TB bacteria and also kill them.
- The **central memory T cells** help in **long-term protection in children**. But, after persisting for some time, the central memory cells **ultimately diminish**. As a result, the **protection does not last beyond childhood and adults become vulnerable to TB** infection despite BCG vaccination.

#### Curcumin in Nanoparticle

##### Form & Enhanced Efficiency

- One way of enhancing the efficacy of the BCG vaccine is by **increasing the number of central memory cells** so they last longer and confer protection for a longer duration.
- The researchers found that **injecting curcumin nanoparticles**, soon after vaccinating the mice with BCG, produced an **appreciable enhancement** of the central memory T cells.
- Curcumin also helps in the **activation of innate immune cells** known as macrophages and dendritic cells. TB bacteria reside and grow inside the macrophages. But once activated by curcumin nanoparticles, macrophages and dendritic cells clear the bacteria.
- It **enhances** the level of **TB-specific acquired immune cells** (Th1 and Th17 cells) and simultaneously **reduces** the level of certain other cells (**Th2 and Tregs**) thus improving the efficacy of the BCG vaccine.
  - After TB infection, the levels of Th2 and Tregs cells increase and they inhibit host-protective effect of Th1 and Th17 responses.
- It, in a way confers **protection against adult pulmonary TB**.

Note:



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## Silicosis and Mining Safety

Saharia tribe miners in Madhya Pradesh have appealed to the government to treat them for silicosis rather than **Tuberculosis**.

- Recently the sandstone mining industry in Rajasthan also demanded modernization of working conditions in mining and quarrying areas.
- Silicosis is more prevalent among miners who are exposed to dust containing crystallized silica which turns quarrying and mining villages into "widow villages".
- Maximum miners in these states do not have any identity proof and cannot make a thumb impression on government documents since their fingerprints have faded.

### Silicosis

- Silicosis is one of the most prevalent occupational health illnesses in the world.
- It is a progressive lung disease caused by inhalation of silica over a long period of time.
- Silicosis is characterized by shortness of breath, cough, fever and bluish skin.
- Silicosis is an incurable condition with its potential to cause permanent physical disability.
- Silicosis occurs most commonly in people working in the quarrying, manufacturing, and building construction industries.
  - Silica (SiO<sub>2</sub>/silicon dioxide) is a crystal-like mineral found in abundance in sand, rock, and quartz.
- It is also reported from the population with non-occupational exposure to silica dust from industrial as well as nonindustrial sources.
- Exposure to large amounts of free silica may not be noticed because silica is odourless, non-irritant and does not cause any immediate health effects, but long-term exposure is associated with pneumoconiosis, lung cancer, pulmonary tuberculosis, and other lung diseases.
- Diagnosis is a challenge because it is difficult to even find out if a person has tuberculosis or silicosis.
  - The nodules that collect to form a mass can take up to 20 years to be identified in chest x-rays and the victim notices symptoms only after many years of exposure to silica.

- Steps taken by Government of India to reduce and prevent incidents of Silicosis include:
  - In India, more than 10 million workers are at risk of silicosis and thus it is recognized as occupational diseases by the Factories Act and Employees Compensation Act, which mandates employers must pay compensation to workers who are afflicted.
    - In India silicosis is prevalent in Gujarat, Rajasthan, Pondicherry, Haryana, Uttar Pradesh, Bihar, Chhattisgarh, Jharkhand, Orissa and West Bengal among the workers of construction and mining.
  - Factory Act of India (1948) mandates a well-ventilated working environment, provisions for protection from dust, reduction of overcrowding and provision of basic occupational health care.
  - Silicosis is a notified disease under the Mines Act (1952) and the Factories Act (1948).

### Saharia Tribe

- Most of the Saharia (or Sor) of India live in the state of Madhya Pradesh. But also found Odisha, Andhra Pradesh, Bihar, Tamil Nadu, West Bengal, Rajasthan and the Plains division of Assam.
- They speak the Munda language that belongs to the Austro-Asiatic language family.
- The Saharia tribe is divided based on occupation into five sub-tribes:
  - The Arsi are weavers.
  - The Muli are ironworkers.
  - The Kindal are basket makers.
  - The Kumbi are potters.

## Population Pyramid

A population pyramid is a graphical representation of the age and sex composition of a specific population.

- It consists of two histograms, one for each gender (by convention, men on the left and women on the right) where the numbers are shown horizontally and the ages vertically.
- The numbers by gender and by age depend on interactions between fertility, mortality and migrations.
- The shape of the pyramid and its variations over the years depend, above all, on the variations in fertility.
- The pyramid can also assume a columnar shape (with vertical sides rather than sloped sides), or have an irregular profile.

Note:



## India vis-a-vis China

- India's pyramid is bottom heavy i.e. the Indian population has a larger proportion of children, teenagers and young adults compared to China's.

### ➤ Population Distribution

#### ○ India

- The country's population for the age cohorts of 0-4, 5-9, 10-14 and 15-19 is roughly equal, whereas the numbers for older groups become progressively smaller.
- This means that the country's younger age groups have stopped growing in numbers now and are likely to shrink slightly soon.
- This, however, does not mean that India's population will also start shrinking soon.
- Except for the oldest groups, India seems to have more males than females for every cohort.

#### ○ China

- The country's largest cohort is in its late 40s, although it is more gender balanced than its younger cohorts, suggesting that sex-selective abortions are likely to have taken off in the last few decades.

### ➤ Working Age Population

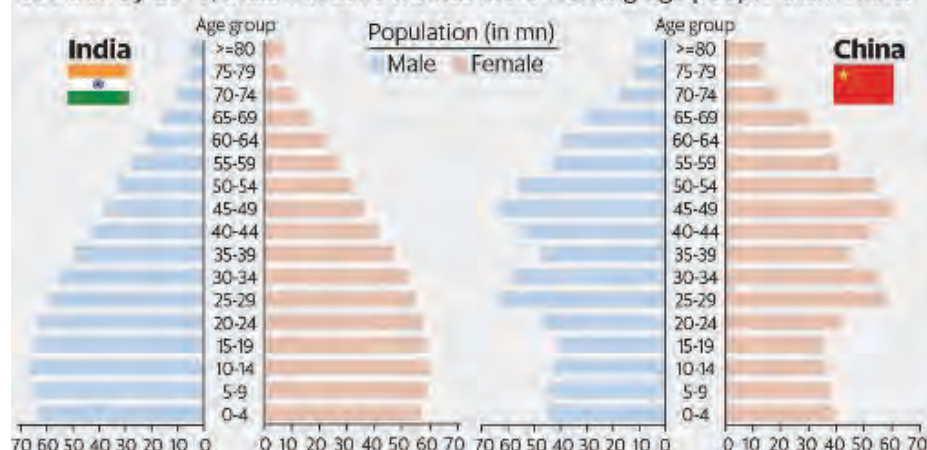
- In 25-65 age group, India currently has around 650 million people and China 830 million.
- By 2040, India is likely to reach 900 million, whereas China will have around 730 million.
- In other words, India will go from having 180 million less working-age people than China today to about 170 million more – a net gain of a third of a billion in 20 years.

## Way Forward

- Just having people in the working age is not enough. How many are in the labour force and their productivity are important. The government needs to focus on the same.
- India needs to invest more, and efficiently, in human capital and infrastructure.

## India's demographic edge over China

India has 650 mn people in the working-age group of 25-65, while China has 830 mn. By 2040, India will have 170 mn more working-age people than China.



- For the former, investments in health and sanitation have to be sustained and more Public Private Partnership (PPP) models are required to ensure basic education.
- For the latter, a bigger push for affordable rental housing in cities has to be considered, along with more investments in rail connectivity.

## National Nutrition Survey

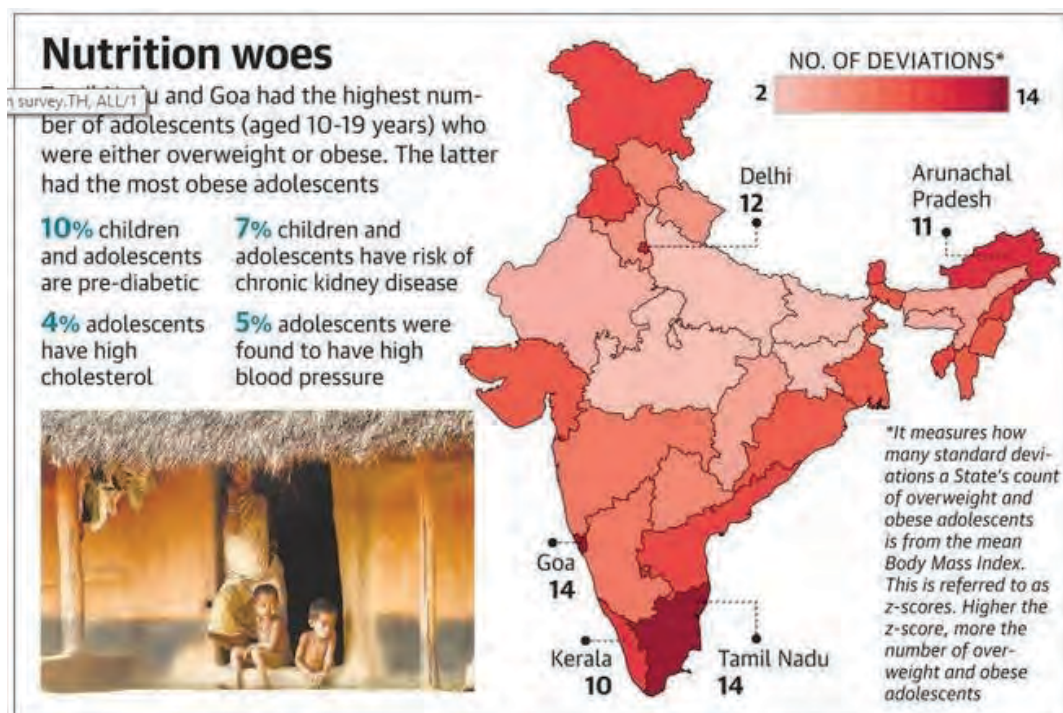
The first-ever comprehensive National Nutrition Survey has been conducted by the Ministry of Health and Family Welfare and the [United Nations Children Fund \(UNICEF\)](#) to measure malnutrition.

- The survey recorded not only **micronutrient deficiencies** but also details of **non-communicable diseases** such as diabetes, hypertension, cholesterol and kidney function in children and adolescents.

### Key Findings

- Nearly 10% of children in the age group of 5-9 years and adolescents in the age group of 10-19 years are **pre-diabetic**.
- Also, 5% are overweight and another 5% suffer from blood pressure in the age groups mentioned above.
- The first time hard evidence of the **coexistence of obesity and undernutrition**, among school-going children has been recorded.
- The National Nutrition Survey is different from the [National Family Health Survey \(NFHS\)](#) as:

Note:



- NFHS collects data to measure the prevalence of **stunting, wasting and underweight** and household dietary intake to measure deficiencies.
- Moreover, the survey collects data **only for the age groups of 1-5 years and adults**, and not for school going children between the age of 5 and 19 years.

#### Steps Taken by Government of India to curb incidences of Malnutrition

- Under the **Pradhan Mantri Matru Vandana Yojana (PMMVY)**, Rs.6,000 is transferred directly to the bank accounts of pregnant women for availing better facilities for their delivery.
- **POSHAN Abhiyaan**, launched in 2017-18, aims to reduce stunting, under-nutrition, anaemia and low birth weight babies through synergy and convergence among different programmes, better monitoring and improved community mobilisation.
- **The National Food Security Act (NFSA), 2013**, aims to ensure food and nutrition security for the most vulnerable through its associated schemes and programmes, making access to food a legal right.
- **Mid-day Meal (MDM) scheme** aims to improve nutritional levels among school children which also has a direct and positive impact on enrolment, retention and attendance in schools.

#### Malnutrition and Undernutrition

- Malnutrition refers to **deficiencies, excesses or imbalances** in a person's intake of energy and/or nutrients.
- The term malnutrition covers two broad groups of conditions.
  - **Undernutrition** – which includes stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies (a lack of important vitamins and minerals).
  - **Obesity** – which includes overweight and diet-related **noncommunicable diseases** (such as heart disease, stroke, diabetes, and cancer).

### Malnutrition and Disease Burden

A study led by the Indian Council of Medical Research (ICMR), has given comprehensive estimates of **Disease Burden due to Child and Maternal Malnutrition and the Trends of its Indicators in Every State of India from 1990 to 2017**.

- The estimates were produced as **part of the Global Burden of Diseases Study (GBD) 2017**.

Note:

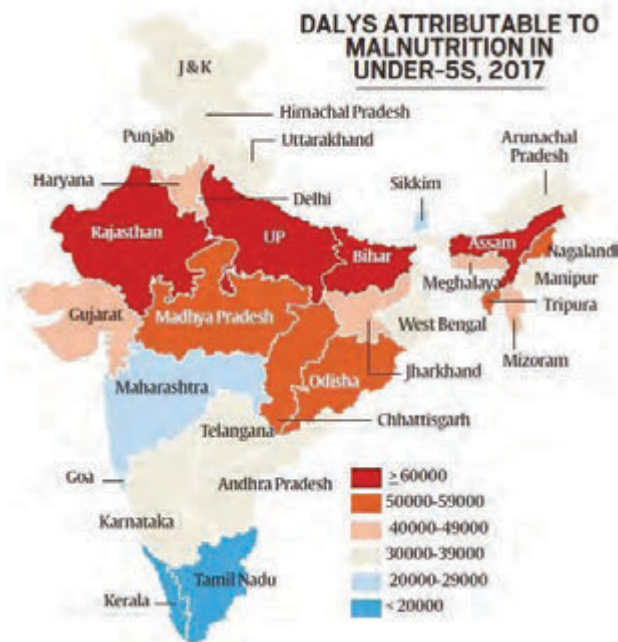


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- The Global Burden of Disease Study is a comprehensive **regional and global** assessment of mortality and disability from major diseases, injuries, and risk factors initiated by **World Health Organisation (WHO)** and **World Bank**.

### Key Findings

- **Child and maternal malnutrition** is still a leading cause of:



- **Death Rate:**
  - Malnutrition deaths under-5 children, has **dropped by two-thirds from 1990 to 2017**.
  - But still it is the underlying risk factor for **68% of the deaths**, ranging between a high of 72.7% in Bihar and a low of 50.8% in Kerala.
- **Disability-Adjusted Life Years (DALY):**
  - DALY rate attributable to malnutrition in children **varies among the states** — a gap between a high of 74,782 in Uttar Pradesh and a low of 11,002 in Kerala.
- **Anaemia:**
  - The prevalence of anaemia in women was at **54% in 2017**.
- **Low Birthweight:**
  - It is the **largest contributor to child deaths** among all malnutrition indications, followed by child growth failure which includes stunting, underweight, and wasting.

### Overweight:

- It is becoming a significant public health problem as it is increasing rapidly across all States.

### Implications

The country may miss global targets with respect to malnutrition and others for the year **2030**, set by

- The **World Health Organization (WHO)**
- The **United Nations Children's Fund (UNICEF)**
- The **Sustainable Development Goals (SDGs)**

### Suggestions

- To improve the overall nutritional status of girls and women during the preconception and pregnancy period and providing quality antenatal care.
- Focus is needed on clean drinking water, reducing rates of open defecation, improving women's educational status, and food and nutrition security.

### Disability-Adjusted Life Years (DALYs)

- Disability-Adjusted Life Years (DALYs) is the **sum of the number of years of life lost due to premature death and a weighted measure of the years lived with disability** due to a disease or injury.

### Anaemia

- It is a condition in which **the number of red blood cells or their oxygen-carrying capacity is insufficient** to meet physiologic needs, which vary by age, sex, altitude, smoking, and pregnancy status.
- Iron deficiency is the most common cause of anaemia.

### Steps Taken by India

- **Mid-day Meal (MDM) scheme** aims to improve nutritional levels among school children which also has a direct and positive impact on enrolment, retention and attendance in schools.
- Under the **Pradhan Mantri Matru Vandana Yojana (PMMVY)**, Rs.6,000 is transferred directly to the bank accounts of pregnant women for availing better facilities for their delivery.
- **POSHAN Abhiyaan**, launched in 2017-18, aims to reduce stunting, under-nutrition, anaemia and low birth weight babies.
- **The National Food Security Act (NFSA), 2013**, aims to ensure food and nutrition security for the most vulnerable through its associated schemes and programmes, making access to food a legal right.

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## 'UMMID' Initiative

The Department of Biotechnology (DBT) has started UMMID (Unique Methods of Management and Treatment of Inherited Disorders) initiative to tackle inherited genetic diseases in newborn babies.

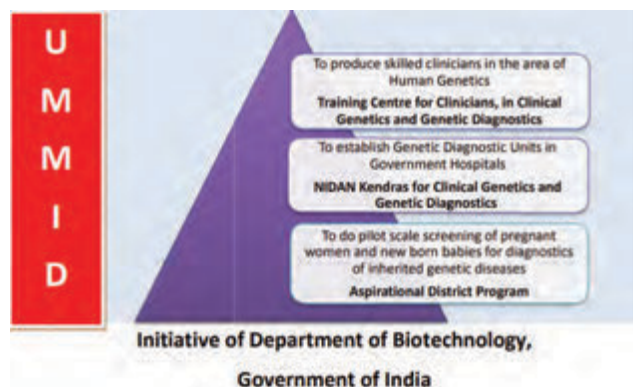
- The programme will be implemented through government hospitals to regularise the use of cutting edge scientific technology and molecular medicine to achieve Universal Health Coverage for all.
- The initiative is designed on the concept of 'Prevention is better than Cure'.

### Background

- In India's urban areas, congenital malformations and genetic disorders are the third most common cause of mortality after prematurity & low birth weight issues and infections in newborns.
- A very large population and high birth rate, and consanguineous marriage favoured in many communities are some of the important reasons for the high prevalence of genetic disorders in India.

### UMMID Initiative

- **Aim:**
  - To establish NIDAN (National Inherited Diseases Administration) Kendras to provide counselling, prenatal testing and diagnosis, management, and multidisciplinary care in Government Hospitals wherein the influx of patients is more.
  - To produce skilled clinicians in Human Genetics.
  - To undertake screening of pregnant women and newborn babies for inherited genetic diseases in hospitals at aspirational districts.



### Genetic Disorders

- A genetic disorder is a **disease caused in whole or in part by a change in the DNA sequence** away from the normal sequence.
- Genetic disorders can be caused by a mutation in one gene (monogenic disorder), by mutations in multiple genes (multifactorial inheritance disorder), by a combination of gene mutations or by damage to chromosomes.
- Some of the **examples** of Genetic disorders are: Sickle Cell Anemia, Heart Disease, High Blood Pressure, Alzheimer's Disease, Diabetes, Cancer, and Obesity.

### Aspirational Districts

- 'Transformation of Aspirational Districts' programme was launched in **January 2018**.
- The programme was launched with the aim of **expeditiously improving the socio-economic status of 117 districts** through cooperative and competitive federalism.
- It basically aims to rapidly transform districts that have been showing relatively less progress in key social areas, and have emerged as pockets of under-development, thereby posing a challenge to balanced regional development.
- The **broad contours** of the programme are:
  - **Convergence** (of Central & State Schemes),
  - **Collaboration** (of Central, State level 'Prabhari' Officers & District Collectors),
  - **Competition** among districts driven by a Mass Movement or a Jan Andolan.

## Promulgation of the Prohibition of Electronic Cigarettes Ordinance

Recently, the Union Cabinet has approved the Promulgation of the Prohibition of Electronic Cigarettes (production, manufacture, import, export, transport, sale, distribution, storage and advertisement) Ordinance, 2019.

- The prohibition of e-cigarettes includes all forms of Electronic Nicotine Delivery Systems (ENDS), Heat Not Burn Products, e-Hookah, and the like devices.
- Any production, manufacturing, import, export, transport, sale (including online sale), distribution

Note:



or advertisement (including online advertisement) of e-cigarettes shall be a cognizable offence.

- The above-mentioned activities are **punishable** with
  - Imprisonment of up to one year or fine up to Rs. 1 lakh or both for the **first offence**.
  - Imprisonment of up to three years and fine up to Rs. 5 lakh for a **subsequent offence**.
- **Storage of electronic-cigarettes** shall also be **punishable** with imprisonment up to 6 months or fine up to Rs. 50,000 or both.
- The owners of existing stocks of e-cigarettes on the date of commencement of the Ordinance will have to suo moto declare and deposit these stocks with the nearest police station.
- The **Sub-Inspector of Police** has been designated as the **Authorized Officer** to take action under the Ordinance.
  - The Central or State Governments may also designate any other equivalent officer(s) as Authorized Officer for enforcement of the provisions of the Ordinance.
- It enforces **Article 47** of the Indian Constitution which mentions about **State's responsibility to promote Public Health**.
- It also enforces **Sustainable Development Goals**, National Monitoring Framework for Prevention and Control of Non-communicable Diseases and National Health Policy, 2017.

### Background

- The Government had issued **an advisory in 2018 to all States** to consider banning e-cigarettes resulting e-cigarettes ban in some of the states already.
- The **World Health Organisation (WHO)** has urged member countries to take appropriate steps including prohibiting e-cigarettes and related products.
- The **Indian Council of Medical Research (ICMR)** has also recommended a complete ban on e-cigarettes as it adversely affects almost all the human body systems with impact across the life course.
- These products are usually marketed as being safer alternatives for conventional cigarettes but these products may **act as gateway products to induce non-smokers**, especially youth and adolescents, to **nicotine-use**, leading to addiction and subsequent use of conventional tobacco products.
- Apart from nicotine, e-cigarettes **may also be used for the delivery of other psychoactive substances**.

### Electronic Nicotine Delivery Systems (ENDS)

- ENDS heat a solution (**e-liquid**) to create an **aerosol** which frequently contains flavourings, usually dissolved into Propylene Glycol or/and Glycerin.
- Electronic cigarettes, the most common prototype, are devices that **do not burn or use tobacco leaves but instead vaporize a solution** so that a user can inhale.
- The main constituents of the solution, **in addition to nicotine, are propylene glycol**, with or without glycerol and flavouring agents.

### Concerns related to ENDS

- These products are **not registered as nicotine replacement therapy products** in India.
- E-cigarettes usually **contain nicotine** which makes product **addictive**.
- E-cigarettes cause **health hazards for youth, young adults, and pregnant women**.
- A number of metals, including **lead, chromium, and nickel, and chemicals like formaldehyde have been found in aerosols of some ENDS**, with concentrations equal to or greater than traditional cigarettes.
- Lack of knowledge about the negative effects of nicotine and the easy accessibility of these products make the youth prone to addiction.

### Impact of Prohibition of E-Cigarettes

- The decision to prohibit e-cigarettes will help protect the population, especially the youth and children, from the risk of addiction through E-cigarettes.
- Enforcement of the Ordinance will **complement the government's efforts for tobacco control** and will help in the reduction of tobacco use and reduction in associated economic and disease burden.

#### National Health Policy, 2017

- It aims to achieve universal access to good quality health care services without anyone having to face financial hardship as a consequence.
- It intends to gradually increase public health expenditure to 2.5% of the GDP.
- It proposes free drugs, free diagnostics, and free emergency and essential healthcare services in public hospitals.
- The policy advocates allocating two-thirds of resources to primary care.

Note:

## Pradhan Mantri Matru Vandana Yojana

Pradhan Mantri Matru Vandana Yojana (PMMVY) has achieved a **significant milestone by crossing one crore beneficiaries**.

- Also, the **total amount disbursed** to the beneficiaries under the scheme has **crossed Rs. 4,000 crores**.
- Pradhan Mantri Matru Vandana Yojana (PMMVY) is a **maternity benefit** programme being implemented in **all districts** of the country.
  - It is a **centrally sponsored scheme** under the **Ministry of Women and Child Development**.
  - **Direct Benefit Transfer (DBT)** is provided to pregnant women to meet enhanced nutritional needs and partially compensate for wage loss.
  - The beneficiaries include **All Pregnant Women and Lactating Mothers (PW&LM)**.
  - Beneficiaries receive a **cash benefit of Rs. 5,000 in three installments** provided beneficiary has done:
    - Early registration of pregnancy
    - Ante-natal check-up
    - Registration of the birth of the child and completion of first cycle of vaccination for the first living child of the family.
  - Implementation of the scheme is closely monitored by the central and state governments through the **Pradhan Mantri Matru Vandana Yojana - Common Application Software (PMMVY-CAS)**.

- Currently, Madhya Pradesh, Andhra Pradesh, Himachal Pradesh, Dadra & Nagar Haveli and Rajasthan are the top five States/UT in the country in implementation of PMMVY.
- Whereas, Odisha and Telangana are **yet to start implementation** of the scheme.
- The **eligible beneficiaries** of PMMVY also **receive cash incentive** under **Janani Suraksha Yojana (JSY)**. Thus, on an average, a woman gets **Rs. 6,000**.

### Janani Suraksha Yojana

- The Janani Suraksha Yojana (JSY) is a **100% centrally sponsored scheme** which is being implemented with the objective of **reducing maternal and infant mortality by promoting institutional delivery**.
- An **eligible pregnant women** are entitled for **cash assistance irrespective of the age of mother and number of children**, for giving birth in a **government or accredited private health facility**.
- The scheme also provides **performance based incentives** to women health volunteers known as Accredited Social Health Activist (ASHA) for promoting institutional delivery among pregnant women.

## AISHE-2019

According to the **All-India Survey on Higher Education (AISHE) report 2018-19**, the **gender gap** in the country narrowed as compared to the previous year, i.e. 2017-18.

MATTER OF HEALTH	THE INITIATIVE
<ul style="list-style-type: none"> <li>➤ Under-nutrition continues to adversely affect women in India</li> <li>➤ Every third woman is under-nourished, while every second woman is anaemic</li> <li>➤ Under-nourished women often give birth to babies with a low birth weight</li> <li>➤ When poor nutrition starts in-utero, it extends throughout the life cycle</li> <li>➤ Owing to economic and social distress, many women continue to work to earn a living for their family up to the last days of their pregnancy</li> <li>➤ They resume work soon after childbirth, which prevents their bodies from fully recovering</li> <li>➤ It also impedes their ability to exclusively breastfeed during the first six months</li> </ul>	<p><b>The Pradhan Mantri Matru Vandana Yojana provides maternity benefits of ₹5,000 for pregnant women and lactating mothers after their first delivery</b></p> <ul style="list-style-type: none"> <li>■ The benefit is provided in three instalments</li> <li>■ It is a conditional cash transfer scheme and provides a partial wage compensation to women for wage-loss during childbirth and childcare</li> <li>■ The scheme ensures safe delivery and good nutrition for women</li> <li>■ The benefits are not available for employees of the Central or State governments and any public-sector undertaking</li> </ul>

Note:

- The **female students** constituted almost half (approx. 48.6%) of the total enrolment in higher education.
- In U.P and Karnataka, more girls were enrolled than their male counterparts in the higher education.
- The number of female students per 100 male students has gone up from 90 (2017-18) to 95 in 2018-19.

### Key Findings

- According to the findings, the total enrolment in higher education has been estimated at around 37.4 million, with a marginal increase in the gross enrolment ratio.
- The highest number of students are enrolled at the undergraduate level (at around 79.8 %), followed by post-graduation (10.8 %). But a surge was observed in integrated degree programmes.
  - Integrated programmes are becoming more popular as they provide a better foundation for the subject knowledge and practice.
  - At the undergraduate level, the highest number of students were enrolled in Arts/Humanities/Social Sciences courses (approx. 35.9%), followed by Science (16.5%), Commerce (14.1%) and Engineering and Technology (13.5 %).
- Only 2.5% of the total number of colleges were running Doctorate programmes and 35% had Post-graduate level courses.
- Out of the total number of colleges in India, only 11.04% are exclusively there for female students.
  - According to the report, the percentage of women saw a steady rise in language courses, while on the other hand, men are opting for courses which can fetch them immediate employment, like that of courses in the field of Science and Technology.
  - The share of female students was the lowest in the Institutions of National Importance.

### Higher Education Initiatives in India

- The Department of Higher Education, under the Ministry of Human Resource Development, has taken several measures to improve the overall development of the Higher Education sector, both in terms of policy and planning. Some of the taken initiatives are as follows:
- [National Mission on Education through Information and Communication Technology \(NMEICT\)](#), to leverage the potential of ICT to make the best quality content accessible to all learners in the country free of cost.
- [Rashtriya Uchchatar Shiksha Abhiyan \(RUSA\)](#) aims at providing strategic funding to higher educational institutions throughout the country.
- Project [Education Quality Upgradation and Inclusion Programme \(EQUIP\)](#) to put together an action plan to give a multi-pronged boost to the higher education system in India.
- [Prime Minister's Research Fellowship \(PMRF\)](#) to attract the talent pool of the country to doctoral (Ph.D) programmes for carrying out research in cutting edge science and technology domains, with focus on national priorities.
- [Scheme for Promotion of Academic and Research Collaboration \(SPARC\)](#) aims at improving the research ecosystem of India's higher educational institutions by facilitating academic and research collaborations between Indian institutions and the best institutions in the world.
- Global Initiative for Academic Network (GIAN) launched by MHRD, seeks to tap the talent pool of scientists and entrepreneurs from abroad, including those of Indian origin to augment the country's existing academic resources.
- Formation of [Higher Education Financing Agency \(HEFA\)](#) to finance the creation of capital assets in premier educational institutions in India.



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# Security

## Highlights

- Fake News
- Exercise Malabar
- SITMEX
- Exercise KAZIND - 2019
- ICGS Varaha
- INS Nilgiri
- Astra Missile

## Fake News

The **Supreme Court of India** has asked the **Central government to frame guidelines** on social media to control the spreading of **fake news**. The directive came in the wake of growing incidents of violence fuelled by online rumours and fake videos.

### Fake News

- Fake news is **news, stories or hoaxes created to deliberately misinform** or deceive readers.
- Usually, these stories are created to either influence people's views, push a political agenda or cause confusion and can often be a profitable business for online publishers.
- Fake news is **not a new phenomenon** which is linked to the rise of social media, on the contrary, from the times of ancient Greece, governments and political actors (anyone in the business of mobilising public opinion) have always invested in disinformation campaigns to build narratives of their choice.
- **In India**, the spread of misinformation and disinformation in media is becoming a serious social challenge. It is leading to hateful behaviour in online platform and causing riots and **lynchings on the streets**.
- Some **incidents** include:
  - Muzaffarnagar riots of 2013: fake video fuelled communal passions.
  - Child kidnapping rumours led to lynchings by a mob in Jharkhand.

### Laws and Regulations in India

- There is **no specific law against fake news** in India. Free publication of news flows from **Article**

**19** of the Constitution which guarantees freedom of speech.

- However, there are certain **legal recourses** available for people affected by fake news.
  - Complaints can be lodged with the **News Broadcasters Association (NBA)** which represents the private television news and **current affairs** broadcasters.
  - Complaint against any broadcaster can be filed in English or Hindi to the **Indian Broadcast Foundation (IBF)**, online or offline, for promoting smoking, abuse or any violent action.
  - **Broadcasting Content Complaint Council (BCCC)** also admits complaints against TV broadcasters for objectionable TV content and fake news.
  - The **Press Council of India** can disapprove or admonish a news outlet found guilty of spreading misinformation.
  - **IPC Sections 153A and 295** can be invoked to guard against fake news.
    - Seen from the prism of Sections 153A and 295, action can be initiated against someone creating or spreading fake news if it can be termed as hate speech.

- The purpose of the **Section 153 A** is to punish persons who indulge in wanton vilification or attacks upon the religion, race, place of birth, residence, language etc of any particular group or class or upon the founders and prophets of a religion.
- **Section 295** of the I.P.C makes destruction, damage, or defilement of a place of worship or an object held sacred, with intent to insult the religion of a class of persons, punishable with imprisonment which may extend to two years, or with fine, or with both.

Note:



- **Defamation suit** is another legal tool available in the case of fake news. If a person finds fake news defamatory, s/he can file a civil or criminal case for defamation.
  - IPC Section 499 makes defamation a criminal offence.
  - Section 500 provides for punishment for criminal defamation that can extend upto a jail term of two years with or without fine.
- **Section 66 in the Information Technology Act, 2000:** If any person, dishonestly or fraudulently, does any act referred to in section 43, s/he shall be punishable with imprisonment for a term which may extend to three years or with fine which may extend to five lakh rupees or with both.
  - **Section 43** deals with the damage of computer database.

### **International Initiative against Fake News**

- Recently, **BBC news** conducted the **Trusted News Summit** globally, bringing together senior figures from major global technology firms and publishing, to fight the disinformation present over different media platforms.
- The summit agreed to work towards a joint '**Online Social Media Education Campaign**' to create and spread awareness regarding fake news present on different social media platforms.

### **Laws against Fake News in Other Countries**

- **Malaysia**
  - Malaysia was **among the first countries to pass an anti-fake news law** in the year 2018.
  - In Malaysia, spreading fake news draws a fine of 500,000 Malaysian ringgits (Rs. 85 lakh) or up to six years of imprisonment.
- **Germany**
  - Germany's NetzDG applies to companies with more than two million registered users in the country.
  - The law requires companies to **review complaints about content and remove anything illegal within 24 hours**.
- **Australia**
  - A law was passed in Australia earlier this year that introduced **penalties up to 10% of a company's turnover** and up to three years in prison for tech executives for failing to **remove social media**

**content depicting terrorism**, murder, rape or other serious crimes.

- **France**
  - In October 2018, France passed **two anti-fake news laws** following allegations of Russian interference in the 2017 US presidential election.
  - The laws give the French broadcasting authority the **power to take off air any network spreading misinformation** throughout the country.
- **Russia**
  - In 2019, law **punishing the individuals and companies for spreading fake news** and information that disrespects the state was passed in Russia.
- **China**
  - China has **blocked most of the social media sites** and internet services like Twitter, Google, and WhatsApp in the country.
  - The country has thousands of **cyber police personnel** who monitor social media and screen content the government considers politically sensitive.

## **Exercise Malabar**

The 23rd edition of the **trilateral maritime exercise 'MALABAR'** is scheduled between the navies of India, Japan, and the USA from 26<sup>th</sup> September to 4<sup>th</sup> October 2019 off the coast of Japan.

- It is an **annual exercise** between the navies of **India, Japan, and the U.S.**, held **alternately in the Indian and Pacific Oceans**.
- It began in 1992 as a bilateral exercise between India and the U.S.
- Then it got permanently expanded into a trilateral format with the inclusion of Japan in 2015.
- MALABAR 2019 would endeavour to further strengthen India - Japan - US Naval cooperation and enhance interoperability, based on shared values and principles.
- **India and Japan** defence forces organize a series of bilateral exercises namely, **JIMEX (Maritime Exercise)**, **SHINYUU Maitri (Air Exercise)**, and **Dharma Guardian (Military Exercise)**.
- Whereas **India and USA** conduct joint **military exercises** namely, **Yudha Abhyas**.

Note:

## SITMEX

The inaugural **trilateral** exercise, involving the **Indian Navy (IN)**, the **Republic of Singapore Navy (RSN)**, and the **Royal Thailand Navy (RTN)**, recently commenced at Port Blair, Andaman and Nicobar.

- From the Indian side, Indian Naval Ships:
  - **Ranvir** - a guided-missile destroyer,
  - **Kora** - a missile corvette,
  - **Sukanya** - an offshore patrol vessel,
  - **P8I** - long-range maritime reconnaissance aircraft,



- It aims at strengthening the maritime inter-relationship (in terms of interoperability) amongst Singapore, Thailand, and India, and significantly contributes to enhancing the overall maritime security in the region.

India also conducts bilateral exercises with both the countries namely

- **Exercise Maitree** between **India and Thailand**.
- **SIMBEX** between **India and Singapore**.



## Exercise KAZIND - 2019

Joint Military Exercise KAZIND-2019 between India and Kazakhstan will be conducted in Uttarakhand, India.

- It is the fourth edition of an annual event that is conducted alternatively in Kazakhstan and India.

- During the exercise, armies of both countries would be sharing their experience gained during the conduct of various counter-insurgency and counter-terrorism operations.
- The aspects of emerging trends of hybrid warfare have also been included under this exercise.
- The joint military exercise will enhance the level of defence cooperation further fostering bilateral relations between the two nations.



### Hybrid Warfare

- Hybrid Warfare refers to the use of unconventional methods as part of a multi-domain warfighting approach that aims to disrupt and disable an opponent's actions without engaging in open hostilities.
- Russia's approach to Ukraine is an example of this form of warfare. It has involved a combination of activities, including disinformation, economic manipulation, use of proxies and insurgencies, diplomatic pressure and military actions.

## ICGS Varaha

Recently, the Indian Defence Minister commissioned the **Indian Coast Guard Ship (ICGS) Varaha** at the Chennai port.

- The ICGS Varaha is the **fourth in the series of seven 98-m Offshore Patrol Vessels (OPV)** of the Indian Coast Guard (ICG).
- The ship has been **designed and built indigenously** and will operate from the port of New Mangalore on the West Coast (covering Exclusive Economic Zone) up to Kanyakumari.
- The ship is well equipped with high-speed boats, medical facilities, and modern surveillance systems for conducting boarding operations, search and rescue, law enforcement and maritime patrolling.

Note:

- This ship **will enhance the ICG's strength** in responding to the threats of maritime terrorism, smuggling, and challenges of maritime enforcement.

#### Indian Coast Guard

- It was established in **1978** by the Coast Guard Act, 1978 of the Parliament of India as an **independent Armed force of India**.
- It operates under the **Ministry of Defence**.
- It has **jurisdiction over the territorial waters of India** including the contiguous zone and exclusive economic zone.
- It is responsible for marine environment protection in maritime zones of India and is the coordinating authority for response to oil spills in Indian waters.
- **Headquarter:** New Delhi.

### INS Nilgiri

Recently, the Defence Minister has launched the first of the Navy's seven new stealth frigates named INS Nilgiri, in Mumbai.

- He also commissioned the largest dry dock of Indian Navy - the 'Aircraft Carrier Dock' at the Naval Dockyard in Mumbai, terming it as an 'edifice of modern India'.
- INS Nilgiri is the first ship of the **Project-17A**.

#### Dry Dock

- A dry dock is a narrow basin or vessel that can be flooded to allow a load to be floated in, then drained to allow that load to come to rest on a dry platform.
- They are used for the construction, maintenance, and repair of ships, boats, and other watercraft.
- Project 17A frigates is a design derivative of the Shivalik class stealth frigates with much more advanced stealth features and indigenous weapons and sensors.
- The P17A frigates incorporate new design concepts for improved survivability, sea keeping, stealth and ship manoeuvrability.

### Astra Missile

Recently, ASTRA the **first indigenously developed air-to-air missile** was successfully flight-tested off the coast of Odisha.

- The Astra missile is developed by **Defence Research and Development Organization (DRDO)**.
- It works on the **Beyond Visual Range Air-to-Air Missile (BVRAAM) technology** that enables the fighter-pilots to shoot precisely at the enemy targets which are beyond their visual range.
- Astra is extremely effective in a **multi-target** scenario and therefore, has been described as the most potent weapon system for IAF's combat aircrafts.



Note:



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# Miscellaneous

## Highlights

- *Karan Vandana – A New Hybrid Wheat Variety*
- *Kristalina Georgieva*
- *Mobile Apps for Farmers*
- *Siachen Glacier*
- *Initiatives By AICTE*
- *India's Eastern-most Village*
- *National Educational Alliance for Technology (NEAT) Scheme*
- *World's Second-Largest Coal Block*
- *Cyclonic Storm 'HIKAA'*
- *63<sup>rd</sup> General Conference of IAEA*
- *Pusa Yashasvi*

## Karan Vandana – A New Hybrid Wheat Variety

A new **hybrid wheat variety Karan Vandana** is soon to be launched across the country.

- It is also known as **DBW-187**.
- It is rich in **protein and iron**.
- It has **high heat tolerance** across the country.
- It is **resistant to yellow rust** and **wheat blast** which causes widespread losses.

- Wheat **yellow rust** is one of the wheat rust diseases principally found in wheat grown in cooler environments.
- **Wheat blast** is a fast-acting and devastating fungal disease that threatens wheat production.

- It will **reduce unit costs for farmers** as well as **return higher yield** than normal varieties.
- It can be **cultivated only in areas under full irrigation support**.
- It has been developed by the Indian Institute of Wheat and Barley Research (IIWBR) under the Indian Council of Agricultural Research (ICAR).

## Kristalina Georgieva

The **International Monetary Fund (IMF)** formally selected **Kristalina Georgieva of Bulgaria** as the **second woman** ever to lead the 189-member institution for a five-year term starting on October 1, 2019.

- She will **replace Christine Lagarde**, the **first female Managing Director** of the IMF.

- She is also the **first person from an emerging economy** to head the global lender.
- By tradition, the IMF managing director is a European, while the United States chooses the president of the World Bank. The situation leaves little hope for ascendant emerging economies that, despite modest changes in 2015, do not have as large an IMF voting share as the United States and Europe.
  - **David Malpass, a top U.S. Treasury official** was **unanimously selected** as the **new President of the World Bank** for a five-year term starting from April 9, 2019.

## International Monetary Fund

- The IMF, also known as the Fund, was **conceived at a UN conference in Bretton Woods, New Hampshire, United States, in July 1944**.
- It provides financial assistance to member countries with balance of payments problems, lends money to replenish international reserves, stabilize currencies, etc.
- **Special Drawing Rights (SDRs)** is the IMF's unit of **account** and not a currency. SDR basket of currencies include the U.S. dollar, Euro, Japanese yen, pound sterling and the Chinese renminbi (included in 2016).

## Mobile Apps for Farmers

The Agriculture and Farmer Welfare Minister has launched two agriculture-related mobile applications.

- **CHC Farm Machinery:**
  - **Usage:**
    - It is a **multilingual app** through which farmers can **select and order the required machinery**

Note:



at the rates feasible for them from the **Custom Hiring Centers** located in the radius of 50 Kms.

- Custom Hiring Centers have been established under various schemes like **Sub-Mission on Agricultural Mechanization, Rashtriya Krishi Vikas Yojana** etc. to provide Agricultural Machinery on rental basis to the Farmers, especially small & marginal farmers who cannot afford to buy the high value machinery & equipments.
- **Objective:** Farmers, especially small and marginal farmers, will have **easy access to high value and technical agricultural equipments**. This will not only increase the income of the farmers, but it will also take mechanization to maximum farm holdings in a short time frame.
- **Krishi Kisan App for Geo Tagging:**
  - **Usage:**
    - Any farmer with high quality of crops can utilise this platform to **demonstrate best practices of cultivation** to other farmers so that this will help other farmers also to adopt these methods.
    - The App will also help in **geo-tagging and geo-fencing of crop** and give weather forecast message to farmers.
  - **Agenda:** To improve cultivation methods to ensure higher agricultural productivity.

## Siachen Glacier

Since January 2018, nearly **130 tonnes of waste has been brought down from the Siachen Glacier** and disposed off.

- The Army has made bringing down waste a **part of the Standard Operating Procedure (SOP) for troops** under the concept of waste management.



- The reason is that in the high altitude areas of 18,000 to 21,000 feet, **nothing degrades at sub-zero temperatures**.
- The Siachen Glacier is located in the Eastern Karakoram range in the Himalayas, to the **northeast of Point NJ9842 where the Line of Control between India and Pakistan ends**.
- **Operation Meghdoot** (launched on 13 April 1984) resulted in Indian troops gaining control of the entire Siachen Glacier.
- It is the **Second-Longest glacier in the World's Non-Polar areas**.
- The Siachen Glacier lies immediately south of the great drainage divide that separates the Eurasian Plate from the Indian subcontinent in the extensively **glaciated portion of the Karakoram sometimes called the "Third Pole"**.
- The Siachen Glacier is **part of Ladakh which has now been converted into a Union Territory**.
- The Siachen Glacier is the **world's highest battlefield**.

## Initiatives By AICTE

### Margadarshan

- **Institutions** having **good accreditation records or the top-performing institutions** are selected to **mentor 10 to 12 relatively newer potential institutions**.
- Best teaching and learning practices followed in the mentor institute will be **simulated** in the **identified mentee institutions**.
- The mentee institutions will also be provided with funding up to **₹ 50 lakhs per institution over a period of three years** in installments for related activities.

### Margdarshak

- The mentor teachers or the Margdarshaks are the ones who are either serving or are superannuated, with good knowledge of accreditation and are willing to devote adequate time to the mentee Institutions.
- These Margdarshaks will **regularly visit the identified mentee institutions** and guide them for the improvement in their quality.

### WAVE Summit 2019

- WAVE stands for **Waste Management Accelerators for Aspire Women Entrepreneurs** which will

Note:

be the **largest gathering of young women students**, to promote **entrepreneurship in waste management**.

- The Summit will be jointly organized by the **All India Council for Technical Education (AICTE)** and the **Institute of Waste Management (IIWM)** at Jaipur.

#### All India Council for Technical Education (AICTE)

- It was set up in **1945** as a **National-level apex advisory body**.
- Its purpose was to conduct a survey on the facilities available for technical education and to promote development in the country in a coordinated and integrated manner.
- It is **statutory authority** for planning, formulation, and Quality assurance through accreditation.

## India's Eastern-most Village

The Indian Air Force has inaugurated resurfaced runway at **India's Easternmost inhabited Village-Vijaynagar in Arunachal Pradesh**.

- It is **not connected by road**. Thus, the main mode of transport to Vijaynagar has been **helicopters**.
- Vijaynagar is **surrounded by Myanmar** on **three** sides and the **fourth** side comprises stretches of **Namdapha National Park**.
- Nearby cities to Vijaynagar are Miao (157 km, 7 days walk), Hayuliang and Tezu in India. **Putao (40 km) is the nearest city in Myanmar**.
- In the 1960s, over 200 Gorkha families of retired Assam Rifles personnel were settled in the area by the Union government.

#### Namdapha National Park

- It lies at the **international border between India and Myanmar** within Changlang District in the state of Arunachal Pradesh.
- It is the **only park in the World** to have the **four Feline species of big cat** namely the Tiger (*Panthera Tigris*), Leopard (*Panthera Pardus*), Snow Leopard (*Panthera Uncia*) and Clouded Leopard (*Neofelis Nebulosa*).
- **Hoolock Gibbons, the only 'ape' species** found in India is found in this National Park.

## National Educational Alliance for Technology (NEAT) Scheme

The Ministry of Human Resource Development (MHRD) has announced a **National Educational Alliance for Technology (NEAT)** to use technology for **better learning outcomes in Higher Education**.

- The scheme aims to use **Artificial Intelligence** to make learning more personalized and customized as per the requirements of the learner.
- MHRD aims to recognize the **development of technologies in Adaptive Learning and bring them under a common platform** so that learners can access it easily.
- It proposes to create a National Alliance with such technology developing EdTech Companies through a **Public-Private Partnership (PPP) model**.
  - EdTech companies would be responsible for developing solutions and manage the registration of learners through the NEAT portal.
- MHRD would act as a facilitator to ensure that the Adaptive Learning Solutions are freely available to a large number of economically backward students.
- Under the scheme, a National NEAT platform would be created to provide **one-stop access to Adaptive Learning Solutions**.
- NEAT is **aimed at taking the concept of Massive Open Online Courses (MOOCS) platform a step ahead**.
- **All India Council for Technical Education (AICTE) would be the implementing agency** for the NEAT programme.
- It would help to certify maximum students with highly marketable skills and would also improve the employability of students.

## World's Second-Largest Coal Block

**Deaucha Panchami coal block of Birbhum Coalfield** Area is **World's Second Largest Coal Block** situated in **West Bengal**.

- This coal mine is the **largest coal mine or coal block in Asia**, due to the number of coal reserves.
- It is the **newest coal mine** in **West Bengal**.

Note:

- India's first coal mine **Raniganj** is also situated in **West Bengal**.

- The proposed mining project at Birbhum coalfield Area has been recently in the news due to expected environmental concerns and displacement of the people from the same area.



## Cyclonic Storm 'HIKAA'

A deep depression over the Arabian Sea intensified into a cyclonic storm 'Hikka'.

- The name Hikka has been given by the Maldives.

### Cyclonic storm

- Storms are a natural phenomenon, caused by violent atmospheric disturbances over land and water.
- They get **formed when a centre of low pressure develops**, with a system of high pressure surrounding it.
- Storms that form **north of equator spin counter clockwise** whereas storms, **south of the equator spin clockwise**. This difference is because of the earth's rotation on its axis.
- **Tropical Storms are revolving storms that develop in the tropical regions** i.e. approximately between 5 degrees and 30 degree latitudes (south of the tropic of cancer in northern hemisphere).
- When the **speed of winds rotating in the storm reaches 74 miles per hour (mph)**, the storm is officially a **tropical cyclone**.

### Arabian Sea Cyclones

- **Cyclonic activity is comparatively less intense in the Arabian sea**, as compared to the Bay of Bengal, where high-intensity severe cyclones originate frequently.

- In the last 120 years, just about 14% of all cyclonic storms, and 23% of severe cyclones, around India have occurred in the Arabian Sea.
- Arabian Sea cyclones are **also relatively weak** compared to those emerging in the Bay of Bengal.
- Gujarat coastline, where most of the cyclones emerging in the Arabian Sea are headed, is not very densely populated, ensures that the damage potential of the cyclones on the western coast is comparatively low.

## 63<sup>rd</sup> General Conference of IAEA

On the sidelines of the 63<sup>rd</sup> general conference of the International Atomic Energy Agency (IAEA), India launched a **global cancer care network**, "**NCG-Vishwam Cancer Care Connect**" (NCG-Vishwam 3C).

- **NCG-Vishwam** envisages **integration of hospitals and relevant cancer care institutes in partner countries** with the **National Cancer Grid (NCG)** of India.
  - Vishwam is a Sanskrit word meaning 'universal' or 'global'.
  - NCG is managed by Tata Memorial Centre (TMC), was established in 2012 with the vision of creating uniform standards of cancer care across India and this has grown to a large network of 183 cancer centres, and hospitals.
- Eleven countries such as Russia, Kazakhstan, Vietnam, Nepal, UAE showed interests in the NCG-Vishwam soon after its launch.

### International Atomic Energy Agency

- The International Atomic Energy Agency (IAEA) is the international centre for cooperation in the nuclear field. Also known as the world's "**Atoms for Peace and Development**".
- The Agency works with its Member States and multiple partners worldwide to promote safe, secure and peaceful use of nuclear technologies.
- The IAEA was **created in 1957** in response to the deep fears and expectations generated by the discoveries and diverse uses of nuclear technology.
- IAEA's **headquarters** is in **Vienna, Austria**.
- It is an **independent international organization that reports annually to the UN General Assembly**.

Note:

- When necessary, the IAEA also reports to the UN Security Council in regards to instances of members' non-compliance with safeguards and security obligations.

## Pusa Yashasvi

Recently, the **Indian Agricultural Research Institute (IARI)** has released a new variety of wheat named **Pusa Yashasvi**.

- It is also known as **HD-3226**.
- It has **higher genetic yield potential** (at 79.6 quintals) as compared to other varieties of wheat.
- Pusa Yashasvi has a **higher content of zinc, protein, and gluten** (which contributes to the strength and elasticity of the dough).

- The best feature of this variety of wheat is that it is **highly resistant against all major rust fungi** viz. yellow/stripe, brown/leaf, and black/stem.
- It is compliant to the **Conservation Agriculture (CA)**
  - It is defined as a sustainable agriculture production system that comprises of a set of farming practices adapted to the requirements of crops and local conditions of each region.
    - The farming and soil management techniques in CA protects the soil from erosion and degradation, improves its quality and biodiversity, and contributes to the preservation of the natural resources, water, and air while optimizing yields.



Note:



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Summary

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Summary



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# Current Affairs (CONSOLIDATION)

**OCTOBER 2019**  
**(PART – I)**

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# Polity and Governance

## Highlights

- School Education Quality Index: NITI Aayog
- 14th Anniversary of Right To Information Act
- Swachh Bharat Diwas 2019
- Centralized Public Grievance Redress and Monitoring System
- Performance Smart-Board
- Commutation of Death Sentence
- Youth Co:Lab
- Pradhan Mantri Innovative Learning Programme – DHRUV

## School Education Quality Index: NITI Aayog

National Institution for Transforming India (NITI Aayog) has released the first edition of the School Education Quality Index (SEQI).

- SEQI has been **developed by NITI Aayog** to evaluate the **performance of States and Union Territories (UTs) in the school education sector**.
- It is developed through a collaborative process of the Ministry of Human Resource Development (MHRD), **the World Bank and sector experts**.

### School Education Quality Index

- SEQI is based on a **set of 30 critical indicators** that measure the overall effectiveness, quality, and efficiency of the Indian school education system.
- It aims to **institutionalise a focus on enhancing education outcomes** by driving improvements in **learning levels, access, equity, infrastructure, and governance** processes.
- To facilitate like-to-like comparisons, States and UTs have been grouped as **Large States, Small States and Union Territories** for ranking purpose.
- Performance of the States:
  - Among **20 Large States**, Kerala was ranked **first** for overall performance on the quality of school education while **Uttar Pradesh** came **last**.
    - However, Haryana, Assam and Uttar Pradesh showed the most improvement.
  - Among **Smaller States**, Manipur emerged as the **best performer**, while **Chandigarh topped the list of Union Territories**.

Summary of Index Categories and Domains			
Category	Domain	Number of indicators	Total weight
1. Outcomes	1. Learning Outcomes	3	360
	2. Access Outcomes	3	100
	3. Infrastructure and Facilities for Outcomes	3	25
	4. Equity Outcomes	7	200
2. Governance Processes Aiding Outcomes	Covering student and teacher attendance, teacher availability, administrative adequacy, training, accountability, and transparency	14	280
<b>Total</b>		<b>30</b>	<b>965</b>

- It is to be noted that **all seven UTs have shown an improvement** in their performance.
- **West Bengal refused to participate in the evaluation process** and has not been included in the rankings.
- How the Index will Help States?
  - It recognises school education as a subject mentioned in the Concurrent List and that State-level leadership is crucial for improving outcomes in a cost-effective manner.
  - It will foster the spirit of **competitive and cooperative** federalism, as the index strives to facilitate the sharing of knowledge and best practices across States and UTs.

Note:

**NITI Aayog**

- The National Institution for Transforming India, also called NITI Aayog, was formed via a resolution of the Union Cabinet on 1<sup>st</sup> January 2015.
- The Government of India constituted the NITI Aayog to replace the Planning Commission instituted in 1950.
- It is the premier policy 'Think Tank' of the Government of India, providing both directional and policy inputs.
- While designing strategic and long term policies and programmes for the Government of India, NITI Aayog also provides relevant technical advice to the Centre and States.
- The Governing Council of NITI, with the Prime Minister as its Chairman, comprises of Chief Ministers of all States and Lt. Governors of Union Territories (UTs).

## 14<sup>th</sup> Anniversary of Right To Information Act

An important instrument of participatory democracy 'Right To Information (RTI)' Act, 2005 marked its 14<sup>th</sup> anniversary on 12<sup>th</sup> October 2019.

- To mark the occasion, the 'Report Card on the Performance of Information Commissions in India' has been released by the NGOs – Satark Nagrik Sangathan and the Centre for Equity Studies.

**Key Findings****➤ Achievements**

- RTI is one of the landmark acts which has led to a **significant boost in accountability of the government towards the people.**
  - It has given ordinary citizens the confidence and the right to ask questions to the government authorities.
  - It assured information accessibility at every level of public governance.
- RTI ensured the **maintenance and publication of public records.**
- Nearly 60 lakh applications are being filed every year.
- Recently, the government of Rajasthan has launched [Jan Soochna Portal \(JSP\)](#), on the lines of [Right to Information Act](#).

**➤ Challenges**

- Government officials face hardly any punishment for violating the law by denying applicants legitimate information.
  - Central and State Information Commissions, which are the courts of appeal under the RTI Act, **failed to impose penalties in about 97% of the cases** where violations took place.
  - The State Commissions of **Tamil Nadu, Sikkim, Mizoram and Tripura** did not impose penalties in any cases at all.
- The commissions also have the **power to recommend disciplinary action against officials for persistent violations** of the RTI Act. **Only 10 states invoked these powers.**
- Many Information Commissions are **non-functional or are functioning at reduced capacity** as the posts of commissioners, including that of the Chief Information Commissioner are vacant.
  - The State Information Commission (SIC) of the state of Andhra Pradesh is yet to become functional.
  - The State Information Commission of West Bengal is currently functioning with just two commissioners.
- The central, as well as state commissions, have an **increasing workload**, which is leading to **huge pendency of cases.**
  - Any new appeal to the Central Information Commission (CIC) would have to wait for more than one-and-a-half years for resolution.

**Right to Information Act 2005**

- Enacted by the Parliament, it received the President's assent on **15<sup>th</sup> June, 2005.**
- Under the provisions of the Act, a citizen **may request information from a "public authority" (a body of government)**, which is required to reply **within thirty days.**

**Central Information Commission**

- CIC was **established in 2005** by the Central Government under the provisions of Right to Information (RTI) Act, 2005.
- The Chief Information Commissioner heads the Central Information Commission.

Note:

- It hears appeals from information-seekers who have not been satisfied by the public authority and also addresses major issues concerning the RTI Act.
- CIC submits an **annual report to the Union government** on the implementation of the provisions of RTI Act.

#### State Information Commission

- The Right to Information Act of 2005 provides for the creation of a State Information Commission at the state level.
- The State Information Commission is a high powered independent body which inter-alia looks into the complaints made to it and decide the appeals.
- It entertains complaints and appeals pertaining to offices, financial institutions, public sector undertakings, etc. **under the concerned state government.**
- The Commission consists of a State Chief Information Commissioner and not more than **ten State Information Commissioners** appointed by the Governor.

## Swachh Bharat Diwas 2019

- The Prime Minister inaugurated the **Swachh Bharat Diwas 2019** on the occasion of the **Mahatma's 150<sup>th</sup> birth anniversary** in Ahmedabad, Gujarat.
  - The event has been made more memorable after the **UN released a postal stamp on Gandhiji** a few days back.
- On the same occasion, Prime Minister of India proposed the **"Einstein Challenge"** as a tribute to Mahatma Gandhi.
  - Albert Einstein's famous words on Gandhi says that "Generations to come will scarce believe that such a one as this ever in flesh and blood walked upon this earth."
  - Considering the above statement Einstein Challenge invites thinkers, entrepreneurs, and tech leaders to be at the forefront of **spreading Gandhi's ideas through innovation** to make it reach future generations.
- On the occasion of Swachh Bharat Divas 2019, the Ministry of Railways also released **Station Cleanliness Survey 2019.**

- **Rajasthan's Jaipur station topped** the list of **cleanest railway stations** in India – in the **non-suburban group** of stations.
- In the **suburban group** of stations, Maharashtra's **Andheri station has topped** the list.
- The **cleanest railway zone 2019** award has been given to the **North Western Railway Zone.**
- To mark the **same event** the Atal Innovation Mission (AIM), NITI Aayog's Atal Tinkering Labs (ATL) and United Nations Children's Fund (UNICEF) India has launched **'the Gandhian Challenge'.**
  - The contest – **open for every child** in India from **2<sup>nd</sup> October to 20<sup>th</sup> October** – also celebrates **70 years of partnership between the Government of India and UNICEF India** to enable **Every Right for Every Child.**
  - Ideas and solutions may be expressed through: Art & Innovation (Letters, poems, painting, videos, and photos, among others), and Science, Technology & Innovation (Robotics, Internet of Things (IoT), sensors and 3D printers, among others).

#### Atal Innovation Mission

- AIM is the NITI Aayog's initiative to promote a culture of innovation and entrepreneurship in the country.
- Six major initiatives of AIM:
  - **Atal Tinkering Labs (ATL)-** Creating a problem-solving mindset across schools in India.
  - **Atal Incubation Centers-** Fostering world-class start-ups and adding a new dimension to the incubator model.
  - **Atal New India Challenges-** Fostering product innovations and aligning them to the needs of various sectors/ministries.
  - **Mentor India Campaign-** A national Mentor network in collaboration with the public sector, corporates, and institutions, to support all the initiatives of the mission.
  - **Atal Community Innovation Center-** To stimulate community-centric innovation and ideas in the unserved /underserved regions of the country including Tier-2 and Tier-3 cities.
  - **ARISE-** To stimulate innovation and research in the MSME industry.

#### United Nations Children's Fund

- UNICEF is an **integral part of the United Nations**, which works with governments, communities, civil

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society organizations, the private sector, and other partners worldwide to advance children's rights, and is guided by the **Convention on the Rights of the Child**.

- **Generation Unlimited** is a new UNICEF-led global partnership that aims to ensure that every young person in the age group of 10-24 yrs. is in some form of school, learning, training, self-employment, or age-appropriate employment by 2030.

## Centralized Public Grievance Redress and Monitoring System

The Centralized Public Grievance Redress and Monitoring System (CPGRAMS) reforms have been launched in the Department of Posts.

- The reforms are expected to **reduce the grievance disposal time and improve the quality** of grievance redressal.
- CPGRAMS is an **online web-enabled** system developed by the **National Informatics Centre**, in association with the **Ministry of Personnel, Public Grievances & Pensions**.
  - It provides the facility to **lodge and track a grievance online from any geographical location**.
  - It also enables **Department of Administrative Reforms and Public Grievances (DARPG)** to **monitor the grievance**.
  - The procedure also includes designating a **senior officer as the Director of Grievances/Grievance officer in every office** to ensure that the system remains accessible, simple, quick, fair and responsive.

## Performance Smart-Board

The **Ministry of Electronics and Information Technology (MeitY)** has launched an **automated real-time performance Smart-Board** to ensure effective monitoring of the key programmes of the Ministry.

- It is a **centralized, easy-to-access** and **single-window** platform for Centre, State or District specific projects implemented by **MeitY**. Eg. **Aadhar, Digital India, Digital Payments**, etc.
- It will provide **real-time, dynamic analytical** project monitoring for critical and high priority Programme/Schemes of MeitY which will ensure **transparency**.

## Commutation of Death Sentence

Recently, the President of India has decided to **commute the death sentence** of an accused (convicted for the assassination of then Punjab Chief Minister) as a **humanitarian gesture** ahead of the **550<sup>th</sup> birth anniversary celebrations of the founder of Sikhism – Guru Nanak Dev Ji**.

- In the last **nine years**, the President **commuted at least 20 death sentences to life imprisonment**, based on the recommendations of the **Ministry of Home Affairs (MHA)**.

### *Constitutional Provision to Grant Pardon: Article 72*

- **Article 72** of the Constitution **empowers the President to grant pardons** to persons who have been tried and convicted of any offence in all cases where the:
  - Punishment or sentence for an offence is **against a Union Law**,
  - Punishment or sentence is by a **court-martial (military court)**, and
  - Punishment is a **Death sentence**.
- **Article 72** empowers the President the power to grant **not only pardons but also reprieves, respites or remissions of punishment or to suspend, remit or commute** the sentence of any person convicted of any offence.
  - **Pardon**: It removes both the sentence and the conviction and completely absolves the convict from all sentences, punishments, and disqualifications.
  - **Commutation**: It denotes the substitution of one form of punishment with a lighter form of punishment. For example, a death sentence may be commuted to rigorous imprisonment.
  - **Remission**: It implies reducing the period of the sentence without changing its character. For example, a sentence of rigorous imprisonment for five years may be remitted to rigorous imprisonment for one year.
  - **Respite**: It denotes awarding a lesser sentence in place of one originally awarded due to some special fact, such as the physical disability of a convict or the pregnancy of a woman offender.

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- **Reprieve:** It implies a stay of the execution of a sentence (especially that of death) for a temporary period. Its purpose is to enable the convict to have time to seek pardon or commutation from the President.

### **Procedure Followed for Granting Pardon**

- The process starts with filing a **mercy petition** with the President under **Article 72** of the Indian Constitution.
- Such a petition is then sent to the **Ministry of Home Affairs** for consideration which is then consulted with the **concerned State Government**.
- After the consultation, recommendations are made by the Home Minister and the petition is sent back to the President.

### **Purpose of Granting Pardon**

- Pardon may substantially help in saving an innocent person from being punished due to miscarriage of justice or in cases of doubtful conviction.
- The object of conferring this power on the President is two-fold:
  - To keep the door open for correcting any judicial errors in the operation of law;
  - To afford relief from a sentence, which the President regards as unduly harsh.

### **Judicial Stand on Pardoning Powers**

- In **Maru Ram v Union of India case (1980)**, the constitutional bench of the Supreme Court of India held that the power under Article 72 is to be exercised on the advice of the Central Government and not by the President on his own at his discretion. And that the advice of the Government is binding on him.
- The Supreme Court in **Epuru Sudhakar v Ors. case (2006)** to rule out any case of arbitrariness or executive mala fide upheld that the granting of clemency by the President or Governor can be challenged in court on various grounds such as, the order has been passed without application of mind, or the order is mala fide, or the relevant material has been kept out of consideration.

### **Difference Between Pardoning Powers of President And Governor**

- The scope of the pardoning power of the President under Article 72 is wider than the pardoning power

of the Governor under Article 161 which differs in the following two ways:

- The power of the President to grant pardon extends in cases where the punishment or sentence is by a Court Martial but Article 161 does not provide any such power to the Governor.
- The President can grant pardon in all cases where the sentence given is the sentence of death but the pardoning power of the Governor does not extend to death sentence cases.

## **Youth Co:Lab**

**Atal Innovation Mission (AIM)**, NITI Aayog and the **United Nations Development Programme (UNDP)** India has launched '**Youth Co: Lab**'.

- The initiative aims to create an enabling ecosystem to promote **youth leadership, innovation, and social entrepreneurship**.
- The initiative will convene social innovation challenges at the **national and sub-national level**, which will invite young people in the **age group of 18-29 years** and start-ups to showcase their proposed ideas and solutions to tackle social challenges.
- AIM and UNDP are collaborating to spread awareness about different issues pertaining to youth, the future of work and the **Sustainable Development Goals (SDGs)**.

### **United Nations Development Programme India**

- UNDP has worked in India since 1951 in almost all areas of human development, from systems and institutional strengthening to inclusive growth and sustainable livelihoods.
- UNDP India's country programme for 2018-2022 has three major focus areas:
  - Inclusive growth
  - Environment and energy
  - Strengthening systems and institutions

## **Pradhan Mantri Innovative Learning Programme- DHRUV**

Recently, the **Union Human Resource Development Minister** has launched the **Pradhan Mantri Innovative Learning Programme** named '**DHRUV**'.

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- It is a unique programme **to identify talented students and mentor them for 14 days** so that they can reach their full potential and work for the society.
  - The programme is named DHRUV **after the Pole Star** with the same name. Every student selected under this programme will be called as 'Dhruv Tara'. The students will thus both shine through their achievements and light a path for others to follow.
- The programme will cover **two areas** namely, **Science and Performing Arts**.
    - Overall 60 students will be selected (30 from each area) from across the country.
    - The students will be broadly from classes 9 to 12 from all schools including government and private.



Note:

# Economic Scenario

## Highlights

- SARAS Aajeevika Mela
- RBI's Report on State Finances
- Current Account Deficit
- PRAKASH Portal
- Waterfall Approach and Money Market
- Strategic Disinvestment
- World Cotton Day
- Global Competitiveness Index 4.0: WEF

## SARAS Aajeevika Mela

It is a programme to transform rural India in general and the lives of rural women in particular.

- It is an **initiative** by the **Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM)** under the **Ministry of Rural Development (MoRD)**. Its objectives to bring the rural women **Self Help Groups (SHGs)** under one platform so that they can showcase their skills, sell their products, and help them build linkages with bulk buyers.
- Through participation in SARAS Aajeevika Mela, these rural SHG women will get vital national level exposure to understand the demand and taste of urban customers.

### Deendayal Antyodaya

#### Yojana - National Livelihoods Mission

- It was launched by the **Ministry of Rural Development, Government of India** in 2011.
- It is the flagship program of Government of India for **promoting poverty reduction through building strong institutions of the poor, particularly women**, and enabling these institutions to access a range of financial services and livelihoods services.

### Self Help Groups

- Self-Help Groups (SHGs) are **informal associations of people** who choose to come together to find ways to **improve their living conditions**.
- It can be defined as **self governed, peer controlled information group of people** with similar socio-economic background and having a desire to collectively perform common purpose.

## RBI's Report on State Finances

The **Reserve Bank of India (RBI)** has released a report titled "**State Finances: A Study of Budgets of 2019-20**".

- It is an **annual publication** that provides information, analysis and an **assessment of the finances of state governments**.

### Key Findings

#### ➤ Fiscal Deficit:

- States' Gross Fiscal Deficit (GFD) has **remained within the Fiscal Responsibility and Budget Management Act (FRBM)** threshold of **3% of the Gross Domestic Product (GDP)** during 2017-18 and 2018-19.
- For 2019-20, States have budgeted a consolidated GFD of 2.6% of GDP.

#### ➤ Concerns:

- Outstanding debt of States has risen over the last five years to 25% of GDP, making sustainability of debt the main fiscal challenge.
- States' GFD was within the threshold of the FRBM Act due to a sharp reduction in capital expenditure by states.
  - It has potentially adverse implications for the pace and quality of economic development. As states employ about five times more people and spend around one and a half times more than the Centre.
  - Moreover, public expenditure by states influences the quality of the physical and social capital infrastructure of the economy.

Note:



➤ **Challenges:**

- States' revenue prospects are confronted with **low tax buoyancies, shrinking revenue autonomy** under the Goods and Services Tax (GST) framework and unpredictability associated with transfers of the Integrated GST (IGST) and grants.
- States may have to take over **higher losses of power distribution companies** if they do not show a turnaround in their performance.

➤ **Suggestions:**

- States need to gradually harness the GST database to expand the tax base.
- They also need to review their tariff policies relating to power and irrigation, keeping in mind the break-even user charges.
- States need to combine efforts towards mobilizing higher revenues with strategies to maximize efficiency gains rather than a mere increase in tax rates.

### The Fiscal Responsibility and Budget Management Act

- The Act was enacted in 2003 which set targets for the government to reduce fiscal deficits. The targets were put off several times.
- Hence, in May 2016, the government set up a committee under NK Singh to review the FRBM Act.

### Fiscal Deficit

- Fiscal Deficit is the difference between the total income of the government (total revenue receipts and non-debt capital receipts) and its total expenditure.
- It is an indication of the total borrowings needed by the government.
  - It is to be noted that while calculating the total revenue, borrowings are not included.
- **Gross Fiscal Deficit:** It is the excess of total expenditure over revenue receipts (including external grants) and non-debt capital receipts.
- **Net Fiscal Deficit:** It is the gross fiscal deficit less net lending of the Central government.

## Current Account Deficit

According to the data released by the [Reserve Bank of India \(RBI\)](#), the Current Account Deficit (CAD) of the country came down to 2% of GDP in the first quarter

(April 2019 – June 2019) of the current financial year from 2.3% of GDP of the same quarter of 2018.

- According to the RBI, the CAD declined on a year-on-year basis, because of a number of factors such as:
  - **Invisible Account: Higher invisible receipts**, i.e., rise in net earnings from travel, financial services, telecommunications, computer and information services.
  - **Trade Visible:** Trade deficit has been lower recently, due to lower crude oil prices and also due to the declining demand.
  - **Rising Private transfers (Remittances).**

### Current Account Deficit

- The current account measures the flow of goods, services, and investments into and out of the country.
  - It represents a country's foreign transactions and, like the capital account, is a component of a country's Balance of Payments (BOP).
- There is a **deficit in Current Account** if the value of the goods and services imported **exceeds** the value of those exported.
  - A country with **rising CAD** shows that it has become **uncompetitive**.
- In India, the **Current Account Deficit** could be **reduced by boosting exports and curbing non-essential imports** such as gold, mobiles, and electronics.
- Current Account Deficit and Fiscal Deficit (also known as "budget deficit" is a situation when a nation's expenditure exceeds its revenues) are together known as **twin deficits** and both often reinforce each other, i.e., a high fiscal deficit leads to higher CAD and vice versa.

## PRAKASH Portal

The government has launched a web portal, PRAKASH (Power Rail Koyla Availability through Supply Harmony).

- It aims to improve **coordination between the power, coal and railway ministries to ensure coal supplies to power plants**.
- It has been developed by National Thermal Power Corporation (NTPC) and sources data from different stakeholders such as Central Electricity Authority (CEA), Centre for Railway Information System (CRIS) and coal companies.

Note:



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- The portal is **not accessible to the general public**.
- The present mechanism to review the coal supply situation consists of an inter-ministerial group.
  - It faces several issues such as scattered information, the correctness of data from different organizations, timely availability of data, etc. leading to difficulties in decision making.
- **Benefits of the Portal:**
  - Stakeholders can review the overall availability of coal at thermal power plants in different regions.
  - The coal company will be able to track stocks and the coal requirement at power stations for effective production planning.

#### National Thermal Power Corporation (NTPC)

- NTPC is India's largest energy conglomerate with roots planted way back in 1975 to accelerate power development in India.
- Its mission is to provide reliable power and related solutions in an economical, efficient and environmentally friendly manner, driven by innovation and agility.
- It became a **Maharatna company** in May, 2010.

#### Central Electricity Authority

- CEA is an organization constituted under Section 70 of the Electricity Act, 2003.
- One of its objectives is to formulate National Electricity Plan every five years for optimum utilization of available resources for power generation.
- It works under the **Ministry of Power**.

#### Centre for Railway Information System

- The Ministry of Railways set up CRIS as a society in July 1986.
- Its area of work includes information systems from all disciplines and functions of the Indian Railways.
- It is **headquartered** in **New Delhi**.

## Waterfall Approach and Money Market

The market regulator **Securities and Exchange Board of India (SEBI)** has directed mutual fund houses to follow the "**waterfall**" **approach** for the valuation of money market and debt securities in order to bring **uniformity and consistency in valuation**.

- **SEBI** noted various instances wherein mutual funds have used their own trades of relatively small quantities in order to value the entire holding of such security. To avoid this, the waterfall approach is to be adopted.
- Under the Waterfall Approach, all traded securities would be valued on the basis of traded yields.
  - For Government Securities (including T-bills), Volume Weighted Average Yield (VWAY) for trades in the last one hour of trading shall be used.
  - Valuation of all other money market and debt securities (including Government securities not traded in the last one hour) shall be done on the basis of VWAY of all trades during the day.

#### Volume Weighted Average Yield

- It is a trading benchmark used by traders that gives the average price at which the securities has been traded throughout the day, based on both volume and price.
- It is important because it provides traders with insight into both the trend and value of a security.

#### Money Market Fund

- Money Market Mutual Funds (MMMF) are **short-run** liquid investments that invest in **high-quality money market instruments** such as **Treasury Bills (T-Bills)**, Repurchase Agreements (Repos), Commercial Papers, and Certificate of Deposits.
- Money Market Fund is an **open-ended mutual fund**.
- It invests in **short-term debt securities** like treasury bills and commercial paper.
  - Debt securities funds invest in fixed income securities like bonds and treasury bills.

## Strategic Disinvestment

The Department of Investment and Public Asset Management (**DIPAM**) under the Ministry of Finance has been made the **nodal department** for the **strategic stake sale in the Public Sector Undertakings (PSUs)**.

- Till now, PSUs for strategic sale were identified by **NITI Aayog**. From now, DIPAM and NITI Aayog will jointly identify PSUs for strategic disinvestment.
- This has been done to streamline the process, reducing the role of administrative ministries which often used to place hurdles in the path of major stake sales.

Note:



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### Department of Investment and Public Asset Management

- The Department of Disinvestment was one of the departments under the **Ministry of Finance**.
  - It was **renamed** as **Department of Investment and Public Asset Management (DIPAM)** in 2016.
- The **mandate of the department** is as follows:
  - All matters relating to the **management** of Central Government investments in equity including disinvestment of equity in Central Public Sector Undertakings.
  - All matters relating to the sale of Central Government equity through offer for sale or private placement or any other mode in the erstwhile Central Public Sector Undertakings.

### Strategic Disinvestment

- The strategic disinvestment would imply the sale of a substantial portion of the Government shareholding of a **Central Public Sector Enterprises (CPSE) of upto 50%, or such higher percentage** as the competent authority may determine, along with **transfer of management control** of a public sector entity to **some other entity** (mostly to a private sector entity).
  - Unlike the simple disinvestment, strategic sale implies some sort of **privatization**.
- It follows the **basic economic principle** that the government should not be in the business where economic potential of entities may be better discovered in the hands of the strategic investors due to various factors, e.g., infusion of capital, technology up-gradation, and efficient management practices, etc.

## World Cotton Day

The **World Trade Organisation (WTO)** is hosting a event at the request of **Cotton-4 (Benin, Burkina Faso, Chad, and Mali)** to celebrate their official application for recognition of **October 7** as **World Cotton Day by the United Nations**.

- The World Trade Organisation is organizing World Cotton Day event in collaboration with the United Nations Food and Agriculture Organization (FAO), the United Nations Conference on Trade and Development (UNCTAD), the International Trade Centre (ITC), and the International Cotton Advisory Committee (ICAC).

- The celebration aims to seek **new collaborations with the private sector** to promote technological advances for the cotton related industries and production in **developing countries**.

### Cotton

- Cotton is a **Kharif crop** that requires **6 to 8 months** to mature.
  - Its time of sowing and harvesting differs in different parts of the country depending upon the climatic conditions.
- Cotton is the crop of **tropical and sub-tropical areas** and requires uniformly high temperatures varying between **21°C and 30°C**.
  - The growth of cotton is retarded when the temperature falls below 20°C.
- Cotton is a **drought-resistant** crop ideal for **arid climates** and requires an **average annual rainfall of 50- 100 cm**.
- It requires at least **210 frost-free days** in a year.
- It occupies just **2.1% of the world's arable land**, yet it meets **27% of the world's textiles need**.
- **India** is the **second-largest producer** of cotton in the world after China.
- Between 2011 and 2018, India implemented a Cotton Technical Assistance Programme (**Cotton TAP-I**) for seven African countries namely Benin, Burkina Faso, Mali and Chad and also Uganda, Malawi, and Nigeria.

#### Cotton Corporation of India

- CCI was established in 1970 under the administrative control of the **Ministry of Textiles** as a **Public Sector Undertaking** under the Companies Act, 1956.
- **Headquartered at Navi Mumbai (Maharashtra)**, CCI aims to safeguard the economic interest of cotton farmers, and to ensure a smooth supply of good quality cotton to the textile industry in India.
- The major role of the CCI is to undertake price support operations, whenever the market prices of cotton fall below the Minimum Support Prices (MSP).

## Global Competitiveness Index 4.0: WEF

The **World Economic Forum (WEF)** has released the **2019 edition of the Global Competitiveness Report**

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which features the **Global Competitiveness Index 4.0 (GCI 4.0)**.

- **GCI 4.0** implies the **fourth version of the Global Competitive Index, introduced in 2018**. However, the index has been an **annual edition since 1979**.
- GCI 4.0 provides a detailed map of the factors and attributes that drive productivity, growth and human development in the era of the Fourth Industrial Revolution.
- It covers **141 economies**, which account for 99% of the world's GDP.
- The GCI 4.0 of 2019 revealed that, on an average, **most economies continue to be far from the competitiveness "frontier"**—the aggregate ideal across all factors of competitiveness.
  - A country's performance on the overall GCI is reported as a **'progress score' on a 0-100 scale**, where 100 represents the 'frontier', an ideal state where an issue ceases to be a constraint to productivity growth.
- The report is based on **12 set of factors (pillars)** that determine productivity. These are: Institutions, Infrastructure, ICT adoption, Macroeconomic stability, Health, Skills, Product market, Labour market, Financial system, Market size, Business dynamism, and Innovation capability.
- **In South Asia, Sri Lanka is the most improved country** at 84<sup>th</sup> rank, followed by Bangladesh (105<sup>th</sup>), Nepal (108<sup>th</sup>) and Pakistan (110<sup>th</sup>).
- **China (28<sup>th</sup>)** is the **best performer** among the BRICS countries.
- **Singapore** has become the **world's most competitive economy** in 2019, pushing the **US to second place**.
- **Vietnam (67<sup>th</sup>)** registered the **highest improvement** across the globe.

### Key Findings

- India **moved down 10 places** to the rank of **68<sup>th</sup>** compared to the **58<sup>th</sup> rank in 2018** primarily because of **faster improvements of several countries previously ranked lower**.
- **Positives for India:**
  - India ranked **high on macroeconomic stability** (Score - 90, Rank - 43<sup>rd</sup>) and **market size** (93.7, 3<sup>rd</sup>).
  - India performed well when it comes to **innovation** (50.9, 35<sup>th</sup>), well ahead of most emerging economies and on par with several advanced economies.
  - Its **financial sector** (69.5, 40<sup>th</sup>) is relatively **deep and stable**.
- **Challenges for India:**
  - India ranked beyond 100<sup>th</sup> on five pillars and featured in the top 50 of just four pillars.
  - Major shortcomings in some of the basic enablers of competitiveness, like **ICT adoption is limited** (31.1, 120<sup>th</sup>) but has improved sharply (+8 since the 2017 edition).
  - **Health conditions remain poor**, as reflected in low healthy life expectancy (59.4 years, 109<sup>th</sup>), which is one of the shortest outside Africa and significantly below the South Asian average.
  - **Weak banking system** (60.4, 89<sup>th</sup>) and **low skills base** (50.5, 107<sup>th</sup>).
  - Product market efficiency (50.4, 101<sup>st</sup>) is undermined by a **lack of trade openness** (43.9, 131<sup>st</sup>).
  - The labour market is characterized by a lack of worker rights' protections, insufficiently developed active labour market policies and critically low participation of women (ratio of female workers to male workers of 0.26, 128<sup>th</sup>).



Note:



# International Relations

## Highlights

- India-China 2<sup>nd</sup> Informal Summit- Mamallapuram Summit
- Vice President's Visit to Comoros and Sierra Leone
- U.K. Verdict on Nizam of Hyderabad
- C40 World Mayors' Summit
- Turkey's Offensive in Syria
- WEF India Economic Summit
- India-Bangladesh
- India-Netherlands

## India-China 2<sup>nd</sup> Informal Summit – Mamallapuram Summit

The Prime Minister of **India** and the President of the People's Republic of **China** held their **Second Informal Summit** in **Chennai (Mamallapuram)**, India.

- **First India- China informal summit** invoked the '**Wuhan spirit**', whereas the **second informal India-China summit** has called for '**Chennai Connect**'.
- Informal summits allow discussion on wide-ranging issues, they are not particularly purpose-specific, and are sometimes considered to play bigger roles in diplomatic dialogue than formal exchanges.
  - It also acts as supplementary exchanges to annual summits.

### Key Points

- **Reiteration of the first Informal Summit in Wuhan (2018):**
  - Both countries reiterated the consensus reached during the first informal Summit in Wuhan to consider India and China as factors for stability in the current international landscape.
  - It also emphasized upon managing the differences and **not to allow differences on any issue to become disputes**.
- **Economic Development:**
  - A **High-Level Economic and Trade Dialogue** mechanism to be established to enhance trade and commercial relations
  - The **manufacturing partnership** is to be established to encourage mutual investments in identified sectors.

- India-China agreed to support and strengthen the **rules-based multilateral trading system**.

### ➤ Boundary Issues:

- Boundary issues to be solved on the lines of a mutually-agreed framework based on Political Parameters and Guiding Principles that were agreed by the two sides in 2005.

### ➤ Sister State Relations:

- Considering the age-old commercial as well as maritime linkages, both the countries agreed to establish **Sister-State Relations between Tamil Nadu and Fujian Province**.



- An academy to study links between Mahabalipuram and Fujian province on the lines of the experience between Ajanta and Dunhuang to be established.
- **70 years of India-China relations:**
  - The **year 2020** will mark the 70<sup>th</sup> anniversary of the establishment of India-China diplomatic

Note:

relations. To celebrate the event two countries will be organizing 70 activities to emphasize the historical connection between the two civilizations.

- Also the year 2020 will be designated as the **Year of India-China Cultural and People to People Exchanges**.

#### Why Mamallapuram was chosen?

- India chose Mamallapuram as a symbol of India's 'soft power'.
- Mamallapuram is an important town of the erstwhile **Pallava dynasty** that ruled in parts of South India from 275 CE to 897 CE.
- The name Mamallapuram got distorted during the British era to Mahabalipuram and thus it is also known as Mahabalipuram.
- The city of Mamallapuram was founded by the Pallava king Narasimhavarman I in the 7<sup>th</sup> century AD.
  - The name Mamallapuram **derives from Mamallan, or "great warrior"**, a title by which the Pallava King Narasimhavarman I was known.
- It is renowned for its architecture, widely admired across the world.
- Mamallapuram and the Pallava dynasty are also historically relevant, for the **earliest recorded security pact between China and India** (in the early 8th century) that involved a Pallava king (Rajasimhan, or Narasimha Varma II), from whom the Chinese sought help to counter Tibet.

#### Wuhan Spirit

- Wuhan Spirit is in line with the five principles of peaceful coexistence (**Panchsheel**) jointly advocated by China and India in the 1950s.
- Wuhan Spirit **highlighted**:
  - To form the "backbone" of economic globalization, and they should jointly make positive contributions to global peace and development.
  - To cooperate, for the first time ever, on a joint project in Afghanistan.
  - China indicated that India's refusal to join the Belt and Road Initiative will not come in the way of economic cooperation.

## Vice President's Visit to Comoros and Sierra Leone

The Vice President of India recently visited Comoros and Sierra Leone - two African countries.

- It was **first-ever visit by such a high-level Indian dignitary** to Comoros, an archipelago situated off the Southeast coast of Africa and to Sierra Leone, the country of Western Africa.
- The agenda was to deepen ties with African nations.

#### India - Comoros

- India and Comoros signed **6 Memorandum of Understandings (MoUs)** on defence, health (**e-Arogya Bharati**) and culture (**e- Vidya Bharati**).
- India announced **line-of-credit of USD 41.6 mn** for setting up an 18MW power plant in Moroni (capital city) and a vocational training centre.
- The Vice President also called for enhancing defence ties in maritime domain between India and the island nation of Comoros as part of a collaborative security architecture in the Indian Ocean.

#### Ties between India and Comoros

- Comoros supports **India's candidature for a permanent seat in the UN Security Council (UNSC)**.



- It is a member of the **Indian Ocean Rim Association (IORA)** as well as the **International Solar Alliance**.
- Comoros avails scholarship/training programmes offered by India under the **Indian Technical & Economic Cooperation (ITEC)** scheme.

Note:

### India – Sierra Leone

- India announced the decision to **establish a High Commission** in Sierra Leone.
- Both the countries agreed to enhance cooperation in agriculture, food processing, information technology, infrastructure development and capacity building.
  - A MoU was signed for Sierra Leone to participate in **India's Pan-African tele-Education, tele-Medicine initiatives**, e-VidyaBharati and e-Arogya Bharati.
  - India will soon initiate steps to set up a **Centre of Excellence in IT in Sierra Leone**.
- An agreement was signed to initiate a **cultural exchange program** between the governments of India and Sierra Leone for the years **2019-23**.

### Ties between India and Sierra Leone

- India was **among the first countries to contribute to the UN Mission in Sierra Leone (UNAMSIL)** with the deployment of 4000 strong Indian Military contingent.
- India has extended **concessional lines of credit to Sierra Leone worth USD 123 million** in sectors such as agriculture, water, and transmission line.



- India has also undertaken grant projects through India Brazil South Africa Forum (IBSA) funds and **provided direct humanitarian assistance to Sierra Leone** during the Ebola crisis in 2014 and during floods in 2017.
- Sierra Leone is also a beneficiary of the Indian Technical and Economic Cooperation (ITEC) programme.
- Sierra Leone is one of the members of the International Solar Alliance.

#### Indian Technical and Economic Cooperation (ITEC) Programme

- The Indian Technical and Economic Cooperation

(ITEC) Programme was **launched by the Government of India on 15th September 1964** as a programme of **bilateral cooperation and technical assistance**.

- Under ITEC and its sister programme SCAAP (Special Commonwealth African Assistance Programme), **161 countries** in Asia, Africa, East Europe, Latin America, the Caribbean as well as Pacific and Small Island countries are invited to share in the Indian developmental experience acquired over six decades of India's existence as a free nation.
- The ITEC programme **provides for organizing training courses in India**, deputation of Indian experts abroad, **aid for disaster relief**, gifting of equipment, study tours and feasibility studies/consultancy services.

## U.K. Verdict on Nizam of Hyderabad

Recently, the High Court of England and Wales ruled in favour of India and the last **Nizam of Hyderabad**-Osman Ali Khan's descendants granting them access to a **£35 million fund**.

- The court rejected Pakistan's claim in the case (that dates back to 1948), over funds belonging to the Nizam of Hyderabad deposited in a London bank account.

### Background

- The case relates to the transfer of an amount that now worths around **£35 million (approximately ₹306 crore)** by the Nizam's envoy and foreign minister (in London) to the account of the High Commissioner of Pakistan on September 16, 1948, which the bank processed on September 20, 1948.
  - Hyderabad's armed forces had already surrendered to the Indian Army on September 17, 1948, after a military operation known as **"Operation Polo."**
  - Within days of surrender, the last Nizam of the princely state of Hyderabad-Osman Ali Khan (who died in 1967), sent a message to the National Westminster Bank demanding that money back into his account. But, Pakistan also claimed the money.
- Hence, the present case was instituted by Pakistan in 2013 against the bank to transfer the money to Pakistan.

Note:

### Integration of Princely State of Hyderabad into India

- Hyderabad was one of the largest native/princely states in India. It was ruled by the Nizams who accepted the paramountcy of the British sovereign.
  - Originally, Hyderabad State was founded by **Mir Qamar-ud-din Khan** who was the governor of Deccan under the Mughals from **1713 to 1721**.
  - In **1724**, he resumed rule under the title of Asaf Jah (granted by Mughal Emperor Muhammad Shah)
- The **Nizam of Hyderabad like the Nawab of Junagadh and the ruler of Kashmir** did not accede to India before the date of independence, i.e, 15<sup>th</sup> August 1947.
- Consequently internal chaos emerged in the state of Hyderabad because of which, on 13<sup>th</sup> September 1948, the Indian Army was sent into Hyderabad under **Operation Polo** (military operation to annex Hyderabad into the Union of India).

### C40 World Mayors' Summit

The C40 World Mayors' Summit held from **9<sup>th</sup> - 12<sup>th</sup> October 2019** in **Copenhagen, Denmark**.

- It is a **conference where city leaders from around the world** share ideas on green urban development, and on ways to get national governments to act on climate issues.
- Apart from Mayors and Deputy Mayors, the Summit is being attended by climate experts, influencers, business leaders, innovators, changemakers, and citizens.
- Over the past decade, **C40 has convened six Mayors Summits**, hosted by London (2005), New York (2007), Seoul (2009), São Paulo (2011), Johannesburg (2014) and Mexico City (2016).
- At the **2019 Summit**, the **Mayor of Los Angeles** has taken over as **chair of the group**.
- The **cities from India** that are part of the C40 are **Delhi NCT, Bengaluru, Chennai, and Kolkata**.

#### C40

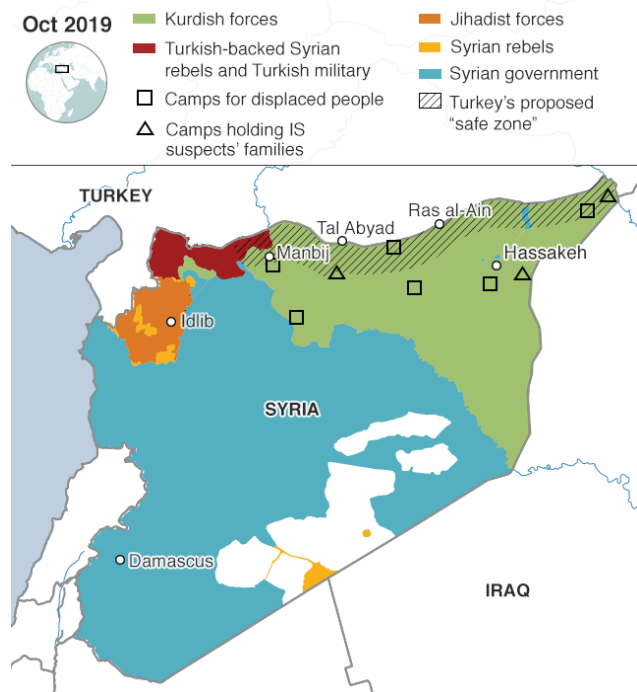
- The C40 group was started in **2005** by the then Mayor of London, Ken Livingstone, and **got its name in 2006**, since it had 40 members that year.
- It has 96 members at present, representing over 70 crore people, and one-quarter of the global economy.

- It **connects the world's largest cities** to deliver urgent and essential climate action needed to secure a sustainable future for urban citizens worldwide.
- The group is **committed to delivering on climate targets set under the 2016 Paris Agreement**, and sets the bar for cities to develop and implement local level plans that comply with those targets.
- It has its **offices in New York, USA and London, UK**.

### Turkey's Offensive in Syria

Turkey launched a **military operation** called **Operation Peace Spring** against the Syrian Kurdish militia (YPG) in Northeast Syria just days after U.S. troops pulled back from the area.

- The YPG was the USA's ally in the war against the Islamic state. However, withdrawal of US troops allowed Turkey to launch the attack.



- Turkey stated that the operation was aimed **to eliminate "terror corridor"** on Turkey's southern border as well as **to create a "safe zone"**.
  - Turkey considers the **Syrian Kurdish militia as an offshoot of the Turkey Workers Party (PKK)**, the Kurdish militant group in Turkey. Therefore as a threat to the Turkish side.
  - Turkey **intends to settle millions of Syrian refugees**, it is hosting, in the proposed safe zone.

Note:



- World powers fear the action could open a new chapter in Syria's war and worsen the regional turmoil.
  - The present chaos could **present the Islamic State with an opportunity** to stage a revival and worsen the situation in the middle east.
- Syria considered the attack as **"Turkish Aggression" over its territory**.

### India's Stand

- India issued a strong statement expressing **"deep regret" over Turkey's military action** in Syria and called it unilateral and offensive.
- India called upon Turkey to exercise restraint and to respect the territorial integrity and sovereignty of Syria.
- The diplomatic exchanges between Turkey and India have intensified in recent weeks following India's decision to end the special status of Kashmir.
  - **Turkey supported Pakistan's stance for reversal of the scrapping of Article 370.**

### Kurds

- The Kurds are one of **the indigenous peoples of the Mesopotamian plains** and the highlands i.e., current south-eastern Turkey, north-eastern Syria, northern Iraq, north-western Iran and south-western Armenia.
- They form a distinctive community, united through race, culture and language, even though they have no standard dialect.
  - They also adhere to a number of different religions and creeds, although the majority are Sunni Muslims.
- In the early 20<sup>th</sup> Century, many Kurds began to consider the creation of a homeland - generally referred to as "Kurdistan".
  - But the boundaries of modern map of middle east made no provision for a Kurdish state and left Kurds with minority status in their respective countries.
- Thus, **Kurds from Turkey, Iraq, Syria and Iran demands recognition of their tradition, language and homeland state** (to be constituted with **parts of south-eastern Turkey, north-eastern Syria, northern Iraq, north-western Iran**).

## WEF India Economic Summit

The World Economic Forum's **33<sup>rd</sup> India Economic Summit** took place in collaboration with the **Confederation of Indian Industry (CII)** in Delhi.

- The theme of the Summit was **'Innovating for India: Strengthening South Asia, Impacting the World'**.
- Bangladesh's Prime Minister co-chaired the Summit with Singapore's Deputy Prime Minister.

### Key Highlights

- The challenge of global inequality in terms of wealth and income—both within and across countries.
- More than 70 global and regional leaders committed to support investments in integrated food value chains throughout the country.
- The co-chairs called for improved regional cooperation in South Asia and Southeast Asia.
- Bilateral cooperation and innovation is crucial for **'shared prosperity'**.

### Aspects Related to India

- The **entire neighborhood, minus one**, has been a fairly good story for regional cooperation.
- India also expressed **cautious optimism** about a potential free trade agreement between India and the United States.
- The **drug delivery through drones** will be launched for life-saving medical supplies and vaccines to rural communities.
- The **Forum's Young Global Leaders community** will **mobilize more than \$3.5 million** in resources to finance the urban sanitation ecosystem in 10 Indian cities.
- **The Smart Cities Mission India joined the G20 Smart City Alliance**, chaired by the World Economic Forum, to establish universal norms and guidelines for safe and responsible implementation of smart city technology.
- A **100km electric vehicle** corridor has been proposed in **Punjab** integrated with the **World Economic Forum's Moving India initiative**.
- **Forum's Clean Skies** will fly 1 million airline passengers between Delhi and Mumbai by 2030.

Note:



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### World Economic Forum

- It was established in **1971 as a not-for-profit foundation** and is **headquartered in Geneva, Switzerland.**
- It is an international organization for **Public-Private Cooperation.**
- It engages the foremost political, business, cultural and other leaders of society to shape global, regional and industry agendas.

### Confederation of Indian Industry

- CII is a non-government, not-for-profit, industry-led and industry-managed organization, founded in 1895.
- It works to create and sustain an environment conducive to the development of India, partnering industry, Government, and civil society, through advisory and consultative processes.

## India-Bangladesh

Recently, India and Bangladesh signed seven agreements and also inaugurated three projects to deepen their partnership.

### Key Highlights

- The agreements include:
  - The **use of the Chattogram and Mongla ports in Bangladesh** for the movement of goods to and from India, particularly from **Northeastern India.**



- Use of **Bangladesh's Feni river** for drinking water supply in Tripura.
- Exchange of data and information to prepare a framework of interim sharing agreements for six rivers — **Manu, Muhuri, Khowai, and Gomati**

**rivers of Tripura and Dharla river of Bangladesh and Dudhkumar river of West Bengal.**

- **Daudkanti (Bangladesh)-Sonamura (Tripura)** inland water trade route to be included under the Protocol of the **Inland Water Transit and Trade.**
- Consensus on lifting restrictions on **entry and exit from land ports** in India for Bangladeshi citizens traveling on valid documents.
- Implementation of the **Lines of Credit (LoCs)** committed by India to Bangladesh.
- Both sides noted the progress on the establishment of the **Coastal Surveillance Radar System** in Bangladesh.
  - India has provided such systems to Mauritius, Seychelles, Maldives and planning one in Myanmar.
  - The coastal surveillance system will pave way for Indo-Bangladesh **White Shipping Agreement and coastal security purpose in the future** in the Bay of Bengal region.
- An early operationalization of the **Bangladesh-Bhutan-India-Nepal (BBIN) Motor Vehicles Agreement** for movement of goods and passengers between the member.
- The establishment of twelve new **Border Haats** which have been agreed by both countries.
- The **Ganga-Padma barrage project** to be conducted as part of an upgraded version of the **1996 Ganga Water Sharing treaty.**

### Historical Background

- India was one of the **first countries to recognize Bangladesh** and establish diplomatic relations immediately after its independence in 1971.
  - Both countries share the **historical legacy of cooperation** and support during the **Liberation War of 1971**
- India and Bangladesh share 4096.7 km. of the border, which is the **longest land boundary that India shares with any of its neighbours.**
- India and Bangladesh share **54 common rivers.**
  - A bilateral Joint Rivers Commission (JRC) is working since **1972** to maximize benefits from common river systems.
- Bangladesh is **India's biggest trade partner in South Asia.**
- Cooperation in power sector has become one of the hallmarks of India-Bangladesh relation as **Bangladesh imports 1160 MW of power from India.**

Note:

- The Joint exercises of **Army (Exercise Sampriti)** and **Navy (Exercise Milan)** take place between the two countries.

## India-Netherlands

Recently, the **King and Queen of the Kingdom of Netherlands visited India** to give an impetus to the bilateral ties shared by the two nations.

- **LOTUS-HR:**
  - The **second phase of the Local Treatment of Urban Sewage streams for Healthy Reuse (LOTUS-HR)** program was launched by the Union Minister for Science and Technology.
  - **10,000 litres of sewage water will be treated per day** at the India-Netherlands water laboratory in New Delhi.
  - The project was **initiated in July 2017** and aims to manifest a novel holistic **waste-water management** approach that will produce clean water, which could henceforth be reused for various purposes.
- **WetLab:**
  - Another joint initiative highlighted was WetLab – a **design contest** to treat water effectively.
  - It aims to build a **platform for innovative ideas to solve India's urban water challenges** and **contribute to cleaning up India's rivers**.
  - It is a competition that will enable unique learning and networking for young India and Dutch professionals and students.

## India – Netherlands Relationship

- Indo-Dutch relations can be traced back to more than 400 years ago when the **first Dutch East India Company (EIC) got established in India** (in around 17<sup>th</sup> century AD).
- The **official relations** between the two nations were established in the **year 1947** which, since then, have been cordial and friendly.
- **Netherlands is India's 4<sup>th</sup> largest trading partner in the European Union** and is also one of the leading investor nations in India.



- Netherlands' has **supported** India's membership to the different **Export Control Regimes** and **India's claim to a permanent seat in the UN Security Council**.
- India and the Netherlands share common concerns with regard to contemporary challenges that include climate action, cyber-security, and terrorism.
  - India is keen to share and learn from the Netherlands on the river rejuvenation.



Note:

# Science and Technology

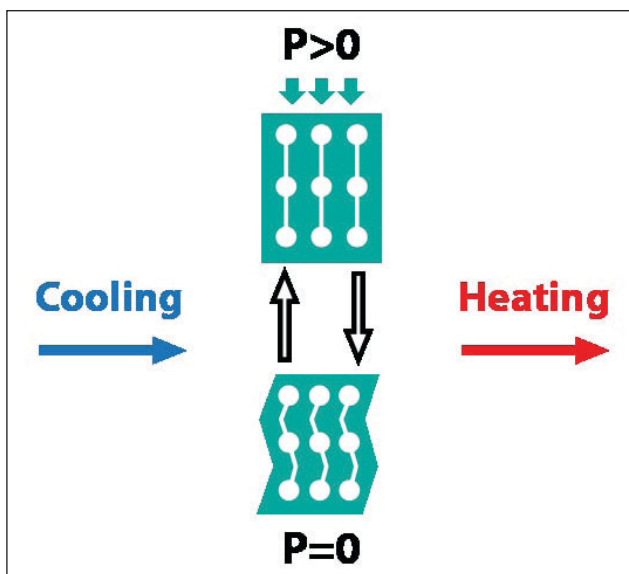
## Highlights

- *Elastocaloric Effect*
- *MOSAIC: An Arctic Observatory*
- *Geotail*
- *GEMINI Device*
- *LCROSS: NASA*
- *Malware Smominru*
- *Information Fusion Centre – Sharing Maritime Data*
- *Saturn: Planet with Most Moons*

## Elastocaloric Effect

According to a research published in the Journal Science, the **elastocaloric effect**, if harnessed, may be able to **do away with the need of fluid refrigerants** used in fridges and air-conditioners.

### Background



- Refrigeration plays an important role in a wide range of human activity and keeping people and things cool consumes huge amounts of energy.
- They use fluids such as **hydrofluorocarbons** which are **susceptible to leakages**, and can contribute to **global warming**.
- An **alternative** approach involves using **“caloric” materials**, which release heat when subjected to an external stimulus such as an applied magnetic or electric field or a compressive force. When the

stimulus is removed, the material will absorb heat, thus cooling its surroundings.

- Recently, owing to the strong demand for **efficient and environmentally friendly** refrigeration technologies, materials with giant caloric effects, including elastocaloric, have been widely investigated.

### Elastocaloric Effect

- When **rubber bands are twisted and untwisted**, it produces a cooling effect. This is called the “elastocaloric” effect.
- The elastocaloric effect can be regarded as the **entropy change under isothermal condition or temperature change under adiabatic condition** when a mechanical stress is used or released in a given material.
  - Energy is the ability to do work. Although all forms of energy are interconvertible, and all can be used to do work, it is not always possible, even in principle, to convert the entire available energy into work.
  - **Entropy is a measure of how much energy is not available to do work.**
- Basically, elastocaloric materials are **solids capable of stress-induced reversible phase transformations** during which latent heat is released or absorbed.

## MOSAIC: An Arctic Observatory

The Multidisciplinary Drifting Observatory for the Study of Arctic Climate (MOSAIC) is an **international research expedition** to study the physical, chemical, and biological processes that coupled the Arctic atmosphere, sea ice, ocean, and ecosystem.

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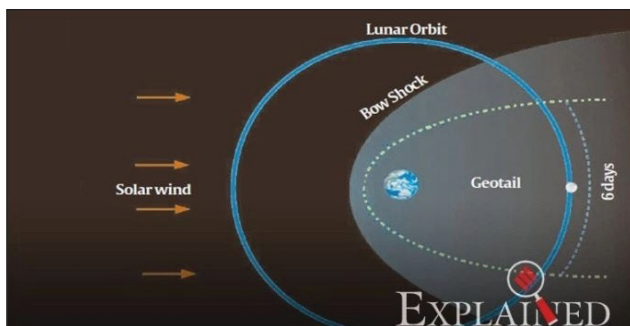
- MOSAiC is the **first year-round expedition** into the **central Arctic** exploring the Arctic climate system.
- The distributed regional network of observational sites will be set up on the sea ice surrounding the ship icebreaker RV Polarstern.
  - The **icebreaker RV Polarstern** is a **German Research Vessel** which is mainly used for research in the Arctic and Antarctica.
- The results of MOSAiC will contribute to enhance understanding of the regional and global consequences of **Arctic climate change and sea-ice loss and improve weather and climate predictions.**
- The project has been designed by an international consortium of leading polar research institutions, under the umbrella of the **International Arctic Science Committee (IASC).**

#### International Arctic Science Committee

- The International Arctic Science Committee (IASC) is a non-governmental, international scientific organization.
- IASC promotes and supports leading-edge interdisciplinary research in order to foster a greater scientific understanding of the Arctic region and its role in the Earth system.

## Geotail

Recently, an instrument on **Chandrayaan-2** named **CLASS (Chandrayaan-2 Large Area Soft X-ray Spectrometer)** has detected charged particles present on the moon soil during the orbiter's passage through the "**Geotail**".



- According to ISRO, the intensity of these **charged particles** (believed to be mostly electrons) changed as much as **ten times** the levels **outside the Geotail.**

- The detection of these charged particles on the surface of the moon can help to measure the fluxes, energy spectra, and charge types of charged particles bombarding the lunar surface and to investigate the interaction of these particles and other forms of radiation with the lunar surface.
- The **Geotail region exists** as a result of the **interactions between the Sun and Earth.**
  - The Sun emits the solar wind, which is a continuous stream of charged particles that are embedded in the extended magnetic field of the Sun.
  - Since the Earth has a magnetic field, it obstructs the solar wind plasma.
  - This interaction results in the formation of a magnetic envelope around Earth.
  - On the Earth side facing the Sun, the envelope is compressed into a region that is approximately three to four times the Earth's radius.
  - On the opposite side, the envelope is stretched into a long tail, which extends beyond the orbit of the Moon called the Geotail.
- The **Geotail region** allows the **best scientific observations.**
  - Once **every 29 days**, the **Moon traverses the Geotail for about six days.**

#### Chandrayaan-2 Large Area Soft X-ray Spectrometer (CLASS)

- The objective of CLASS is to map the abundance of major rock-forming elements on the lunar surface using the technique of X-ray fluorescence during solar flare events.
  - The solar flare provides a rich source of X-rays to illuminate the surface.
  - Secondary X-ray emission resulting from this can be detected by CLASS to directly detect the presence of key elements like Sodium (Na), Calcium (Ca), Aluminium (Al), Iron (Fe), etc. on the lunar surface.

## GEMINI Device

The **Union Minister of Earth Sciences** has recently launched the **Gagan Enabled Mariner's Instrument for Navigation and Information (GEMINI) device.**

- The device is developed for effective **dissemination of emergency information and communication on**

Note:

### Ocean States Forecast and mapping of Potential Fishing Zones (PFZ) to fishermen.

- **Ocean States Forecast** provides the accurate state of the ocean that includes the forecasts related to winds, waves, ocean currents, water temperature, etc.
- **PFZ** provide information about the probable locations of fish aggregation in the seas to the fishermen.
- GEMINI is a **portable receiver** that is **linked to Indian Space Research Organization (ISRO) – satellites**. The device can **send signals up to 300 nautical miles**.
- **Indian National Centre for Ocean Information Services (INCOIS)** in **collaboration** with the **Airports Authority of India (AAI)** utilized the **GAGAN (GPS Aided Geo Augmented Navigation) satellite** while developing the GEMINI device.
  - **GAGAN** was developed by **ISRO and the AAI**. It is **India's first satellite-based global positioning system** that relies on ISRO's GSAT satellites.
- The **drawback** of this device is that it **only allows one-way communication**, i.e, it can't be used by fishermen to make calls.
  - Also, it is relatively **expensive for the average fisherman** (priced at ₹9,000 per device). The attempts are being made to subsidize it by as much as 90%.

### Indian National Centre for Ocean Information Services

- INCOIS is an **autonomous organization** under the **Ministry of Earth Sciences (MoES)**.
- It was established in **1999** and is located in **Hyderabad**.
- It is **mandated** to provide the best possible ocean information and advisory services to society, industry, government agencies and the scientific community through sustained ocean observations and constant improvement through systematic and focused research.

### Airports Authority of India

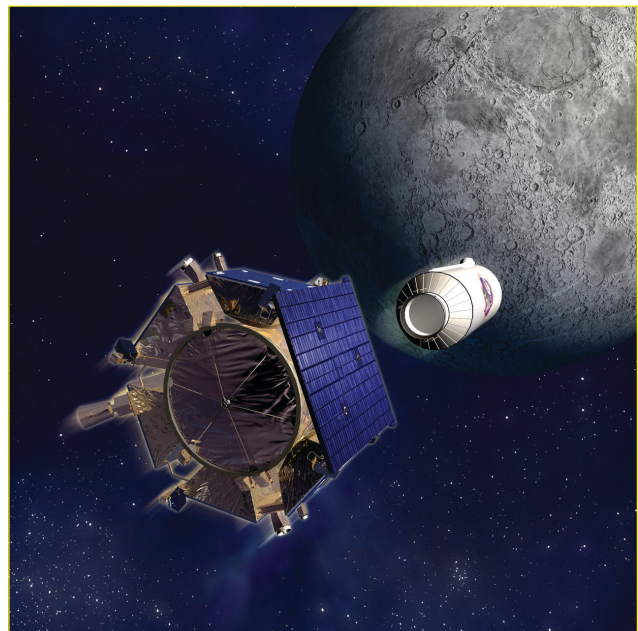
- It was **constituted by an Act of Parliament** and came into being on **1<sup>st</sup> April 1995**.
- It is a **Miniratna - Category -1 Public Sector Enterprise**.
- It has been entrusted with the **responsibility of creating, upgrading, maintaining and managing**

**civil aviation infrastructure** both on the ground and air space in the country.

- It manages **125 airports**, which include 18 International Airport, 7 Customs Airports, 78 Domestic Airports and 26 Civil Enclaves at Defense airfields.
- It is headquarter in **New Delhi**.

## LCROSS: NASA

A decade after **National Aeronautics and Space Administration (NASA)** sent a **Lunar CRater Observations and Sensing Satellite (LCROSS)** to the moon's south pole, the space agency is about to **start the same project again**.



- LCROSS was **launched** with the Lunar Reconnaissance Orbiter (LRO) **in 2009**.
  - LRO is a **NASA robotic spacecraft** currently orbiting the moon in an eccentric polar mapping orbit.
- It aimed to determine **if water-ice exists in a permanently shadowed crater at the Moon's south pole**.
- LCROSS and LRO found **evidence of the lunar soil in shadowy craters**.
- It also revealed that the Moon is chemically active and **has a water cycle**.
- LCROSS also confirmed the **water was in the form of mostly pure ice crystals** in some places.

Note:



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## Malware Smominru

Malware Smominru, whose incidence was **first reported in 2017**, continues to infect computers in a big way.

- It affects nearly **4,700 computers every day**, with over 90,000 computers affected globally in August 2019.
- The **botnet** relies on more than **20 dedicated servers**, mostly located in the **US**, though some are hosted in **Malaysia and Bulgaria**.
- In its post-infection phase, it **steals victim's credentials**, installs a **Trojan module** and a **cryptominer** and propagates inside the network.
- The objective seems to silently **use infected computers for mining cryptocurrency** at the victim's expense.
- China, Taiwan, Russia, Brazil and the US have seen the most attacks.

### Note:

- **Malware:** Short for **malicious software**, it refers to any kind of software that is designed to cause damage to a single computer, server or computer network. Ransomware, Spy ware, Worms, Viruses, and Trojans are all varieties of malware.
- **Botnet:** The word Botnet is formed from the words '**robot**' and '**network**'. It is a network of infected computers that can be controlled remotely, forcing them to send spam, spread viruses, or stage Distributed Denial of Service (DDoS) attacks without the consent of the computer owners.

## Information Fusion Centre-Sharing Maritime Data

The **Information Fusion Centre for the Indian Ocean Region (IFC-IOR)** has started functioning as an information-sharing hub of maritime data.

- The IFC-IOR was **inaugurated in December 2018** within the **premises** of the **Navy's Information Management and Analysis Centre (IMAC)** in Gurugram.
  - IFC-IOR was established with the **vision of strengthening maritime security** in the region and beyond, by building a common coherent maritime situation picture and acting as a maritime information hub for the region.
  - The **IMAC is the single point centre linking all**

**the coastal radar chains** to generate a seamless real-time picture of the nearly 7,500 km coastline.

- The centre administers a website to undertake the collection and dissemination of information on a daily basis and hosts the **Monthly Maritime Security Update (MMSU)** highlighting analysis on incidents, warnings, and advisories issued in the IOR.
- It **tracks and monitors 75,000 - 1.5 lakh shipping vessels** in real time round - the - clock.
- It has already built linkages with 18 countries and 15 multinational/maritime security centres.
  - All countries which have signed **white shipping** (commercial shipping information about the movement of cargo ships) information exchange agreements with India are IFC partners.
  - Several Indian Ocean littoral states that have joined the coastal radar chain network include Maldives, Mauritius, Sri Lanka, and Seychelles.

## Saturn: Planet with Most Moons

The **discovery of 20 new moons of Saturn** has made **it the planet having the highest number of moons (82)** against 79 moons of Jupiter.

- The discovered moons of the planet Saturn may have once comprised a larger moon that was broken apart in the distant past.
- These moons are the **remnants of the objects that helped for planet formations**, thus studying the remnants might reveal the origin of the planet.
- The **research** related to new moons of the planet Saturn has been **released by the International Astronomical Union's (IAU) Minor Planet Centre**.
  - **IAU** was founded in **1919** and headquartered in **Paris, France**.
  - Its mission is to promote and safeguard the science of astronomy in all its aspects, including research, communication, education and development, through international cooperation.
  - It is the **global authority for naming planetary features** in the solar system.
  - The **Minor Planet Center (MPC)** is the single worldwide location for receipt and distribution of **positional measurements of minor planets, comets and outer irregular natural satellites** of the major planets.



Note:



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# Environment and Ecology

## Highlights

- Plastic invading Nicobar Islands
- 15 Point Directive to Clean Ganga
- Gangetic River Dolphin Census
- Electric Vehicle Charging Guidelines and Specifications
- India's First e-Waste Clinic
- Massive Iceberg Breaks off Antarctica
- Green Wall of India
- World Habitat Day
- Ganga Aamantran

## Plastic Invading Nicobar Islands

According to a survey conducted by the researchers from **CSIR-Institute of Minerals and Materials Technology**, the **Andaman and Nicobar Islands** consisting of a group of almost 572 Islands are under **threat from plastic**.



- The **plastic litter** found on the beaches of the island is **mostly of non-Indian origin** that was likely to be **transported by the water currents from South-East Asian countries through the Malacca Straits** (which is a major shipping route) towards the Great Nicobar island.
- About 10 countries including India contributed to the plastic litter on the island namely, Malaysia, Indonesia, Thailand, Singapore, Philippines, Vietnam, India, Myanmar, China, and Japan.

- Major portion of the litter was of Malaysian origin (40%) followed by Indonesia (23.9%) and Thailand (16.3%).
- The huge quantities of marine debris observed on this island might be **due to improper handling of the solid & plastic waste** from fishing/mariculture activity, and ship traffic.
- The intentional dumping of waste by some nations needs to be strictly monitored and prohibited. It is also **violative of the law** mentioned in the **International Convention for the Prevention of Pollution from Ships**.

### Andaman & Nicobar Islands

- They are located at the East Coast of India in the Bay of Bengal & **form India's southeast border**.
- These group of Islands are surrounded by the Andaman Sea and have proximity to some South-East Asian countries like Malaysia, Myanmar, Thailand, Singapore, and Indonesia.
- The **Andaman and Nicobars are separated by the Ten Degree Channel** which is 150 km. wide.
- The **Great Nicobar Group of Islands** are home to the two most primitive tribes namely – **Nicobarese & Shompens**.
  - These islands also host the growth of coral reefs (the existence of which is threatened by the plastic debris & marine litter).
  - The island includes the **Great Nicobar Biosphere Reserve (GNBR)** which has been declared as one of the **World Network of Biosphere Reserves by UNESCO**. The reserve comprises of the Galathea National Park and the Campbell Bay National Park.

Note:



- The **Sundalands** which is one of the four **biodiversity hotspots in India** includes the Nicobar group of Islands.

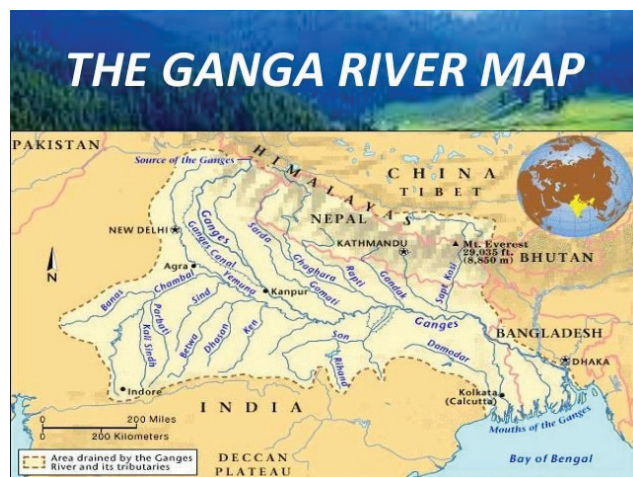
### CSIR-Institute of Minerals and Materials Technology (IMMT)

- It was established on 13<sup>th</sup> April 1964 as Regional Research Laboratory, Bhubaneswar (Odisha) in the eastern part of India under the aegis of the Council of Scientific and Industrial Research (CSIR), New Delhi.
- It was renamed in 2007 with a renewed research focus and growth strategy, to be a leader in the areas of mineral & material resource engineering.

## 15 Point Directive to Clean Ganga

The National Mission for Clean Ganga (NMCG) has recently issued a **15-point directive** to the **11-Ganga basin states to prevent idol immersion into river Ganga and its tributaries**, including cordoning off the ghats.

- These directives were issued by **NMCG under Section-5 of the Environment (Protection) Act, 1986**.



- A **fine of Rs. 50,000** would be imposed if immersion of idols took place in the Ganga or its tributaries.
- The **Chief Secretaries** of the 11 states involved have been asked to submit an **action taken report within seven days** from the end of the festive season.

### Initiatives to Prevent Ganga Pollution

- **Ganga Action Plan (1985):**

- It was the **first River Action Plan** that was taken up by the **Ministry of Environment & Forests**, to improve the water quality by the interception, diversion, and treatment of domestic sewage.
- It also aimed to prevent toxic and industrial chemical wastes (from identified polluting units) from entering the river.
- National River Conservation Plan was an extension to the Ganga Action Plan, so as to cover all the major rivers of the country.
- **Namami Gange Programme (2014):**
  - It was launched as an **Integrated Conservation Mission**, to accomplish the **twin objectives** of effective abatement of pollution, conservation, and rejuvenation of National River Ganga.
  - The program is being implemented by the **National Mission for Clean Ganga (NMCG)** and its state counterpart organization.
  - The main pillars of the programme are:
    - Sewerage Treatment Infrastructure & Industrial Effluent Monitoring,
    - River-Front Development & River-Surface Cleaning,
    - Bio-Diversity & Afforestation,
    - Public Awareness.
- **National Mission for Clean Ganga (NMCG), 2011:**
  - It is the implementation wing of the National Council for Rejuvenation, Protection, and Management of River Ganga also known as National Ganga Council (set in 2016; which replaced the NRGBA).
  - It has a **two-tier management structure** and comprises of Governing Council and Executive Committee.
  - It aims to maintain minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development.
  - **Ganga Manthan (2014)** was a **national conference** organized by NMCG to discuss issues and possible solutions for cleaning the river.
  - **Clean Ganga Fund (2014)** was also formed for cleaning up of the Ganga, setting up of waste treatment plants, conservation of biotic diversity of the river, and development of public amenities.
    - This fund will also be used to finance the National Mission for Clean Ganga (NMCG).

Note:

**National River Ganga****Basin Authority (NRGBA), 2009**

- It was formed under **Section-3 of the Environment Protection Act, 1986.**
- It was **chaired** by the **Prime Minister of India.**
- It declared the Ganga as the 'National River' of India.

## Gangetic River Dolphin Census

Recently, the annual Ganges river Dolphin census was undertaken by the **World Wide Fund for Nature- India** in collaboration with the Uttar Pradesh Forest Department along about 250 km. long riverine stretch of Upper Ganga river basin between Hastinapur Wildlife Sanctuary and Narora Ramsar site.

- This year the **'tandem boat survey method'** replaced the **previous years' direct counting method** in order to provide a more accurate count of the endangered species.
  - In the 'tandem boat survey' method, the officials use two inflated boats which move in tandem to count the dolphins. After collating the data, statistical tools are employed to arrive at the final count.
- The dolphin population in the region has **increased from 33 in 2018 to 36 in 2019.**

**Ganga River Dolphin (*Platanista Gangetica*)**

- The **Ganges river dolphin** is found in parts of the **Ganges-Meghna-Brahmaputra** and **Karnaphuli-Sangu** river systems in **India, Nepal, and Bangladesh.**
- The Gangetic river dolphin is **India's national aquatic animal** and is popularly known as **'Susu'.**
- It is also called a **blind dolphin** because it **doesn't have an eye lens** and **uses echolocation to navigate and hunt.**
- It is **among the four freshwater dolphins in the world-** the **other three** are:
  - The **'Baiji'** now likely extinct from the **Yangtze River in China,**
  - The **'Bhulan'** of the **Indus in Pakistan,** and
  - The **'Boto'** of the **Amazon River in Latin America.**
  - These four species live only in rivers and lakes.
- Its presence indicates the health of the riverine ecosystem.

**Protection Status:**

- **IUCN** Status: **Endangered**
- It is listed on **CITES Appendix-I.**
- It is classified under **Schedule 1, Wildlife (Protection) Act, 1972** providing absolute protection as offences under these are prescribed the highest penalties.
- **Vikramshila Gangetic Dolphin Sanctuary (VGDS)** in Bihar's Bhagalpur district is **India's only sanctuary** for its national aquatic animal.

**World Wide Fund for Nature- India**

- **WWF-India** is an international non-government organisation which was set up in 1969.
- It is the **country's largest voluntary body in the field of conservation.**
- Its secretariat is located in **New Delhi.**

## Electric Vehicle Charging Guidelines and Specifications

Recently, the Government of India has approved amendments in Electric Vehicle (EV) charging guidelines and specifications.

- The guidelines include:
  - A **phase-wise installation** of charging infrastructure.
  - At least **one charging station** to be set up in a **grid of 3 km × 3 km** in the cities
  - **One charging station at every 25 km** on **both sides** of highways/roads.
  - **Fast charging station** at every **100 kms.**
  - **Private charging** at residences/offices to be managed by **DISCOMs.**
  - The **Public Charging Stations (PCS)** to be a **de-licensed** activity, implying that any individual/entity is free to set up public charging stations.
  - Freedom to PCS owners to install the chargers (various types and numbers) as per the market requirement.
  - The **tariffs to be charged** in accordance with the tariff policy issued under **Electricity Act 2003.**
  - **Bureau of Energy Efficiency (BEE)** will be the **Central Nodal Agency**, while State Nodal Agency for the respective states to be set up.
- The revised policy is expected to help for **Faster Adoption and Manufacturing of Hybrid & Electric Vehicles** in India.

Note:

**Bureau of Energy Efficiency (BEE)**

- The BEE is a statutory body under the Ministry of Power, Government of India.
- It assists in developing policies and strategies with the primary objective of reducing the energy intensity of the Indian economy.
- BEE coordinates with designated consumers, designated agencies, and other organizations to identify and utilize the existing resources and infrastructure, in performing the functions assigned to it under the Energy Conservation Act, 2001.

**Faster Adoption and Manufacturing of Electric Vehicles (FAME) India**

- FAME India Scheme was launched in 2015.
- It aims to support hybrid/electric vehicles market development and manufacturing ecosystem.
- The scheme has 4 focus areas i.e. Technology Development, Demand Creation, Pilot Projects and Charging Infrastructure.
- In 2019, the Government approved FAME-II, which is an expanded version of FAME-I.

**Central Pollution Control Board (CPCB)**

- It is a **statutory** organization that was constituted in **1974**.
- It is formed under the **Water (Prevention and Control of Pollution) Act, 1974**.
- CPCB was also entrusted with the **powers and functions** under the **Air (Prevention and Control of Pollution) Act, 1981**.
- Principal functions of the CPCB are to control and prevent water and air pollution.
- It also provides technical services to the Ministry of Environment and Forests regarding the provisions of the **Environment (Protection) Act, 1986**.

**Solid Waste Management Rules 2016:**

- These rules **replace the Municipal Solid Wastes (Management and Handling) Rules, 2000**, and are now applicable beyond municipal areas and have included urban agglomerations, census towns, notified industrial townships etc.
- They focus on segregation of waste at source, responsibility on the manufacturer to dispose of sanitary and packaging wastes, user fees for collection, disposal and processing from the bulk generator.

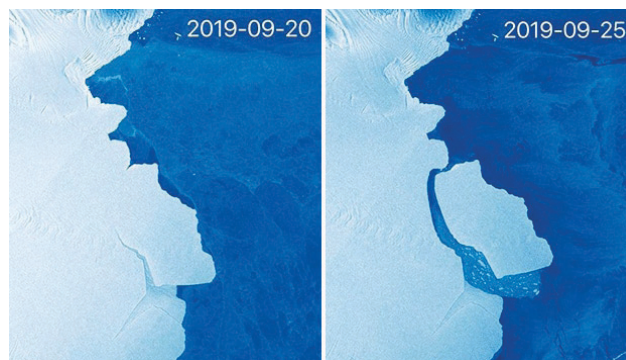
## India's First e-Waste Clinic

India's **first** e-waste clinic for segregating, processing and disposal of waste from household and commercial units will soon be set-up in **Bhopal, Madhya Pradesh**.

- A **Memorandum of Understanding (MoU)** was signed between the **Central Pollution Control Board (CPCB)** and the Bhopal Municipal Corporation (BMC) for its establishment.
- The **CPCB** will provide **technical support** at the unit.
  - This would ensure scientific handling and disposal of electronic waste generated from households and commercial establishments.
- The clinic is being conceived in compliance with the **Solid Waste Management Rules, 2016**.
  - These rules also focus on segregation of waste at source and charge user fees for collection, disposal, and processing from the bulk generator.
- In the absence of a safe disposal mechanism, currently, the electronic waste which includes defunct and useless electrical or electronic devices is being discarded along with other household waste.

## Massive Iceberg Breaks off Antarctica

Recently, the **Iceberg-D28** broke away from the **Amery ice shelf** in Antarctica.



- The **breaking of iceberg D28 is part of the normal cycle of ice shelves**, which are an extension of the ice cap thus the event is **not related to climate change**.
  - The shelf is essentially the floating extension of a number of glaciers that flow off the land into the sea.

Note:



- Thus ice streams maintain equilibrium by losing such bergs to balance the input of snow upstream.

### Iceberg D28

- It is a part of the **Amery ice shelf** which is the **third-largest ice shelf in Antarctica**.
- The **name D28** comes from a **classification system** run by the **US National Ice Center**, which **divides the Antarctic into quadrants**.
- The **D quadrant** covers the **longitudes 90 degrees East to 0 degrees**, the Prime Meridian.

## Green Wall of India

The Centre is mulling an ambitious **plan** to create a **1,400km long and 5km wide green belt** from **Gujarat to the Delhi-Haryana border**.

- The plan is **inspired by Africa's 'Great Green Wall' project**, running from **Senegal (West) to Djibouti (East)**, which came into effect in **2007**.
- The overarching objective of India's Green Wall will be to **address the rising rate of land degradation and the eastward expansion of the Thar desert**.
- The green belt being planned from **Porbandar to Panipat** will help in restoring degraded land through **afforestation along the Aravali hill range**. It will also act as a barrier for dust coming from the deserts in western India and Pakistan.
- The **Aravali** has been identified as **one of the key degraded zones** to be taken up for greening under **India's target to restore 26 million hectares (mha) of its land**.
- A **2016 report** from the **Indian Space Research Organisation (ISRO)** had also indicated that **Delhi, Gujarat and Rajasthan had already degraded over 50% of their land**.

### Great Green Wall of Africa

- It aims to **restore Africa's degraded landscapes** and transform millions of lives in one of the world's poorest regions, the **Sahel**.
- The African initiative is **still only 15% complete**.
- Once fully completed, the Wall **will be the largest living structure on the planet** – an 8,000 km natural wonder of the world stretching across the entire width of the continent.

African countries **during the UNCCD COP14** sought **global support** in terms of finance to make the Wall a reality in the continent's Sahel region by 2030.

- Sahel is a **semiarid region of western and north-central Africa** extending from Senegal eastward to Sudan.
- It forms a **transitional zone** between the **arid Sahara (desert)** to the north and the belt of **humid savannas** to the south.



### Aravali Mountain Range

- The Aravallis, is the **oldest fold mountains on Earth**. Geological studies show its age as three billion years.
- It spans over **800 km from Gujarat to Delhi (through Rajasthan and Haryana)**.
- The **highest peak** in the Aravalli Range is **Guru Shikhar** on Mount Abu.

### Thar Desert

- The Thar Desert also called the **Great Indian desert** lies towards the **western margins of the Aravali Hills**.
- It is an undulating sandy plain covered with **sand dunes (mainly Barchans)**.
  - Barchans are **crescent-shaped sand dune** always **facing the wind**. It is formed when a lot of sand is present in the desert. A steady wind from one direction is also needed.
- The region receives **very low rainfall below 150 mm per year**.
- It has an **arid climate** with low vegetation cover.
- **Luni is the only large river** in this region.

Note:



## World Habitat Day

The United Nations has designated the **first Monday of October every year** as World Habitat Day.

- The **theme** for World Habitat Day **2019** is “**Frontier Technologies as an Innovative Tool to Transform Waste to Wealth**”.
  - Frontier technologies refer to automation, robotics, electric vehicles, renewable energy technologies, biotechnologies, and artificial intelligence which can transform social, economic and environmental spheres.
- The theme promotes innovative technologies for sustainable waste management to achieve **Sustainable Development Goal (SDG) 11**.
  - SDG 11 aims to make cities more inclusive, safe, resilient and sustainable.
- The global observation will be hosted by the **Government of Mexico for 2019**.
- The event focuses on the state of **human settlements and people's right to sufficient shelter** as well as to remind people that they are responsible for the **habitat of future generations**.
- World Habitat Day was **first celebrated in 1986** with the **theme “Shelter is My Right”**.

## Ganga Aamantran

The **Jal Shakti Minister** launched an initiative called '**Ganga Aamantran**' to connect with the stakeholders of the river.

- It is a pioneering exploratory **open- water rafting and kayaking expedition** on the Ganga river to be held between 10<sup>th</sup> October 2019 to 11<sup>th</sup> November 2019.
- The expedition was started at Devprayag (Uttarakhand) and will culminate at Ganga Sagar (West Bengal) covering the entire stretch of the Ganga River.
  - The expedition will encompass the **five Ganga basin states** that includes, Uttarakhand, Uttar Pradesh, Jharkhand, Bihar, and West Bengal.
- This is the **first-ever effort by National Mission for Clean Ganga** to raft across the entire stretch of the river.
- It is the **longest ever social campaign undertaken through an adventure sporting activity** to spread the message of river rejuvenation and water conservation on a massive scale.
  - The expedition is expected to draw focused attention to the ecological challenges being faced by Ganga.



Note:

# Art & Culture

## Highlights

- Rashtriya Sanskriti Mahotsav
- Chalukyan Rulers
- Paryatan Parv
- World Mental Health Day

## Rashtriya Sanskriti Mahotsav

- Recently, the **Ministry of Culture** organized the **10<sup>th</sup> edition of Rashtriya Sanskriti Mahotsav under the Ek Bharat Shreshtha Bharat initiative** in Madhya Pradesh from 14<sup>th</sup> to 21<sup>st</sup> October 2019.
- The idea to organize such Mahotsav was **conceived in the year 2015** by the Ministry of Culture with an intention to **exhibit the rich cultural heritage of the country** in all its rich and varied dimensions namely, handicrafts, cuisine, painting, sculpture and performing arts- folk, tribal, classical and contemporary all at one place.
- The Rashtriya Sanskriti Mahotsav **will reconnect the people (especially the youth) with their indigenous culture**, its multifaceted nature, magnificence and historical importance in the context of 'India as a Nation' over the millennia.

### Ek Bharat Shreshtha Bharat

- It was launched in **2015** to promote engagement amongst the people of different States/UTs so as to enhance mutual understanding and bonding between people of diverse cultures, thereby securing stronger unity and integrity of India.
- It is an **initiative of the Ministry of Human Resource Development**.
- The broad objectives of the initiative are as follows:
  - To **CELEBRATE** the Unity in Diversity of our nation and to maintain and strengthen the fabric of traditionally existing emotional bonds between people.
  - To **PROMOTE** the spirit of national integration through a deep and structured engagement between all Indian states and Union Territories through a year-long planned engagement between states.

- To **SHOWCASE** the rich heritage and culture, customs and traditions of different states for enabling people to understand and appreciate the diversity that is India, thus fostering a sense of common identity,
- To **ESTABLISH** long-term engagements, and
- To **CREATE** an environment which promotes learning between states by sharing best practices and experiences.

## Chalukyan Rulers

Recently, **graves of Chalukyan rulers** have been unearthed in a village near **Pattadakal, Karnataka**.

- The findings are significant since there are no clear details available of the places where Chalukyan rulers lived.
- It is believed that they wanted their death to remain a secret and to built their graves in a discreet manner.

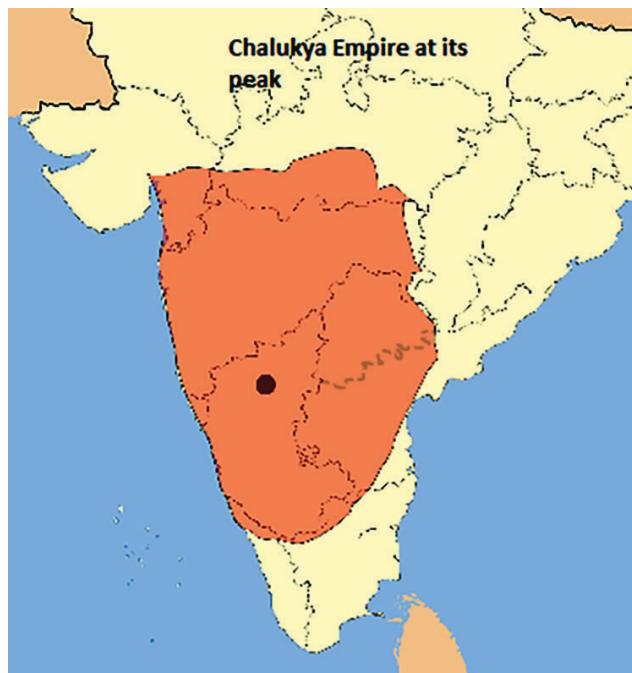
### Historical Background

- The Chalukyas **ruled parts of Southern and Central India** between the **6<sup>th</sup> century and the 12<sup>th</sup> century**.
- There were three distinct but related Chalukya dynasties.
  - **Badami Chalukyas:**
    - The earliest Chalukyas with their capital at **Badami (Vatapi)** in Karnataka.
    - They ruled from mid 6<sup>th</sup> century and declined after the death of their greatest king, Pulakesin II in 642 AD.
  - **Eastern Chalukyas:**
    - Emerged after the death of Pulakesin II in Eastern Deccan with capital at **Vengi** (a town in present day Andhra Pradesh).

Note:

- They ruled till the 11<sup>th</sup> century.
- **Western Chalukyas:**
  - Descendants of the Badami Chalukyas, they emerged in the late 10<sup>th</sup> century and ruled from **Kalyan**.

➤ The **extent of empire:**



- The Chalukya dynasty **reached its peak during the reign of Pulakesin II**.
- Pulakesin II subjugated the Kadambas, the Gangas of Mysore, the Mauravas of North Konkan, the Latas of Gujarat, the Malavas and the Gurjars.
  - He also succeeded in getting a submission from the Chola, Chera and Pandya kings.
  - He had also defeated King Harsha of Kannauj and the Pallava king Mahendravarman.

➤ **Administration and Society:**

- The Chalukyas had **great army** comprised of infantry, cavalry, elephant unit and a dominant navy.
- Though the Chalukya kings **were Hindus**, they were **tolerant of Buddhism and Jainism**.
- They contributed to great developments in **Kannada and Telugu literature**.
- Their **imprinted coins** included Nagari and Kannada legends.
  - They minted coins with cryptograms of temples, lion or boar facing right and the lotus.

➤ **Architecture:**

- They built **cave temples** depicting both religious and secular themes.
- The temples also had beautiful **mural paintings**.
- The temples under the Chalukyas are a good example of the **Vesara style of architecture**.
  - **Vesara style** is a combination of Dravida and Nagara styles.
  - Temples in **Aihole, Badami and Pattadakal** are examples.

## **Paryatan Parv**

The **Ministry of Tourism** inaugurated the nationwide Paryatan Parv-2019 to mark the 150<sup>th</sup> birth anniversary of Mahatma Gandhi.

- It aims to showcase the cultural diversity of the country and to spread the message of '**Tourism for All**'.
- The sustained efforts to promote tourism improved our world tourism ranking( from 65<sup>th</sup> in 2013 to 34<sup>th</sup> position in 2019).
  - The ranking was published in the **Travel & Tourism Competitiveness Report – 2019** released by the **World Economic Forum**.

### **Three Components of Paryatan Parv**

- **Dekho Apna Desh:** To encourage Indians to travel their own country.
- **Tourism for All:** To organise tourism events at sites across all states in the country.
- **Tourism & Governance:** To organise interactive sessions & workshops with the help of concerned stakeholders on varied themes across the country as a part of the Paryatan Parv activities.

## **World Mental Health Day**

The Department of Empowerment of Persons with Disabilities (DEPwD) under the **Ministry of Social Justice & Empowerment** observed the '**World Mental Health Day**' on **10<sup>th</sup> October 2019**.

- The **theme** of World Mental Health Day-2019 is '**Mental Health Promotion and Suicide Prevention**'.
  - According to the World Health Organization, **more than 8,00,000 people die by suicide every year**, making it the principal cause of death among

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people in the age group of fifteen to twenty-nine years old.

- According to the National Mental Health Survey of India, 2016 the prevalence of mental disorders was 7.3% among 13-17 years old.
- The underlying idea behind the theme is to establish and form relevant strategies that can prevent suicide and promote the public's mental

health, as suicide is preventable and therefore, can be avoided.

- **World Mental Health Day** is organized by the **World Federation for Mental Health** (an **international membership organization** that was founded in **1948** with the aim to promote the advancement of mental health awareness & prevention of mental disorders).



Note:



# Social Issues

## Highlights

- *Penicillin Revival to Fight Rheumatic Fever*
- *International Day of Older Persons*
- *World Sight Day*
- *Central Council of Health and Family Welfare Conference*
- *National Nutrition Survey*
- *India Country Cooperation Strategy 2019-2023*
- *UNHRC's Universal Periodic Review*
- *Meghalayan Minor Tribes Exclusion*

## Penicillin Revival to Fight Rheumatic Fever

In a bid to fight drug resistance and tackle the prevalence of **rheumatic heart disease**, the Government of India is planning a revival of the drug named **Penicillin**.

### Background

- **Penicillin** was the **first antibiotic** that was discovered in **1928** by **Alexander Fleming**.
- It is still the **first-line antibiotic drug** in **many western countries**.
  - This antibiotic was extensively used to treat **American soldiers' wounds in World War II**.
- In India, it **gradually went out of the markets** because of **unrealistic price control** measures of the government.
  - The prices of the **drug were kept so low** that the manufacturers stopped making the drug and Penicillin went out of production

### Underlying Need

- India has a **high burden of rheumatic fever** and rheumatic heart disease which generally goes **undiagnosed** and leads to **many maternal deaths at the time of childbirth**.
  - Rheumatic fever is **endemic** in India and remains one of the **major causes of cardiovascular disease**, accounting for **nearly 25-45% of acquired heart diseases**.
- Population-based studies indicate the prevalence of rheumatic heart disease in India to be at a rate of about 2/1000 population.

- Hence, the government is planning to procure penicillin **centrally for three years** and administer it to all children between **5-15 years**.
  - The drug will be dispensed through **primary health centres** or administered by **Accredited Social Health Activists (ASHA) workers**.

### Maternal Mortality Ratio

- It is defined as the number of registered maternal deaths due to birth or pregnancy related complications during a given time period per 100,000 live births. In India, the MMR was 130/100,000 in 2016.

### Rheumatic Fever

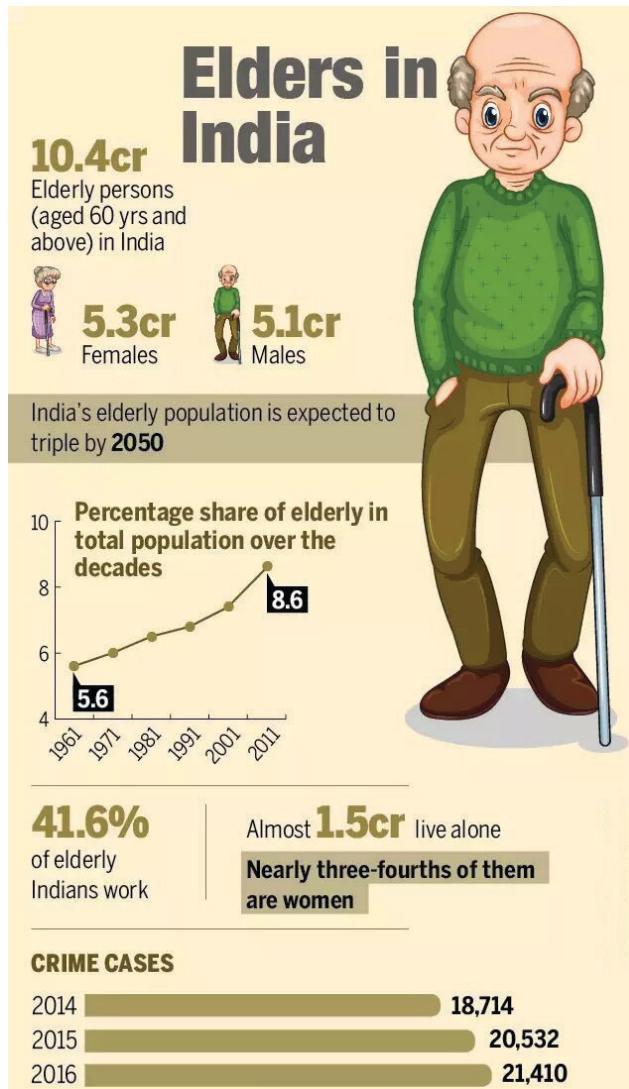
- It is an **inflammatory disease** that can develop as a complication of inadequately treated strep throat or scarlet fever.
- Rheumatic fever can cause **permanent damage to the heart, including damaged heart valves and heart failure**.
- Rheumatic fever is most common in **5-15 years old children**, though it can also develop in younger children and adults.
- Rheumatic fever can occur after **infection of throat with the bacterium** called **Group A streptococcus**.

## International Day of Older Persons

The International Day of Older Persons is observed on **1<sup>st</sup> October** (designated by the **United Nations General Assembly in 1990**) every year.

- The theme for 2019 is **'The Journey to Age Equality'**
  - The theme is aligned with Sustainable Development Goal 10 (**SDG 10**) and focuses on pathways of

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coping with existing and preventing future old age inequalities.

- **SDG 10** has the target to reduce inequality within and among countries and ensure equal opportunities for all.

### Initiatives Taken by India

- **The Ministry of Social Justice and Empowerment** is the **Nodal Ministry** for matters relating to the **Senior Citizens**.
- **Integrated Programme for Senior Citizens:**
  - It is a central sector scheme.
  - It aims to improve the quality of life of the Senior Citizens by providing basic amenities.
- **Pradhan Mantri Vaya Vandana Yojana:**
  - It was launched in **2017**.

- It is aimed towards providing social security and to protect elderly people aged 60 and above against a future fall in their income due to uncertain market conditions.
- The scheme provides an assured return of 8% per annum for 10 years.

### ➤ **Maintenance and Welfare of Parents and Senior Citizens (MWPSA) Act, 2007:**

- It aims to ensure need-based maintenance for parents and senior citizens and their welfare.

## World Sight Day

World Sight Day is an **annual day** of awareness held on the **second Thursday of October**, to focus global attention on blindness and vision impairment.

- This year it fell on **10<sup>th</sup> October 2019**.
- The theme for this year is **'Vision First'**.
- Globally, the **International Agency for the Prevention of Blindness (IAPB)** has a leadership role in preparing the annual World Sight Day.

### World Vision Report

The **World Health Organization (WHO)** released its **first World Vision Report** on the day.

- Globally, over **2.2 billion people** have some form of **vision impairment**. Out of these 2.2 billion, 1 billion people are suffering from conditions that are preventable.
- The **burden** of eye conditions and vision impairment is often **far greater in people living in rural areas**, those with low incomes, women, older people, people with disabilities, ethnic minorities and indigenous populations.
- **India-Specific Findings:**
  - There was an **overall reduction in the prevalence of blindness** from 1.1% in 2001-02 to 0.45% during the years 2015-18.
  - The **rate of cataract surgery has increased nine-fold** (6,000 per million population) **between 1981 and 2012**.
    - This has been possible because of the **National Programme for Control of Blindness (NPCB)** under which cataract surgeries were performed on 6.5 million people alone in the year 2016-2017.
    - **National Programme for Control of Blindness and Visual Impairment** was launched in the

Note:



year 1976 as a 100% centrally sponsored scheme (now 60:40 in all states and 90:10 in NE states) by the Ministry of Health & Family Welfare.

- NPCB aims to provide for 'Eye Health for All' and prevention of visual impairment, through the provision of comprehensive universal eye-care services and quality service delivery.
- The goal of this programme is to reduce blindness to 0.3% by 2020.

➤ **Suggestions:**

- Making eye care an integral part of universal health coverage.
- Raising awareness, engaging and empowering people and communities about eye care needs.

## Central Council of Health and Family Welfare Conference

- Recently, the 13<sup>th</sup> Conference of the Central Council of Health and Family Welfare (CCHFW) was inaugurated in New Delhi.
  - 'Surakshit Matritva Aashwasan (SUMAN)' for Zero Preventable Maternal and Newborn Deaths, its website and the grievance redressal portal were launched.
- CCHFW is an apex advisory body set up under Article 263 of the Constitution to provide support and advice to the Department of Health, Ministry of Health and Family Welfare on policy formulation and to consider and recommend broad lines of policy in regard to matters concerning health.
  - The Council is chaired by the Union Minister for Health and Family Welfare.
- Article 263 contemplates the establishment of an Inter-State Council to effect coordination between the Centre and states. Thus, the President can establish such a council if at any time it appears to him that the public interest would be served by its establishment.
- Therefore, the President has established the following councils to make recommendations for the better coordination of policy and action in the related subjects:
  - Central Council of Health.
  - Central Council of Local Government and Urban Development.
  - Four Regional Councils for Sales Tax for the Northern, Eastern, Western and Southern Zones.

## National Nutrition Survey

The first-ever comprehensive National Nutrition Survey has been conducted by the Ministry of Health and Family Welfare and the United Nations Children Fund (UNICEF) to measure the level of malnutrition in India.

- The Comprehensive National Nutrition Survey is the largest micronutrient survey implemented globally to assess nutrient deficiency among children.

### Key Findings

➤ **Breastfeeding:**

- 83% of children between 12 and 15 months are continued to be breastfed in the country.
- Breastfeeding is inversely proportional to household wealth.
- The rural children receive meals more frequently as compared to urban children.
- A higher proportion of children residing in urban areas (26.9%) are fed an adequately diverse diet as compared to those in rural areas (19%).

➤ **Iron Deficiency:**

- Children and adolescents residing in urban areas have a higher (40.6%) prevalence of iron deficiency compared to their rural counterparts (29%) due to a better performance of the government's health programmes in rural areas.

➤ **Vitamin D Deficiency:**

- Despite 74% of children living in cities consume dairy products as compared to 58% in rural areas; a higher deficiency of Vitamin D is found in urban areas.

➤ **Zinc deficiency:**

- The rural children lag in the intake of zinc which causes diarrhea, growth retardation, loss of appetite and impaired immune function.

➤ **Obesity:**

- 14.5% of children in the age group of 5 to 9 years in urban areas have higher Subscapular Skinfold Thickness (SSFT) than 5.3% in rural areas.
- Whereas 10.4% of adolescents surveyed in urban areas in the age group of 10-19 had higher SSFT than 4.3% in rural areas.
  - Subscapular Skinfold Thickness (SSFT) measurement is a reliable, cheap, simple, noninvasive method of body fat estimation at all ages including the neonatal period.

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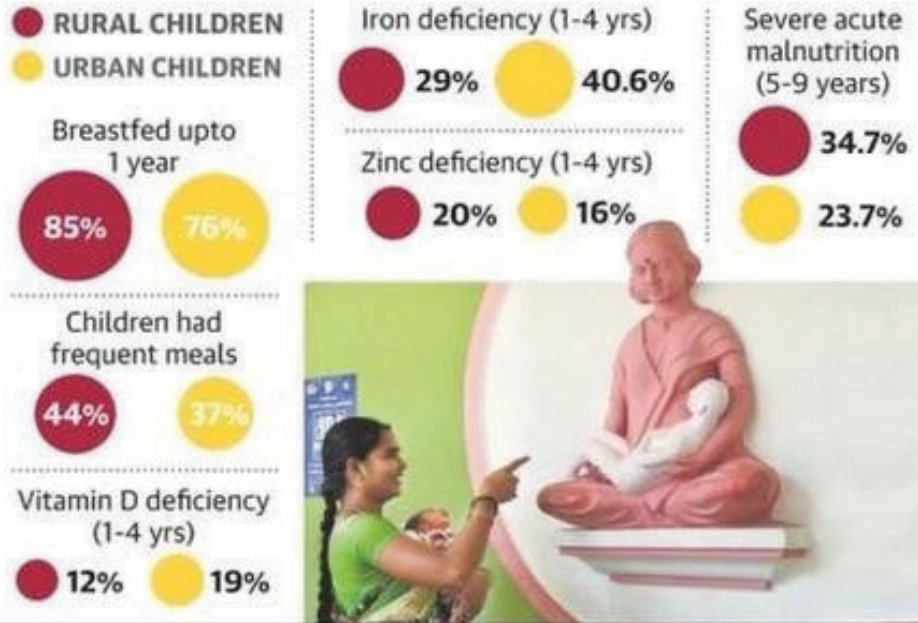


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## Food for thought

Diseases and deficiencies in Indian children sharply differ depending on their location of residence. Some data excerpts from the Comprehensive National Nutrition Survey released on Monday shows how problems in children differ according to the rural-urban divide



### ➤ Stunting:

- Overall 35% of Indian children aged 0-4 years were stunted.
- Rural areas witness a higher prevalence of stunting (37%) versus 27% in urban areas.
- Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh have a high (37-42%) stunting prevalence.
- The lowest prevalence of stunting (16-21%) was found in Goa and Jammu and Kashmir.

### ➤ Severe Acute Malnutrition:

- 32.4% in rural areas for adolescents in 10-19 years versus 27.4% in urban areas.
- Considering the overall scenario the rural parts of the country face a higher percentage of children suffering from stunting, underweight and wasting compared to urban parts of the country.
- The survey also reveals that Indian children are facing the double burden of malnutrition and rising risk of non-communicable diseases including diabetes, high cholesterol, chronic kidney disease, and hypertension.

- The Country Cooperation Strategy (CCS) is a medium-term vision for WHO's cooperation with a given Member State.
- The four areas for strategic cooperation of WHO with India include:
  - Universal Health Coverage (UHC).

### WHO 'Triple Billion' Targets

- It is a strategic plan for the next five years (2019-23).
- It aims for
  - One billion more people to be benefitted from Universal Health Coverage (UHC).
  - One billion more people to be protected from health emergencies.
  - One billion more people to be covered for better health and well-being.

### National Health Policy, 2017

- It aims to achieve universal access to good quality health care services without anyone having to face financial hardship as a consequence.
- It intends to gradually increase public health expenditure to 2.5% of the GDP.
- It proposes free drugs, free diagnostics, and free emergency and essential healthcare services in public hospitals.
- The policy advocates allocating two-thirds of resources to primary care.

## India Country Cooperation Strategy 2019-2023

The Union Minister for Health & Family Welfare has launched 'the World Health Organisation India Country Cooperation Strategy 2019-2023: A Time of Transition'.

Note:



- Health and wellness by addressing the determinants of health.
- Protection against health emergencies.
- India's global leadership in health.
- The India CCS fully aligns itself with WHO 'triple billion' targets, the Sustainable Development Goals (SDGs) and WHO South-East Asia Region's eight Flagship Priorities.
- It urges to address emerging health scenario of the country like non-communicable diseases, antimicrobial resistance, and air pollution, etc.
- The India CCS also connects with India's National Health Policy 2017, and other initiatives like Ayushman Bharat, National Viral Hepatitis Programme, Eat Right India Movement, the Fit India Movement and Poshan Abhiyaan that have collectively engaged with the people and enhanced the awareness about crucial health areas.

## UNHRC's Universal Periodic Review

The government is forming a task force to prepare a **National Action Plan on Human Rights (NAPHR)** as mandated under the **UN Human Rights Council's (UNHRC) Universal Periodic Review (UPR)**.

- The task force will involve the **Union Home Ministry** and the **National Human Rights Commission (NHRC)** and have representatives from ministries such as **social justice and health**.
- UPR is a **state-driven** process under UNHRC's auspices and provides opportunities to member states to declare what actions they have taken to improve human rights and to fulfill their obligations.
  - A review cycle lasts **four-and-half years**, during which records of member states are reviewed.
- Earlier in 2017, India accepted 152 out of 250 recommendations on human rights.
  - Though India "**noted**" and **refused** to accept some recommendations, including those related to the **Armed Forces Special Powers Act and the Foreign Contribution Regulation Act**.
- Also, earlier, the UN had already recommended that India should have NAPHR.
  - NAPHR will help to mitigate the criticism India faces at the international level majorly about

human rights records as well as strengthen the social justice system.

### United Nations Human Rights Council

- It is an inter-governmental body within the UN system responsible for strengthening the promotion and protection of human rights around the globe.
- It was created by the UN General Assembly on 15<sup>th</sup> March 2006 and replaced the UN Commission on Human Rights.

### Armed Forces Special Powers Act (AFSPA)

- It gives armed forces the power to maintain public order in "**disturbed areas**".
  - A disturbed area is one that is declared by notification under Section 3 of the AFSPA. It can be invoked in places where the use of armed forces in aid of civil power is necessary.
- The government has the authority to prohibit a gathering of **five or more persons** in an area, can use force or even open fire **after giving a due warning** if they feel a person is in contravention of the law.

### National Human Rights Commission

- NHRC is a multi-member body that consists of a Chairman and seven other members. Out of the seven members, three are ex-officio members.
- President appoints the Chairman and members of NHRC on recommendation of a high-powered committee headed by Prime Minister.
- The Chairperson and the members of the NHRC are appointed for 5 years or till the age of 70 years, whichever is earlier.
- They can be removed only on the charges of proved misbehavior or incapacity, if proved by an inquiry conducted by a Supreme Court Judge.

## Meghalayan Minor Tribes Exclusion

Recently, the Government of Meghalaya has decided to exclude '**unrepresented tribes**' from the provisions of the **Sixth Schedule** of the Constitution.

- The **five minor tribes** namely, **Bodo-Kachari, Hajong, Koch, Mann, and Rabha** are clubbed together as '**unrepresented tribes**' for nomination in **Meghalaya's autonomous tribal councils**.

Note:

- These **minor tribes** are **indigenous to Meghalaya** and have been living in the state much before **its creation in 1972**.
- These tribal councils are in the names of **Garo, Jaintia, and Khasi district councils**, that form State's three major autonomous councils (predominantly the matrilineal communities).
- The Sixth Schedule makes special provisions for the welfare and advancement of the Scheduled Tribes and the tribal areas of the four states namely, **Assam, Meghalaya, Mizoram, and Tripura**.
  - The proposed amendment will deprive some of these Scheduled Tribes of their constitutional rights to be represented in the autonomous district councils.

### ***Hajong Tribe***

- The Hajong are tribal people, native to the Indian subcontinent mostly in the north eastern states and Bangladesh.
- Hajongs are predominantly the **rice farmers and perform endogamy**.

- They are **Hindus** and observe Hindu rites and customs.

### ***Rabha Tribe***

- They are indigenous **Mongoloid** community of **Nepal, Bhutan, Thailand, Myanmar, Bangladesh, and the Indian states of Assam, Meghalaya and West Bengal**.
- The **language/dialect** spoken by these people is mostly **Rabha** as well as **Assamese**.
- In Meghalaya, Rabhas are mostly found in **Garo Hills** districts.

### ***Koch Tribe***

- They are a **Tibeto-Burman ethnolinguistic** group of **Assam, Meghalaya, West Bengal and Bangladesh**.
- According to the census of 1881, Koch tribe belongs to a group of Bodo-Kachari people.
  - Bodo-Kachari is a generic term applied to a number of ethnic groups that are predominantly living in the Northeast Indian state of **Assam**.



Note:

# Security

## Highlights

- Exercise DharmaGuardian – 2019
- BRAHMOS Missile
- Nomadic Elephant-14
- Exercise Ekuverin
- 87<sup>th</sup> Air Force Day

## Exercise Dharma Guardian – 2019

The Joint Military Exercise "Dharma Guardian-2019" between **India and Japan** will be conducted to share experience gained during various Counter-Terrorism Operations in respective countries.

- It is an **annual training event** which is **being conducted in India since 2018**.
- The scope of this exercise covers joint training on counter-terrorism operations in the jungle and urban scenario.
- The joint military exercise will enhance the level of defence co-operation as well as bilateral relations between the two nations.

## BRAHMOS Missile

BRAHMOS **supersonic cruise missile** featuring Indian propulsion system, airframe, power supply and other major indigenous components has been successfully test-fired.

- BRAHMOS is a joint venture between the **Defence Research and Development Organisation of India (DRDO)** and the **NPO Mashinostroyeniya of Russia**.
- Brahmos is **named** on the rivers **Brahmaputra and Moskva**.
- It is a two-stage (solid propellant engine in the first stage and liquid ramjet in second) air to surface missile with a flight range of around 300 km.
  - However, India's entry into the **Missile Technology Control Regime (MTCR)** has extended the range of the BRAHMOS missile to reach 450-600 km, a shade above its current MTCR capped range of 300 km.

- Brahmos is a **multiplatform missile** which means it **can be launched from land, air, and sea**. It is a multi capability missile with pinpoint accuracy that works in both day and night irrespective of the weather conditions.
- It operates on the **"Fire and Forgets"** principle i.e it does not require further guidance after launch.
- Brahmos is one of the **fastest cruise missiles**, currently operationally deployed with speed of Mach 2.8, which is **3 times more than the speed of sound**.

## Nomadic Elephant-14

The **India-Mongolia joint military exercise** is being held at **Bakloh, Himachal Pradesh**.

- It aimed at training troops in counter-insurgency & counter-terrorism operations under the United Nations mandate.
- The joint exercise will **enhance defence co-operation** and military relations between the two nations.



## Exercise Ekuverin

The **tenth edition** of the Joint Military Exercise **Ekuverin**, between the **Indian Army and the Maldives**

Note:



**National Defence Force**, is being held from 7<sup>th</sup>-20<sup>th</sup> October, 2019 in Pune, Maharashtra.

- India and Maldives have been conducting this Exercise **Ekuverin**, meaning 'Friends' in the Maldivian language, since **2009**.
- The 14 days Joint Exercise is held **alternatively in India and Maldives**.
- It focuses on **enhancing interoperability** between the two forces for carrying out counter insurgency and counter-terrorism operations in a

semi-urban environment under the United Nations mandate.

- The **ninth edition** of the exercise was held in **2018 in Maldives**.

## 87<sup>th</sup> Air Force Day

The Defence Minister of India formally received the **first Rafale fighter jet (RB-001)** built for the Indian Air Force (IAF) in France on **8<sup>th</sup> October**, coinciding with **87<sup>th</sup> Air Force Day**.

- Rafale is a **twin-jet fighter aircraft** able to operate from both an aircraft carrier and a shore base.

## 87<sup>th</sup> Air Force Day

- The Indian Air Force was **officially established** on **8<sup>th</sup> October 1932**.
- It is the **fourth largest air force** in the world after the US, Russia and China.
- Every year, the Air Force Day is celebrated at **Hindon Air Force and Station**. It is situated near **Ghaziabad (Uttar Pradesh)** is the **largest in Asia** and **8<sup>th</sup> largest in the world**.



Note:



# Miscellaneous

## Highlights

- Typhoon Hagibis
- Ancient River Unearthed in Uttar Pradesh
- Global Urbanization Shift
- Consumer App
- Elephant Endotheliotropic Herpesvirus
- Online Child Sexual Abuse Imagery
- Poisonous Fire Coral Fungus
- Nobel Prizes 2019
- Hindu-Kush-Himalayan Region
- World Standards Day

## Typhoon Hagibis

The Japanese island of Honshu was hit by Typhoon Hagibis on 12<sup>th</sup> October 2019.



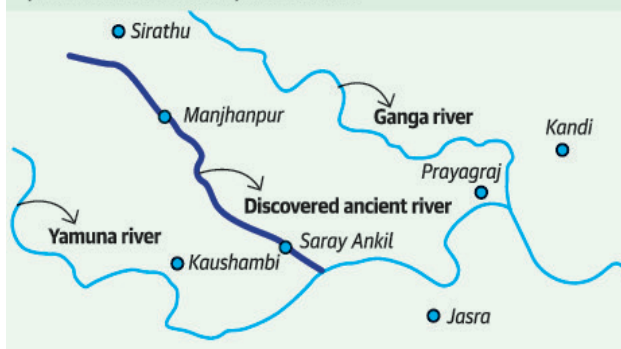
- Typhoon Hagibis could be the strongest storm to hit Japan since 1958.
- Hagibis, which means “speed” in the Philippine language, had packing winds of 180 km per hour near its centre.
- The storm brought record-breaking rainfall to many areas, resulting in floods and landslides in the country.
- Typhoon Ida, known as the “Kanogawa Typhoon” in Japanese, killed more than 1,000 people in September 1958. Ida had winds of 190 kmph when it hit the country.
- Typhoon is a region-specific name of the Tropical Cyclone (swirling system of clouds and thunderstorms that originates over tropical or subtropical oceans).
- In the Atlantic and Northeast Pacific, the term “hurricane” is used. The same type of disturbance in the Northwest Pacific is called a “typhoon” and in the South Pacific and the Indian Ocean, it is called “cyclone”.

## Ancient River Unearthed in Uttar Pradesh

The Union Jal Shakti Ministry has excavated an old, dried-up river in the Prayagraj during geophysical survey covering the Prayagraj and Kaushambi region in Uttar Pradesh.

### River unearthed

A team of scientists have discovered an “ancient buried river” that links the Ganga and the Yamuna. The map shows the possible course of the paleochannel



- The excavated river linked the Ganga and Yamuna rivers.
- The “Ancient Buried River” (buried paleochannel) is around 4 km wide, 45 km long and consisted of a 15-meter-thick layer buried under the soil.
- The genesis of these buried rivers followed a Report on Paleochannel on North-West India.
- The knowledge on subsurface connectivity between Ganga and Yamuna rivers will play a very crucial role in the planning of Ganga cleaning and protecting safe groundwater resources.

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### Palaeochannels

- A channel that is **no longer part of an active river system** and has ceased to be a conduit of water is commonly referred to as a palaeochannel.
- It occurs when rivers change their course either due to the **movement of tectonic plates** or **severe floods** and cut new ones.
- Some of the **palaeochannels lie buried under younger sediments**.
- Palaeochannels are commonly occurring landforms in alluvial landscapes, and have an economic significance because of their use in the exploration for freshwater resources, artificial recharge and storage of groundwater.
  - Additionally, they are of importance in the location and assessment of mineral deposits such as uraniferous ores, gold, silver and other placer deposits hosted in them.

### Report on PaleoChannel on North-West India

- The report has been prepared by the **K.S. Valdiya Committee** under the **Ministry of Jal Shakti**.
- The report is based on the study of the land texture, piles of sediments, shapes and features of states of North-West India including – Rajasthan, Haryana, and Punjab.
- The found sediments are reminiscent of ones found in present-day Ghaggar, Ganga, and Yamuna.
- The report is an assertion of the assumption that River Saraswati originated from Adibadri in Himalaya to culminate in the Arabian Sea through the Runn of Kutch.
- The report also states that the river, once upon a time, was the lifeline of the North-Western states of India.

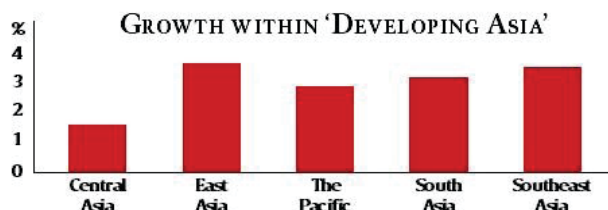
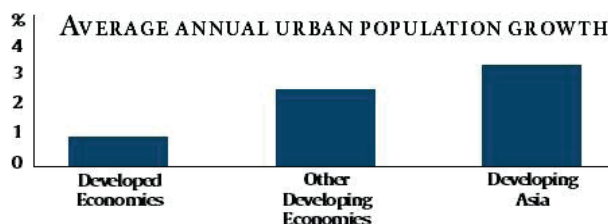
## Global Urbanization Shift

According to the **Asian Development Outlook Report-2019**, the number of **urban inhabitants in developing Asia** has **increased almost five times** since **1970**.

- Asian Development Outlook Report is released by the **Asian Development Bank (ADB)**.
- It used the data from the **World Urbanization Prospects Report** that is released by the **Department of Economic and Social Affairs of the United Nations**.

### Key Findings

- Between 1970 to 2017, the urban population in Developing Asia group of countries grew from 375 million to 1.84 billion.
  - The global **increase** in urban population led by this region accounted for approximately 53%.



- According to the report, the **Developing Asia group urbanized faster than the rest of the world** not only in terms of absolute growth but also in terms of the growth rate.
  - The urban population in this region increased at an average 3.4% per annum from 1970 to 2017.
  - This was much faster than the 2.6% in the rest of the developing world (mainly Africa and Latin America) and 1.0% in the developed world.

### Asian Development Bank

- It is a regional development bank that aims to promote social and economic development in Asia.
- It was established in December 1966 and is headquartered in Manila, Philippines.
- Japan holds the largest proportion of shares in ADB followed by the USA.

## Consumer App

Recently, the Ministry of Consumer Affairs, Food and Public Distribution has launched the **'Consumer App'** to **fast-track consumer grievance redressal process**.

- It will provide an effective forum for consumers to give their valuable suggestions to the department on consumer-related issues.

Note:

- The app aims to provide a **one-stop solution for consumer grievance redressal**.
- The registered consumer will be informed about their complaint via SMS/email with a unique number which can be tracked by the consumer.
- There will be a **time-bound resolution** of all grievances.
- Consumers can use this app in both **Hindi and English languages**.

## Elephant Endotheliotropic Herpesvirus

**Elephant Endotheliotropic Herpesvirus (EEHV)** is a **rare disease** that has killed five elephants in Odisha.

- EEHV is a type of **herpes virus** that can cause a highly **fatal hemorrhagic disease** in **young Asian elephants** between the **ages of 1 and 12**.
  - If a young elephant dies before reproducing, it affects the population of the species as a whole in the concerned geography.
  - When EEHV is triggered, the elephant dies of massive internal bleeding and symptoms which are hardly visible, like reduced appetite, nasal discharge, and swollen glands.
- The disease is usually fatal, with a short course of **28-35 hours**.
- There is **no cure** for herpes viruses in **animals or in humans**.

## Online Child Sexual Abuse Imagery

A new research has placed **India at the top of the list** of the countries from where the **maximum** number of reports (38.8 lakh) related to **suspected online Child Sexual Abuse Imagery (CSAI)** originated.

- According to the data, **India, Indonesia, and Thailand** account for 37% of online CSAI.
- The research was carried out by **Google and "Thorn"** - an **international anti-human trafficking organization**.
- The data shows that **68%** of reports related to abuse through **CSAI have emerged in Asia, 19% in the Americas, 6% in Europe, and 7% in Africa**.

### Child Sexual Abuse Imagery (CSAI)

- It is any visual depiction of sexually explicit conduct involving a minor (a person less than 18 years old). It reflects the sexual abuse and exploitation of children in the online world.
- CSAI can be found virtually in any online realm other than videos and images.

## Poisonous Fire Coral Fungus

One of the **world's deadliest species of fungi**, the **Poison Fire Coral**, has been identified growing in **Australia** for the **first time**.



- The Fire Coral fungus has its **native habitat** in the **mountains of Japan and Korea**.
  - Several people have died in Japan and Korea after mistaking these bright red fungi for edible mushrooms.
- Its **toxins** can even be absorbed **through the skin**.
  - If eaten, it causes symptoms such as stomach pain, vomiting, which are followed by the **skin peeling off the hands and feet**, and the **shrinking of the brain in the upcoming days**.

## Nobel Prizes 2019

The **Nobel Foundation** has declared the complete list of winners for 2019.

- The **will** of the **Swedish scientist Alfred Nobel** established the **five Nobel prizes** in **1895** in the fields of **Chemistry, Literature, Peace, Physics, and Physiology or Medicine**.
- The **Nobel Foundation** is a **private institution** established in 1900, has **ultimate responsibility** for fulfilling the intentions in Alfred Nobel's will.

Note:

- The five Nobel prizes were **first awarded in 1901**.
- In his last will and testament, Alfred Nobel specifically **designated the institutions responsible for the prizes** he wished to be established:
  - The **Royal Swedish Academy of Sciences** for the Nobel Prize in **Physics and Chemistry**,
  - **Karolinska Institute** for the Nobel Prize in **Physiology or Medicine**,
  - The **Swedish Academy** for the Nobel Prize in **Literature**, and
  - A **Committee of five persons** to be elected by the **Norwegian Parliament (Storting)** for the **Nobel Peace Prize**.
- In 1968, Sveriges Riksbank established the **Sveriges Riksbank Prize in Economic Sciences** in memory of Alfred Nobel.
  - The **Royal Swedish Academy of Sciences** was given the task to select the Laureates in Economic Sciences starting in 1969.

### ***Nobel Prize in Literature 2019***

Austrian writer **Peter Handke** bagged the **2019 Nobel Prize for Literature**, and Polish author **Olga Tokarczuk** was named the winner for **2018**.

- **Last year**, the Swedish Academy (Stockholm), which awards the annual Nobel Prize for Literature, called off the ceremony owing to **allegations of sexual misconduct** within the Academy.
- **Handke** was awarded for "an influential work that with linguistic ingenuity has explored the periphery and the specificity of human experience".
  - The **choice of Handke created a controversy** for his alleged allegiance to Serbian nationalist sentiments and his sympathies for former Serbian resident Slobodan Milošević, whom more than one international agencies held responsible for the Bosnian genocide in which more than 8,000 people were murdered.
  - This whole issue has triggered the age-old question of **whether a writer should be judged for his works he represents or his personal biases and political leanings**.
- **Olga Tokarczuk** was awarded "for a narrative imagination that with encyclopedic passion represents the crossing of boundaries as a form of life".
  - She is **the 15<sup>th</sup> woman to win the Nobel literature prize since 1901**.

### ***Nobel Prize in Chemistry 2019***

The 2019 Nobel Prize in Chemistry has been **jointly awarded to John B Goodenough, M Stanley Whittingham and Akira Yoshino** for the **development of lithium-ion batteries**.

- In the early **1970s**, **Dr. Whittingham** developed the **first functional lithium battery**.
- **Dr. Goodenough** doubled the **lithium battery's potential**, creating the right conditions for a vastly more powerful and useful battery.
- **Dr. Yoshino** succeeded in eliminating pure lithium from the battery, instead **basing it wholly on lithium ions**, which are **safer than pure lithium**. This made the battery workable in practice.
- The result was a lightweight, hardwearing battery that could be charged hundreds of times before its performance deteriorated.
  - The advantage of **lithium-ion batteries** is that they are **not based upon chemical reactions** that break down the electrodes, but upon lithium ions flowing back and forth between the anode and cathode.
- The lithium-ion batteries have **reshaped energy storage and transformed cars**, mobile phones and many other devices in an increasingly **portable and electronic world**.

### ***Nobel Prize in Physics 2019***

The Nobel Prize for Physics was awarded to **James Peebles** for his **theoretical discoveries about the evolution of the universe** and to **Michel Mayor and Didier Queloz** for their **discovery of the first planet beyond our solar system** i.e. an **exoplanet**.

- **Peebles** was rewarded for laying a **foundation for modern cosmology**, including his realisation that **faint microwave radiation** that filled the cosmos 4,00,000 years after the Big Bang, contains crucial clues to what the universe looked like at the primitive stage and how it has evolved over the subsequent 13bn years.
  - He is credited with developing the theoretical tools that allowed scientists to perform a cosmic inventory of what the universe is made from, **showing that ordinary matter (such as stars, planets, living beings etc.) makes up just 5%, with the rest being dark matter and dark energy**.
- **Mayor and Queloz** have been recognised for their joint discovery in 1995 of the first **exoplanet (51 Pegasi b)**, 50 light years away in the **constellation of Pegasus**.

Note:



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- The planet, **51 Pegasi b**, is a **gaseous ball about 150 times more massive than Earth** and has a scorching surface temperature of about 1,000 °C.

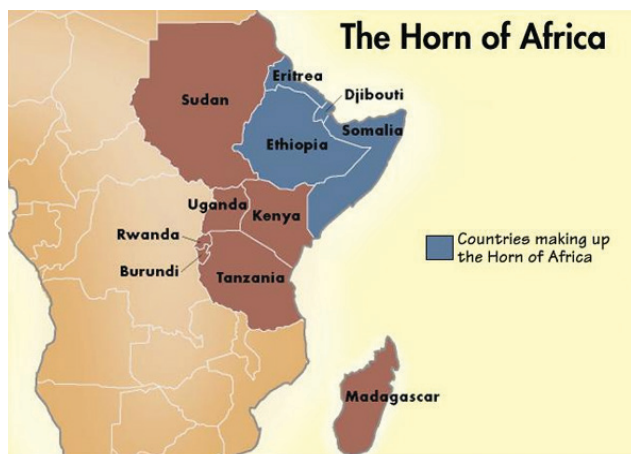
### **Nobel Prize for Peace 2019**

The Nobel Peace Prize for 2019 has been awarded to **Abiy Ahmed Ali, the Prime Minister of Ethiopia** for his decisive initiative to **resolve the border conflict with neighboring Eritrea**.

- Abiy Ahmed Ali, the Prime Minister of Ethiopia ended 20 years war with neighboring country Eritrea.
- The two countries have resumed trade, diplomatic and travel ties and started “a new era of peace and friendship” in the **Horn of Africa**.

### **Historical Background of the Ethiopia-Eritrea conflict**

- In 1993, Eritrea broke from its federation with Ethiopia, becoming an independent country, located strategically at the mouth of the Red Sea on the Horn of Africa.
  - Independence was the outcome of a 30-year war by Eritrean liberation fighters against Ethiopia, which had annexed the small multiethnic territory to its north in 1962.
- Just over five years after Independence, however, **war** broke out between the two countries **over the control of Badme — a border town** of no apparent significance.
- In June 2000, the two countries signed an **Agreement on the Cessation of Hostilities** followed by a Peace Agreement.
- The above **agreement** formally ended the war and **established a Boundary Commission** to settle the dispute.



- The Commission gave its “final and binding” ruling in 2002 and **Badme was awarded to Eritrea**.
- However, **Ethiopia refused** to accept the decision and the border issues kept erupting in clashes.
- The **Prime Minister Abiy Ahmed** broke the nearly two-decade stalemate, announcing that **Ethiopia would abide by the full terms of the 2000 agreement**.

### **Nobel Prize in Physiology/Medicine 2019**

The Nobel Prize in Physiology or Medicine for 2019 was **jointly awarded** to **William G. Kaelin, Sir Peter J. Ratcliffe, and Gregg L. Semenza**, for ‘their discoveries on **how cells sense and adapt to oxygen availability**.’

- The discovery by scientists aims to **identify the molecular machinery** that regulates the **activity of genes in response to varying levels of oxygen** and understand **how underlying cells adapt** to such variations in oxygen supply.
- **Gregg L. Semenza** was awarded the Prize for the discovery of **Hypoxia-Inducible Factor-1 (HIF-1) protein**.
  - This protein is responsible for switching genes on and off in response to low oxygen levels in the cells.
- **Sir Peter J. Ratcliffe** (Professor at Oxford University), earned his share of the Prize for **discovering a mechanism common to all cells of the human body**.
  - When oxygen levels are low in the cells, this mechanism signals the kidneys to produce more red blood cells, which carry the vital molecule throughout the body.
- **William G. Kaelin** (Professor at Harvard University) received the Prize for his work investigating a genetic syndrome called **Von Hippel-Lindau’s (VHL) disease**.
  - He found that the gene behind VHL encodes for a protein that seems to prevent cancer and was implicated in its response to low oxygen levels.
  - This **discovery was eventually tied to HIF-1** and gave potential understanding to **treat a range of conditions like cancer, diabetes, and coronary artery disease**.

### **Nobel Prize in Economic Sciences 2019**

The Nobel Prize in Economic Sciences for 2019 was **jointly awarded** to **Abhijit Banerjee, Esther Duflo, and Michael Kremer**, for ‘their **experimental approach to alleviating global poverty**.’

- This year’s laureates have introduced a **new approach** to obtain reliable answers about the best ways to fight

Note:

global poverty. Their approach **divides the larger issue into smaller ones** that could be easily examined to find out the solution to the problem.

- The three adopted an evidence-based approach to apply their theory to real-life situations using randomized trials and then assessing the outcomes.
  - For instance, they found that in India, despite immunization being free, women were not bringing in their children for the vaccination shot. The two economists Abhijit Banerjee & Esther Duflo decided to give a bag of pulses free to women who brought their babies for vaccination. This freebie policy soon spread and the rate of immunization shot up in the region.
- Their field-work based approach has **revolutionized the field of development economics and made it more relevant in policymaking**.
- **Esther Duflo** has become the **second woman to win the prize after Elinor Ostrom** of the USA (in 2009). She is also the **youngest ever** to win the prize.

## Hindu-Kush-Himalayan Region

The India Meteorological Department (IMD) will **collaborate** with meteorological agencies in **China and Pakistan**, among others, to provide **climate forecast services** to countries in the Hindu-Kush-Himalayan Region.



### Hindu-Kush-Himalayan Region

- The HKH region spans Afghanistan, Bangladesh, Bhutan, China, India, Kyrgyzstan, Mongolia, Myanmar, Nepal, Pakistan, Tajikistan, and Uzbekistan.

- It is considered the **Third Pole** (after the North and South Poles) and has significant implications for climate.
- A recent report by the **Intergovernmental Panel on Climate Change** has highlighted the **threat to the HKH region from global warming**.
  - Floods would become more frequent and severe in the mountainous and downstream areas of the Indus, Ganges and Brahmaputra river basins, because of an increase in extreme precipitation events.

### India Meteorological Department

- It is the principal agency under the **Ministry of Earth Sciences (MoES)**.
- It operates hundreds of observation stations **across India and Antarctica**.
- It is **one of the six Regional Specialised Meteorological Centres of the World Meteorological Organization**.
- It also has the responsibility of forecasting, naming and distribution of warnings for tropical cyclones in the Northern Indian Ocean region, including the Malacca Strait, the Bay of Bengal, the Arabian Sea and the Persian Gulf.

### World Meteorological Organization

- It is an intergovernmental organization with a membership of **193 Member States and Territories**.
- Established by the ratification of the WMO Convention in 1950, WMO became the specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences.
- It is **headquartered in Geneva, Switzerland**.

## World Standards Day

**14<sup>th</sup> October** is celebrated as World Standards Day every year for paying tribute to the collaborative efforts of thousands of experts worldwide who develop the **voluntary technical agreements** that are **published as International Standards**.

- It has been officially **celebrated since 1970**.
- The **theme** for 2019 is **'Video Standards Create a Global Stage'**, on standardizing the video compression technologies.
- In India, it is **celebrated by the Bureau of Indian Standards (BIS)**.

Note:

***Bureau of Indian Standards***

- It is the **National Standard Body of India** established under the BIS Act 2016 for the harmonious **development of the activities of standardization,**

marking and quality certification of goods and for matters connected therewith or incidental thereto.

- It has its headquarters in **New Delhi.**



Note:

**Key Points**

**Details**


**Summary**

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**Summary**



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# Current Affairs (CONSOLIDATION)

**OCTOBER 2019**  
**(PART – II)**

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# Polity and Governance

## Highlights

- Second Assembly of ISA
- Whistleblowers Protection Act
- Postal Ballot Facilities for Absentee Voters
- Jiyo Parsi Scheme
- Van Dhan Internship Programme
- 47<sup>th</sup> Chief Justice of India
- BHIM 2.0
- Food Safety Mitra Scheme
- 20th Livestock Census

## Second Assembly of ISA

Recently, the **Second Assembly of the International Solar Alliance (ISA)** was hosted by the **Ministry of New and Renewable Energy** in New Delhi.

- **India** (represented by the Minister for New and Renewable Energy and Power) is the **President** and **France** is the **Co-President** of the ISA Assembly.
- Till now, 81 countries of the 121 prospective member countries have signed the Framework Agreement of the ISA. Of these, **58 countries have ratified** the same.
  - During the first Assembly of the ISA, an Indian resolution to extend the Membership of the organization to all countries that are members of the United Nations was adopted.
  - The Assembly is the **supreme decision-making body** of the ISA and gives directions on various administrative, financial and programme related issues.
- For building the domestic capacity of the ISA member countries, several programmes have been initiated:
  - **STAR-C** is a **Solar Technology Application Resource Centre** project.
  - **Infopedia** is an **online platform** dedicated to the dissemination of information, best practices, and knowledge on Solar Energy.
  - ISA has significantly extended outreach and has partnered with over 40 organizations (including [the United Nations \(UN\)](#), Multilateral Development Banks (MDBs), Development Finance Institutions (DFIs), etc.).

## International Solar Alliance

- The ISA, is an **Indian initiative** that was launched by the Prime Minister of India and the President of France in 2015 in Paris, France on the side-lines of the [Conference of the Parties \(COP-21\)](#).
- The alliance is open to 121 solar resource-rich countries lying fully or partially between the tropic of Cancer and tropic of Capricorn as prospective members.
  - The Government of India has also allotted 5 acres of land to the ISA in **National Institute of Solar Energy (NISE) campus, Gurugram** and has released a sum of Rs. 160 crore for creating a corpus fund, building infrastructure and meeting day to day recurring expenditure of the **ISA up to the year 2022-23**.
- The overarching objective of the ISA is to collectively address key common challenge of scaling up of solar energy in member countries.

### National Institute of Solar Energy

- National Institute of Solar Energy (NISE), an autonomous institution of the Ministry of New and Renewable (MNRE), is the **apex National R&D institution in the field of Solar Energy**.
- It is located in **Gurugram, Haryana**.

## Whistleblowers Protection Act

The recent accusations raised against the Infosys Chief Executive Officer (CEO) and other senior officials have brought back the focus on whistleblowers' safety in India.

### Background

- **Whistleblowing** is defined as an **act of disclosing information** by an employee or any concerned

Note:

stakeholder about an illegal or **unethical conduct** within an organization.

- A whistleblower is a person who informs about a person or organization engaged in such illicit activity.
- In 2004, the **Supreme Court of India** directed the Central government that, 'administrative machinery be put in place for acting on complaints from whistleblowers till a law is enacted.'
- The government, in response, notified a resolution in 2004 named, '**Public Interest Disclosure and Protection of Informers Resolution (PIDPIR)**'.
- This resolution gave the **Central Vigilance Commission (CVC)** the power to act on complaints from whistleblowers.
- In 2007, the report of the **Second Administrative Reforms Commission** also recommended that a **specific law** needs to be enacted to protect whistleblowers.
- The **UN Convention against Corruption** to which **India is a signatory (although not ratified) since 2005**, encourages states to facilitate reporting of corruption by public officials and provide protection for witnesses and experts against retaliation.
- The Convention also provides safeguards against victimization of the person making the complaint.
- To conform with such regulations, in **2011 Whistleblowers Protection Bill** was proposed which **finally became a law in 2014**.
- The **Companies Act, 2013**, as well as the **Securities and Exchange Board of India** regulations have made it **mandatory for companies to take notice of all such complaints**.

### Key Highlights of

#### Whistleblower Protection Act, 2014

- The Act establishes a mechanism to receive complaints related to disclosure of allegations of corruption or wilful misuse of power or discretion, against any public servant, and to inquire or cause an inquiry into such disclosure.
- The Act also provides adequate **safeguards against victimization** of the person making such complaints.
- The law **does not allow anonymous complaints** to be made and clearly states that no action will be taken by a competent authority if the complainant does not establish his/her identity.
- The **maximum time period** for making a complaint is **seven years**.

- The Act is not applicable to the **Special Protection Group (SPG) personnel** and officers, constituted under the **Special Protection Group Act, 1988**.
- Any person aggrieved by any order of the Competent Authority can make an appeal to the concerned High Court within a **period of sixty days** from the date of the order.
- Any person who **negligently or mala-fidely reveals the identity** of a complainant will be **punishable with imprisonment** for a term extending up to 3 years and a fine which may extend up to Rs 50,000.
- The Whistleblowers Act **overrides** the **Official Secrets Act, 1923** and allows the complainant to make public interest disclosure before competent authority even if they are violative of the later act but not harming the sovereignty of the nation.
  - The Official Secrets Act was enacted in 1923 by the British to keep certain kinds of information confidential, including, but not limited to, information involving the affairs of state, diplomacy, national security, espionage, and other state secrets.

## Postal Ballot Facilities for Absentee Voters

The **Election Commission of India** has recently made efforts to ensure that the electors who are **unable to come to polling booth/ absentee voters** are facilitated in every way to ensure their **wider participation in the electoral process**.

- Such **absentee voters** include **Persons with Disabilities (PwD)**, **Senior citizens**, **Persons employed in essential services** (railways, state transport, and aviation, etc.)

### Steps Taken to Ensure Wider Participation

- The Government **amended the Representation of the People's Act, 1951 (RP Act), and the Conduct of Election Rules, 1961**. These amendments are as follows:
  - A concept of '**absentee voter**' has been introduced and defined for the elections;
    - '**Absentee voter**' means a person belonging to such class of persons as may be notified, under **clause (c) of section 60 of the RP Act, 1951** and who is **employed in essential services** as mentioned in the said notification, and includes an elector belonging to the **class of senior**

Note:

**citizens (80 years or above) or persons with disabilities;**

- These two categories of voters – ‘senior citizen’ and ‘PwD electors’ can **vote either as an absentee voter or as a regular voter on the poll day.**
- The Commission is also taking a number of steps such as **Systematic Voters’ Education and Electoral Participation (SVEEP) initiatives** to make the electors aware of this new facility so that such electors can exercise their voting right in the manner they intend to do.
- **SVEEP** is the flagship program of the **Election Commission of India for voter education, spreading voter awareness and promoting voter literacy** in India.

#### Representation of the People Act, 1951

- This Act provides for the actual conduct of elections in India. It deals with the following matters :
  - Details like Qualification and Disqualification of members of both the Houses of Parliament and the State Legislatures,
  - Administrative machinery for conducting elections,
  - Registration of Political parties,
  - Conduct of Elections,
  - Election Disputes,
  - Corrupt practices & Electoral offences, &
  - By-elections.

### Jiyo Parsi Scheme

The **Ministry of Minority Affairs** initiated the **Jiyo Parsi Scheme in 2013** to check the declining Parsi population.

- The **main objective** of the scheme is to arrest the declining trend of the Parsi population by adopting a scientific protocol and structured interventions, in order to stabilize their population and thereby increasing the population of Parsis in India.
- The scheme comprises of **three components**:
  - **Advocacy Component** that includes workshops, advertisement campaigns to create awareness about the dwindling numbers in the community.
  - **Health of the Community Component** which covers Childcare and Creche support, assistance to elderly, etc.

- **Medical Component** includes financial assistance for the detection and treatment of infertility, fertility treatment, etc.
- The scheme also offers **cash assistance** to encourage Parsi couples to have children.
- It is a **100% Central Sector Scheme**.

#### Parsi Community

- Parsi community **follow Zoroastrianism**, which is one of the **world's oldest monotheistic religions**. Zoroastrianism was **founded by the Prophet Zoroaster** (or Zarathustra) in ancient Iran around the 6<sup>th</sup>-7<sup>th</sup> century.
- Nowruz (also spelled as Navroz), the **Iranian New Year** is **celebrated in India by the Parsi community on March 21**.
- Zoroastrians (Parsis) are **among the six religious communities notified as minority communities** by the Union Government. The other five are: Muslims, Christians, Sikhs, Buddhists, and Jains.
- **Decline in Population**:
  - While India’s population more than tripled in over 60 years, the number of Parsi has reduced by almost 50% (Census 2011).
  - Maharashtra has the highest Parsi population in the country followed by Gujarat.
- **Infertility and late marriages** are among the **main reasons for the rapid decline** in the Parsi population.

### Van Dhan Internship Programme

The **Ministry of Tribal Affairs** has launched “**Van Dhan Internship Programme**” organised by the **Tribal Cooperative Marketing Development Federation of India (TRIFED)**.

- The selected interns will enhance the output of Van Dhan programme to make the tribal population self-reliant. They will support TRIFED activities to develop a mechanism for determination of a just price or producer price of Minor Forest Products (MFP).
- **Van Dhan Yojana was launched in 2018**, in Chhattisgarh. It is an initiative **targeting livelihood generation for tribal population** by harnessing the wealth of forest i.e. Van Dhan.

Note:



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- **Van Dhan Vikas Kendras** are set up under the program. These Kendras aim to boost the economic development of tribals involved in the collection of MFP.

#### TRIFED

- TRIFED came into existence in **1987**. It is a **national-level apex organization** functioning under the administrative control of **Ministry of Tribal Affairs**.
- Its ultimate objective is **socio-economic development of tribal people** in the country by way of **marketing development of the tribal products** such as metal craft, textiles etc.
- It has its **Head Office** in **New Delhi**.

## 47<sup>th</sup> Chief Justice of India

Justice **Sharad Arvind Bobde**, has been appointed as the **47<sup>th</sup> Chief Justice of India (CJI)**, by the **President of India**.

- As per **convention**, outgoing CJI Ranjan Gogoi recommended the name of Justice Bobde, the most senior judge of the Supreme Court as his successor.
- The Chief Justice of India and the Judges of the **Supreme Court** are appointed by the **President under clause (2) of Article 124 of the Constitution**.

## BHIM 2.0

The **Ministry of Electronics and Information Technology (MeitY)** has launched a **new version of Bharat Interface for Money (BHIM) app** i.e. **BHIM 2.0**.

- **BHIM app**, that was developed by the **National Payments Corporation of India (NPCI)**, was launched in December, 2016.
- It is a **Unified Payment Interface (UPI)** that allows real time fund transfer.
- The **new version** of BHIM supports **three additional languages** – Konkani, Bhojpuri and Haryanvi – over and above the **existing 13**.
- Under BHIM 2.0, the existing **transaction cap of Rs. 20,000 has been increased to Rs. 1,00,000**, from verified merchants.
- **Other features** include a 'donation' gateway, linking multiple bank accounts, option of applying in Initial Public Offering (IPO), gifting money, etc.

## Food Safety Mitra Scheme

The **Union Minister of Health and Family Welfare** launched the Food Safety Mitra (FSM) scheme to mark the occasion of **World Food Day (16<sup>th</sup> October 2019)**.

- The **theme** for the day was '**Healthy Diets for a Zero Hunger World**'.
- **Food Safety Mitra (FSM)** will be an **individual professional certified by the Food Safety and Standards Authority of India (FSSAI)** who will assist in compliances related to the Food Safety and Standards Act (FSS Act) and other related rules & regulations.
  - The scheme would create new employment opportunities for youth (particularly with food and nutrition background).
  - FSSAI has partnered with the **Domestic Workers Sector Skill Council** under the Ministry of Skill Development and Entrepreneurship to launch the training course for FSMs.
    - Domestic Workers Sector Skill Council is a **not for profit company** registered under the Companies Act, 2013.
    - Its **purpose** is to define key sectors wherein domestic workers can find employment and to identify critical roles and associated skill gaps.
- **Aim:** To support small and medium-scale food businesses for ensuring compliance with food safety laws and to facilitate them with the licensing and registration process, hygiene ratings and training programme.

## 20<sup>th</sup> Livestock Census

The **Ministry of Fisheries, Animal Husbandry and Dairying** released the **20<sup>th</sup> Livestock Census** report.

- The report provides key results reflecting the aggregate counts of various species and compares data with the previous census.

### Key Points

- The **total Livestock population** is 535.78 million in the country showing an **increase of 4.6%** over Livestock Census-2012.
  - **West Bengal observed the highest** increase of 23%, followed by Telangana (22%).
- The **backyard poultry** has increased by around 46%.

Note:



- This sharp increase is a significant change in the rural landscape which shows a **sign of poverty alleviation**.
- The total **number of cattle** in the country has shown an **increase** of 0.8 %.
- The increase is mainly driven by a **sharp increase in cross-bred cattle** and **higher female indigenous cattle** population.
- However, **a decline of 6% in the total indigenous cattle population** has been observed. This has happened despite the government's efforts to promote conservation of desi breeds through the **Rashtriya Gokul Mission (RGM)**.
- The total **milch animals** have shown an increase of 6%.
  - Due to higher yields, **foreign breeds constitute more than half** the population of milch animals.
  - Nearly 75% of total cattle in the country are female (cows) – a clear sign of dairy farmers' preferences for milk-producing cattle.
    - This has happened owing to the government's assistance in terms of providing **sex-**

**sorted artificial insemination** with semen of high-yielding bulls, free of cost at farmers' doorstep.

- **Challenge:** The more the number of animals that produce milk, the more would be pressure on land and fiercer would be competition between man and animals for survival.

#### The Livestock Census

- The Livestock Census has been conducted in the country **periodically since 1919-20**. The **last livestock census** was conducted in 2012.
- It **covers all domesticated animals** and their headcounts.
- So far 19 such censuses have been conducted by the **Ministry of Fisheries, Animal Husbandry and Dairying**, in participation with State Governments and UT Administrations.
- The census is beneficial not just for policymakers but also for agriculturists, traders, entrepreneurs, dairying industry and masses in general.



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# Economic Scenario

## Highlights

- *Ease of Doing Business - 2020*
- *India Innovation Index 2019*
- *Industry-University Linkage Index*
- *World Intellectual Property Indicators - 2019*
- *Share Swap Ratio*
- *Minimum Support Price*
- *MGNREGA Act, 2005*

## Ease of Doing Business- 2020

The **World Bank** recently released its **Ease of Doing Business Report, 2020**.

- According to the report, **New Zealand retained its 1<sup>st</sup> position** whereas **Somalia was ranked 190<sup>th</sup>**.
- India was placed at **63<sup>rd</sup> position** this time (2019) **out of 190 countries** marking an **improvement of 14 places from its 77<sup>th</sup> in 2018**.
  - India's score **improved from 67.23 (2019) to 71.0 (2020)**.
  - India for the **third consecutive year** was **present in the list of 10 economies** where the **business climate has improved the most**.
- India's ranking improved basically on **four parameters**:
  - **Starting a Business** - India made starting a business easier by fully **integrating multiple application forms** into a general incorporation form,
  - **Dealing with Construction Permits** - For example, building a warehouse cost around 4% of the warehouse value as compared to 5.7% in the previous year,
  - **Trading across Borders** - with a **single electronic platform**- improved electronic submission methods for documents and upgrades to port infrastructure.
  - **Resolving Insolvency** - **Recovery rate under resolving insolvency** has improved significantly from **26.5% to 71.6%**. Also, the **time taken for resolving insolvency** has also come down **significantly from 4.3 years to 1.6 years**.
- **India continues to maintain its first position among South Asian countries. It was 6<sup>th</sup> (in 2014).**
- **The World Bank will now include Kolkata and Bengaluru, besides Delhi and Mumbai, for preparing**

**ease of doing business report**, in order to provide a holistic picture of the business environment of the country.

### Ease of Doing Business Report

- The report was introduced in **2003** to provide an assessment of objective measures of business regulations and their enforcement across 190 economies on ten parameters affecting a business through its life cycle.
- The report measures the performance of countries across 10 different parameters namely-
  - Starting a Business,
  - Dealing with Construction permits,
  - Electricity availability,
  - Property registration,
  - Credit availability,
  - Protecting minority Investors,
  - Paying Taxes,
  - Trading across borders,
  - Contracts enforcement, and
  - Resolving Insolvency.
- **This time two more parameters** were considered namely, **employing workers** and **contracting with the government** but these are **not included in the score and rankings**.
- It ranks countries on the basis of **Distance to Frontier (DTF) score** that highlights the **gap of an economy with respect to the global best practice**. For example, a score of 75 means an economy was 25 percentage points away from the frontier constructed from the best performances across all economies and across time.

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## India Innovation Index 2019

**NITI Aayog** with the **Institute for Competitiveness (Gurugram, Haryana)** has released the **India Innovation Index 2019**.

- The index, **developed on the lines of the Global Innovation Index (GII)**, would help Indian states and Union Territories (UTs) to design policies to drive innovation across regions.
- The India Innovation Index 2019 is calculated as the **average of the scores of two dimensions - Enablers and Performance**.
  - The **Enablers** examine **innovative capacities**: Human Capital, Investment, Knowledge Workers, Business Environment, and Safety and Legal Environment.
  - The **Performance** captures **benefits** that a nation derives **from the inputs**: Knowledge Output and Knowledge Diffusion.
- The **states** have been bifurcated into **three categories**:
  - Major states,
  - North-East and hill states,
  - Union territories/Small states

### Key Findings

- The **innovation ecosystem of the country is strong in south and western parts of India**. In fact, three of the top five major states are from southern India.
- **Karnataka emerged topper** in the overall rankings in the **category of major states** with Tamil Nadu and Maharashtra in the second and third positions respectively.
  - Karnataka's top position is partly attributed to its top rank in the

### The Report Card

#### Most Innovative States

Rank	States	Score
1	Karnataka	35.65
2	Tamil Nadu	32.98
3	Maharashtra	29.93
4	Telangana	22.06
5	Haryana	20.55
6	Kerala	19.58
7	Uttar Pradesh	19.08
8	West Bengal	18.21
9	Gujarat	16.86
10	Andhra Pradesh	14.51

#### States ranked on 33 indicators

National index needed to help states compete to innovate	India was at <b>57th</b> position in GI in 2018 among 126 countries
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**Performance dimension.** It is among the top performers in Infrastructure, Knowledge Workers, Knowledge Output and Business Environment.

- **Maharashtra** performs the best in the dimension of Enablers. This implies that it has the best **enabling environment for innovation**.
- Among the North-Eastern states and Union territories, **Sikkim** and **Delhi** occupy the top spots respectively.
- In terms of attracting **investment**, **Karnataka topped** the index among major states, followed by Maharashtra and Haryana.
  - Bihar, Jharkhand, and Punjab were the least attractive states for investment.
  - Among North East and the Hill States, Manipur, Arunachal Pradesh, and Tripura were the top three states; while among the UTs, Lakshadweep, Delhi and Goa were the top three regions.

### Suggestions to Improve Rankings

- Increased spending on **research and development** with greater collaboration between the industry and educational institutions may help to enhance innovation capability.
- A **collaborative platform** consisting of all the stakeholders of innovation - innovators, researchers, and investors from the industry should be developed. This will help to strengthen the industry-academia linkages and will ease the process of technology transfer by providing a platform for innovators to showcase their inventions.

### Global Innovation Index

- **GII** is **published annually** by Cornell University, INSEAD and the UN World Intellectual Property Organization (WIPO).
- The **theme of GI- 2019** (12<sup>th</sup> edition) is "Creating Healthy Lives - The Future of Medical Innovation" which aims to explore the role of medical innovation as it shapes the future of healthcare.
- **India's ranking** in 2019 is **52**, an improvement of 5 points from 2018 rank (57).

## Industry-University Linkage Index

The **PHD (Progress – Harmony – Development) Chamber of Commerce and Industry** in association with the **Ministry of Science and Technology** has released the

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**Industry-University Index** assessing input-output relations between the education sector (universities) and industries.

### Key Findings

- **Performance on Index**
  - Industry linkages were found moderate in India with an overall **score of 4.7** on a scale of 10.
  - **Karnataka, Kerala and Gujarat** have **topped** in University-Industry Linkages (UILs).
  - Most of the **northeastern states** are at the **bottom** of the stack and also larger states such as **West Bengal, Madhya Pradesh, and Bihar** are **poor performers**.
- **Concerns**
  - **India is at a very nascent stage** of developing strong linkages between universities and industries.
  - **Absence of a clear policy** for strengthening linkages between the university and industry is the major reason.
- **Suggestions**
  - The survey identifies **10 sectors for improving industry - university linkage** which include research and development activity, agro and food processing, textiles, Information Technology (IT) and IT-enabled services, energy, cement, pharmaceuticals, and automotive sectors.
  - The index highlighted that the **Bayh Dole Act of US** of the 1980s has been proven the best model in strengthening university-industry linkages.
  - The index emphasized **revival of the Protection and Utilization of Public-Funded Intellectual Property (PUPFIP) Bill** which was tabled in 2008 but later withdrawn from Parliament.

#### Bayh Dole Act

- The Bayh-Dole Act added a **new official policy** for the granting of patents in the United States.
- The Act created a viable route by which **new insights and valuable research results from universities and other institutions can make their way efficiently to start-ups and established firms**.
- This has been followed by many countries world over.

#### Protection and Utilization of Public-Funded Intellectual Property (PUPFIP) Bill, 2008

- It seeks to provide **incentives for creating and commercializing intellectual property** from public-funded research.

- The Bill requires the scientist who creates an intellectual property to immediately inform the research institution. The institution shall disclose this information to the government within 60 days.
- Failure of the scientist to intimate the institution, and of the institution to inform the government carries penalties, which include fines and recovery of the grant funds.
- The PUPFIP bill has been prepared **on the lines of the Bayh Dole Act**.

## World Intellectual Property Indicators - 2019

According to the **World Intellectual Property Indicators Report-2019**, global **Intellectual Property (IP)** filing activity continues to grow at a rapid pace.

- World Intellectual Property Indicators Report is **published annually by the World Intellectual Property Organization (WIPO)**, a specialised agency of the **United Nations**.
- This Report analyzes IP activity around the globe. It covers the **following areas of intellectual property**: patents, utility models, trademarks, industrial designs, microorganisms and plant variety protection.

### Key Findings

- In 2018, patent filings around the world exceeded by around 3.3 million, representing a **5.2% growth** over 2017 figures.
  - **Asia**, being the global hub for IP applications, accounted for **two-thirds of the total applications** in 2018.
- **China** was at the **leading position** of global growth in worldwide IP filings in 2018.
- In **India**, there was a large increase in the number of filings with respect to
  - Trademark filing activity (+20.9%),
  - Patent filings (+7.5%), and
  - Industrial design filing activity (+13.6%), marking almost **double-digit growth** in 2018. For India, 2018 was the third successive year of double-digit growth.
- The **share of withdrawn or abandoned applications was highest in India (66.2%)**.

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- However, India reduced the number of pending applications by 25% in 2018 compared over the last year (2017).

- **Trade Mark:** A trademark is a word, phrase, symbol, and/or design that identifies and **distinguishes the source of the goods of one party from those of others**. Unlike patents and copyrights, trademarks do not expire after a set term of years.
- **Patents:** A patent is a **limited duration property right** relating to an invention, granted by the Trademark Office in exchange for public disclosure of the invention. Patentable materials include machines, manufactured articles, industrial processes, and chemical compositions. The duration of patent protection is **20 years in the case of India**.
- **Copyright:** A copyright **protects works of authorship** that have been tangibly expressed in a physical form. Example - songs, books, movies, and works of art.
- **Industrial Design:** In a legal sense, an industrial design constitutes the **ornamental or aesthetic aspect of a product**. It may consist of three-dimensional features, such as the shape of an article, or two-dimensional features, such as patterns, lines or colours.

## Share Swap Ratio

At least seven of the **10 public sector banks slated for merger** have invited independent experts to **determine their share swap ratios**.

- When a company pays for acquisition by issuing its own shares to the shareholders of the target company, this is known as a **share swap**.
- The number of shares to be issued in lieu of their existing holdings in the target company is called the **Share Swap Ratio**.
  - It is determined by valuing the target company after looking into metrics such as its revenues and profits, as well as its market price.

### Importance

- A swap ratio shows the **relative size and strength of both companies**. In general, if more shares of the target company are exchanged for one share in the acquiring company, then the latter is likely to be bigger and stronger.
- It also **determines the control** that each set of shareholders has on the combined company. For

example, the acquiring company may have greater control over the firm if the swap ratio is high and, therefore, its Board of Directors could have a larger share in the new Board.

### Advantages

- **Confidence to Investors:** A swap ratio's rationale is to give the same amount of confidence to investors even after the merger or acquisition goes through.
- **Maintain Equilibrium:** The swap ratio is kept reasonable to maintain an equilibrium between the investors of both companies.
- **Lower Risks:** As shareholders of the target company will also be shareholders of the merged entity, the risks and benefits of the expected synergy from the merger are shared by both the parties.
- **Non Taxable:** In case of a share swap, when shareholders of the acquired company are given shares of the acquirer company as part of the deal, it is not considered a transfer of shares. Hence, **capital gains tax** will not arise.
  - The tax liability will arise only when the shares of the merged entity are sold.

### Capital Gains Tax

- Any **profit or gain** that arises from the sale of a '**capital asset**' is a capital gain. This gain or profit comes under the **category of 'income'**.
- Hence, the capital gain tax will be required to be paid for that amount in the year in which the transfer of the capital asset takes place. This is called the capital gains tax, which can be both short-term or long-term.

## Minimum Support Price

The **Cabinet Committee on Economic Affairs (CCEA)**, headed by the Prime Minister has **hiked the Minimum Support Price (MSP) for Rabi crops** for the marketing season 2020-21.

- The increase in MSP for Rabi Crops is in line with the principle of fixing the MSPs at a level of at least **1.5 times** of the all India weighted average **Cost of Production [CoP]**.

### Minimum Support Price

- The MSP is the rate at which **the government buys grains from farmers**.

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- The reason behind the idea of MSP is to **counter the price volatility of agricultural commodities** due to factors like the variation in their supply, lack of market integration and information asymmetry.
- The MSP is fixed on the recommendations of the **Commission for Agricultural Costs and Prices (CACP)**.
  - The CACP is an attached office of the **Ministry of Agriculture and Farmers Welfare**, formed in 1965.
  - It is a **statutory body** that submits **separate reports** recommending prices for Kharif and Rabi seasons.
- **Factors taken into consideration for fixing MSP include** demand and supply, cost of production, price trends in the market, both domestic and international, Inter-crop price parity, terms of trade between agriculture and non-agriculture, a minimum of 50% as a margin over the cost of production; and likely implications of MSP on consumers of that product.
- The Food Corporation of India (FCI), the nodal central agency of the Government of India, along with other State Agencies undertakes procurement of crops.

### Rabi Crops

- Rabi crops are sown in winter from **October to December** and harvested in summer from April to June.
- Some of the important rabi crops are wheat, barley, peas, gram, and mustard.
- Though these crops are grown in large parts of India, states from the north and northwestern parts such as Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttarakhand and Uttar Pradesh are important for the production of wheat and other rabi crops.

## MGNREGA Act, 2005

The **proportion of young workers** under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), 2005 is **rising**.

- The **ratio** of young workers among total MGNREGA workers has risen to **9.1% in 2018-19** and **10.06% in 2019-20** from **7.73% in 2017-18**.
- The total number of individuals working under MGNREGA has also gone up in recent years.
- The rising trend of the young workforce among MGNREGA workers could be a reflection of the following events:

- **Demonetisation**
  - Approximately, 1.5 million jobs were lost after demonetization. Alongside this loss of jobs, there has been a decline in the **Labour Force Participation Rate (LFPR)**.
  - As a result of job loss, many workers opted for MGNREGA for livelihood.
- **The rollout of Goods and Service Tax (GST)**
  - The implementation of GST improved economic efficiency but the complexities of the new tax regime have driven many small enterprises out of business forcing unemployment.
  - Uniform tax regime through GST has also pushed many small and medium enterprises in debt.
  - Both these events caused disruptions in the economy resulting in a surge of workers opting jobs under MGNREGA.

### Mahatma Gandhi National Rural Employment Guarantee Act, 2005

- The Act aims at **enhancing the livelihood** security of people in rural areas by guaranteeing **hundred days of wage employment** in a financial year to a rural household whose adult members (at least 18 years of age) volunteer to do unskilled work.
- It is a demand-driven, social security and labour law that aims to enforce the **'right to work'**.
- The central government bears the full cost of unskilled labour. The **Ministry of Rural Development (MRD)** in association with state governments, monitors the implementation of the scheme.

### Impact of MGNREGA

- Agriculture and allied activities constitute more than 65% of the works taken up under the programme.
- This has helped to **reduce rural poverty** to a greater extent. It has also been described as a **"stellar example of rural development"** by the World Development Report 2014.
- Also, the central government is working on an initiative to include skill and training as a part of MGNREGA to make it not only a job creator but also to **increase skilled labourers** across the country.

### Challenges

- **Low Wage Rates**

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- Currently, MGNREGA wage rates of 17 states are less than the corresponding state minimum wages.
- The low wage rates have resulted in a lack of interest among workers in working for MGNREGA schemes, making way for contractors and middlemen to take control, locally.
- **Insufficient budget allocation**
  - Almost every year, more than 80% of funds get exhausted within the first six months.
  - Thus, the fund allocation is insufficient to ensure proper implementation on the ground.
- **Regular payment delays**
  - Despite the order of the Supreme Court, no provision has yet been worked out for calculation of full wage delays and payment of compensation for the same.

➤ **Too much centralisation weakening local governance**

- A real-time Management Information System (MIS) based implementation and a centralised payment system has **left the representatives of the Panchayati Raj Institutions (PRIs) with limited role** in implementation, monitoring and grievance redressal of MGNREGA schemes.
- PRIs hardly have any power to resolve issues or make payments.

**Way Forward**

- To ensure better implementation of MGNREGA, there should be **debate and discussions**, involving various stakeholders such as MGNREGA workers, contractors, bureaucrats and politicians.



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# International Relations

## Highlights

- India-Saudi Arabia
- India-Japan
- India-Philippines
- 18<sup>th</sup> Non-Alignment Summit
- Catalanian Unrest
- FATF's Grey List
- Kartarpur Corridor
- Tulagi Island
- Developing Country Status in WTO

## India-Saudi Arabia

Recently, the Prime Minister of India visited Saudi Arabia, which is the second visit to the country in three years.

### Key Highlights

- **India-Saudi Strategic Partnership Council** was formed to coordinate on strategically important issues. The council will be **headed by the Prime Minister and Crown Prince Mohammad Bin Salman Al Saud** and will meet **every two years**.
  - India is the **fourth** country with which **Saudi Arabia** has formed such a **strategic partnership**, after the UK, France and China.
- 12 Memorandum of Understandings (MoUs) including an MoU that will help Hajj pilgrims to travel comfortably in Saudi Arabia during the pilgrimage seasons were signed.
- Agreement for the establishment of the independent **Palestinian state** based on the pre-1967 borders with "Jerusalem as its capital".
- Cooperation in the Energy Sector:
  - Saudi Arabia is keen to play a role in the creation of **strategic petroleum reserves** at Padur in Karnataka.
  - A study is being conducted for the setting up of the world's largest greenfield refinery at Raigarh in Maharashtra by **Saudi Aramco**, Adnoc of the United Arab Emirates and Indian public sector oil companies.

### India - Saudi Arabia Ties

- Saudi Arabia is a **strategic partner** of India since the signing of the **Riyadh Declaration** in 2010.



- It is currently **India's second-largest supplier of crude oil** – providing about **18% of its energy needs**. It also has a major role in India's Strategic Petroleum Reserves (SPRs).
  - The **largest supplier of crude oil** is **Iraq**.
- It is also India's **4<sup>th</sup> largest trade partner**.
- The **2.6 million-strong Indian community** in Saudi Arabia is the **largest expatriate community** in the Kingdom and is the '**most preferred community**' due to their expertise, sense of discipline, law-abiding and peace-loving nature.
- **Haj pilgrimage** is another important component of **bilateral relations**.

## India-Japan

Recently, the President of India visited Japan. The visit was the first presidential visit to Japan after a gap of 29 years.

### Key Highlights

- The President attended the **enthronement ceremony of the Emperor Naruhito of Japan** in the Imperial Palace.

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- He also visited the **Shinto Meiji Shrine** and interacted with a delegation from the **Gotemba Pagoda**.
  - The Shrine is dedicated to the deified spirit of **Emperor Meiji**. The **Meiji restoration in 1868** helped Japan to transform itself into a **modern country**.
  - The **chalky stupa** at Gotemba Pagoda keeps the **Buddha's ashes** presented by late Indian Prime Minister Jawaharlal Nehru.
- The foundation stone for **Sri Sathya Sai Sanathana Samskruti Project** (to develop a temple on the lines of Akshardham) at Sai no Sato, Japan was laid by the president.

### India-Japan Ties

- India and Japan share robust ties with cooperation in areas of **defence, science and technology and trade**.
- In **2014**, India and Japan upgraded their relationship to '**Special Strategic and Global Partnership**'.
- **Mumbai-Ahmedabad High-Speed Railway (MAHSR)** is a very important area of cooperation between India and Japan in the Railway Sector.
- An "**India-Japan Digital Partnership**" (**I-JDP**) was launched to widen existing areas of cooperation as well as new initiatives within the scope of cooperation in S&T/ICT, focusing more on "**Digital ICT Technologies**".
- The **India-Japan Comprehensive Economic Partnership Agreement (CEPA)** that came into force in August 2011 covers trade in goods, services, movement of natural persons, investments, Intellectual Property Rights, custom procedures and other trade-related issues.
- India and Japan defence forces organize a series of bilateral exercises namely, **JIMEX**, **SHINYUU Maitri**, and **Dharma Guardian**. Both countries also participate in **Malabar exercise with USA**.

## India-Philippines

The President of India addressed the **India-Philippines Business Conclave** and the **4<sup>th</sup> Association of Southeast Asian Nations (ASEAN) – India Business Summit** in **Manila, Philippines** on 19<sup>th</sup> October 2019.

- India is celebrating the **70<sup>th</sup> anniversary of diplomatic relations** with the Philippines in 2019.
- The President of India also unveiled the **statue of Mahatma Gandhi** at Miriam College in **Quezon City**.



### India-Philippines Business Conclave

- Both countries aim to integrate India's "**Make in India**" with the Philippines' "**Build, Build, Build**" infrastructure initiative to create immense opportunities for companies and investors on both sides.
- Both the countries also agreed to sign a **Tourism Promotion Agreement** to bring the people of the two countries further closer.

### India-Philippines Relations

- India and Philippines formally established **diplomatic relations in 1949**, shortly after both countries gained independence (Philippines in 1946 and India in 1947).
- With **India's Act East Policy (2014)**, the relationship with the Philippines has diversified further into political-security; trade, industry, etc.
- India has a **positive trade balance with the Philippines** (more export from India compared to import from the Philippines to India).

## 18<sup>th</sup> Non-Alignment Summit

Recently, the Vice President of India attended the **18<sup>th</sup> Non-Alignment Movement (NAM) Summit** which was held in **Baku, Azerbaijan**.

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- The **theme** for the 18<sup>th</sup> NAM Summit is “**Upholding the Bandung Principles to ensure concerted and adequate response to the challenges of the contemporary world.**”
  - The theme relates to the forthcoming **65<sup>th</sup> anniversary of Bandung Principles (2020)** and the **60<sup>th</sup> anniversary of the establishment of the Non-Alignment Movement (2021)**.
  - Bandung principles promote world peace and cooperation which were formulated at the **Asian-African Conference in 1955**.
- This **NAM Summit** majorly focussed on contemporary issues such as terrorism, threats to peace and security, UN reform, climate change, sustainable development, economic governance, and south-south cooperation.

### **India and Non-Alignment Movement (NAM)**

- **India** is a **founder member** of NAM. It participated actively in NAM meetings till the 1970s but **India's inclination** towards erstwhile USSR created confusion in smaller members.
  - It led to the **weakening of NAM** and small nations drifted towards either the US or USSR.
- Further **India's New Economic Policy and inclination towards the US** raised questions over India's seriousness over non-alignment.
  - The **disintegration of the USSR** led to the **unipolar world** order dominated by the US.
- Moreover, NAM continued losing relevance for India in a unipolar world, especially after the founding members failed to support India during the crisis.
  - For instance, during the 1962 War with China, Ghana and Indonesia adopted explicitly pro-China positions.
  - During the 1965 and 1971 wars, Indonesia and Egypt took an anti-India stance and supported Pakistan.

- Recently, the **Prime Minister of India** skipped the **second NAM summit in a row** (17<sup>th</sup> and 18<sup>th</sup> NAM Summit).
  - It had been the **customary practice** ever since the inception of NAM that **India had always participated in the summit meetings through its prime minister**, with the **single exception** of the **6<sup>th</sup> NAM Summit** when **Chaudhury Charan Singh** was the caretaker PM and hence missed it.
- Moreover, **India** has started to actively engage with **new and old global powers**.
  - India joining the **Quadrilateral Security Dialogue**, a coalition seen by many as a counter force to China's rise in the Indo-Pacific and **Shanghai Cooperation Organization** led by China showing India's balancing approach in the new world order.

### **Quadrilateral Security Dialogue**

- Quadrilateral Security Dialogue is an **informal strategic dialogue** of like-minded democracies converging across the Indian and Pacific oceans.
- It comprises of the **US, Japan, India and Australia**.

### **Shanghai Cooperation Organisation**

- SCO is a permanent intergovernmental international organisation created in 2001.
- It's a Eurasian political, economic and military organization aiming to maintain peace, security, and stability in the region.
- The SCO's official languages are Russian and Chinese.

## **Catalonian Unrest**

There has been a constant demand of **separation of Catalonia from Spain**.

- Catalonia is a **semi-autonomous region** in Iberian Peninsula in the **north-eastern Spain**.
- It has a distinct history dating back almost 1,000 years and has its own language, parliament, flag and anthem.

### **Background**

- Before the **Spanish Civil War (1936-1939)**, Catalonia enjoyed **broad autonomy** but that was **suppressed under General Francisco Franco**.
- When Franco died, the region was **granted autonomy again under the 1978 constitution** and prospered as part of the new, democratic Spain.

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- A 2006 statute granted even greater powers, boosting Catalonia's financial clout and describing it as a "nation", but Spain's Constitutional Court **reversed much of this in 2010**.

### Demand For Independence

- The Catalan region has long been the **industrial heartland of Spain** – first for its maritime power and trade in goods such as textiles, but recently for finance, services and hi-tech companies.
  - It has been one of the wealthiest regions of Spain, contributing around 25.6% of exports, 19% of GDP and 20.7% of foreign investment.
- Catalan nationalists have long complained that their **region sends too much money to poorer parts of Spain**, as taxes are controlled by Madrid and receives much less from Spain.
- They also claim that Spain's changes to their autonomous status in 2010 undermines Catalan identity.

### Catalonian Referendum of 2017

- Referendum was held in October 2017 in which 90% of Catalanians voted for independence but the voter turnout was only 43%.
- The referendum was **declared illegal by Spain's central government** as it was marred by wide scale violence.

## FATF's Grey List

The **Financial Action Task Force (FATF)**, after its **5-day plenary** (concluded on 19<sup>th</sup> October 2019 in Paris), decided to keep **Pakistan on the Grey List**.

- However, it has warned that **Pakistan will be put on the Black List** if it does not control terror funding by February 2020.
- **Immediate blacklisting of Pakistan did not garner the consensus** of all FATF members.
  - India led a diplomatic offensive against Pakistan for its blacklisting. France, the US and the European Union countries supported India.
  - China, Turkey and Malaysia resisted India's efforts.
- By **remaining on the "Grey List"**, it would be **difficult for Pakistan to get financial aid** from the **International Monetary Fund (IMF)**, **World Bank** and **European Union**, making its financial condition more precarious.
- Pakistan was **placed on the grey list** by the FATF in **June 2018** and was given a plan of action to complete by October 2019, or face the risk of being placed on the **black list** with **Iran** and **North Korea**.

### Financial Action Task Force

- The Financial Action Task Force (FATF) is an **inter-governmental body** established in 1989 during the **G7 Summit** in Paris.
- The **objectives** of the FATF are to set standards and promote effective implementation of legal, regulatory and operational measures for **combating money laundering, terrorist financing and other related threats** to the integrity of the international financial system.
- Its **Secretariat** is located at the **Organisation for Economic Cooperation and Development (OECD)** headquarters in Paris.
- **Member Countries:** As of 2019, it consists of **thirty-seven** member jurisdictions. **India** is **one of the members**.
- FATF has two lists:
  - **Grey List:** Countries that are considered **safe haven for supporting terror funding and money laundering** are put in the FATF grey list. This inclusion serves as a warning to the country that it may enter the blacklist.
  - **Black List:** Countries known as **Non-Cooperative Countries or Territories (NCCTs)** are put in the blacklist. These countries support terror funding and money laundering activities. The FATF revises the blacklist regularly, adding or deleting entries.

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## Kartarpur Corridor

India and Pakistan have signed an agreement on to operationalize the **Kartarpur corridor**. The agreement is valid **initially for five years**.

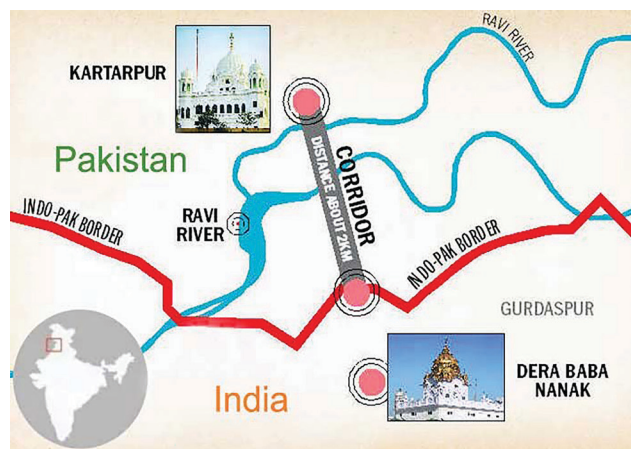
- **Either party can terminate the agreement at any time by giving notice of one month to the other party of its intention to terminate this agreement.**
- Also, the pact could be suspended in case of **exigency or persistent violation of its provisions**.
- The Pakistan side has agreed to make sufficient provision for **langar and distribution of prasad in the Gurdwara premises**.
- On the Indian side, all the required infrastructure, including the highway and the passenger terminal will be built.

### Kartarpur Corridor

- The Kartarpur corridor **connects the Darbar Sahib Gurdwara** in Narowal district of Pakistan with the **Dera Baba Nanak shrine** in Gurdaspur district in India's Punjab province.
- The agreement will facilitate the **visa-free movement** of Indian pilgrims who would just need a permit to cross over to Pakistan.
- The corridor was built to commemorate **the 550<sup>th</sup> birth anniversary celebrations of Guru Nanak Dev, founder of Sikhism on 12<sup>th</sup> November 2019**.

### Guru Nanak

- Guru Nanak Dev Jayanti is observed on the **full-moon day** in the month of Katak to celebrate the **birth of Guru Nanak Dev (1469-1539)**.



- He advocated the '**Nirguna**' form of **bhakti**. He rejected sacrifices, ritual baths, image worship, austerities and the scriptures of both Hindus and Muslims.
- He set up rules for congregational worship (**Sangat**) involving collective recitation.
- He appointed **one of his disciples, Angad**, to succeed him as the preceptor (guru), and this practice was followed for **nearly 200 years**.
- The fifth preceptor, Guru Arjan, compiled Baba Guru Nanak's hymns along with those of his four successors and also other religious poets, like Baba Farid, Ravidas (also known as Raidas) and Kabir, in the Adi Granth Sahib.
  - These hymns, called '**Gurbani**', are composed in **many languages**.
- **Kartarpur gurudwara** is the revered shrine about **4km across the border** where **Guru Nanak Dev** spent the **last 18 years of his life**.

## Tulagi Island

- Tulagi is an island **within the Solomon Islands**, which are located in the South Pacific, directly between Australia and the U.S.
- The Solomon Islands has **recently cut its ties to Taiwan** and allied with Beijing.
- The move is in line with '**One China**' principle.
  - China considers Taiwan to be part of its territory and wants to bring the island back into its fold.
  - Taiwan split from mainland China during a civil war in 1949 and set up a rival government.



## Developing Country Status in WTO

The South Korean Government has decided not to seek any special treatment as a developing country from

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future negotiations at the **World Trade Organization (WTO)**.

- However, South Korea would not forego its developing country status at the WTO.
  - South Korea, **Asia's fourth-largest** economy, has maintained its developing country status as a member of the WTO since the body's creation in 1995, mainly to guard its agriculture industry. For ex., it imposes a tariff of more than 500% on rice imports.

### **Developing Country Status in WTO**

- There are no **WTO definitions of "developed" and "developing" countries. Members announce for themselves whether they are "developed" or "developing" countries.**
  - However, **other members can challenge the decision** of a member to make use of provisions available to developing countries.
- **"Special and Differential Treatment" (S&D) provisions** of WTO give **developing countries special rights**. It includes:
  - Longer time periods for implementing agreements and commitments,
  - Measures to increase trading opportunities for developing countries,
  - Provisions requiring all WTO members to safeguard the trade interests of developing countries,
  - Support to help developing countries build the capacity to carry out WTO work, handle disputes, and implement technical standards, and
  - Provisions related to least-developed country (LDC) Members.
- **Benefits to Developing Countries in the WTO:**
  - The WTO Agreement specifies that **international trade should benefit the economic development of developing and least-developed countries.**

- **General Agreement on Tariffs and Trade (GATT)** — gives **developing countries the right to restrict imports**, if doing so would promote the establishment or maintenance of a particular industry, or assist in cases of balance-of-payments difficulties.

- The concept of **non-reciprocal preferential treatment for developing countries**, i.e. when developed countries grant trade concessions to developing countries they should not expect the developing countries to make matching offers in return.

### ➤ **Issues:**

- Recently, the U.S. had put pressure on the WTO to change how it designates developing countries, singling out China, with which the United States is engaged in a **trade war**, for unfairly getting preferential treatment.

### **Trade War**

- **Trade war** is a subset of Trade Protectionism.
- It is a conflict between two or more nations regarding trade tariff imposition on each other's goods.
- A trade war is usually initiated when a nation imposes tariffs or quotas on imports and foreign countries retaliate with similar forms of trade protectionism. As it escalates, a trade war reduces international trade.

### **Way Forward**

- Thus, negotiations should provide for differentiated treatment taking into account the policy-making challenges in developing countries without establishing permanent exemptions. These provisions should either be time-bound or have clear threshold and phaseout criteria, as in the WTO Agreement on Subsidies and Countervailing Measures.



Note:

# Science and Technology

## Highlights

- Nuclear Energy Conclave
- Cyber Attacks
- Microbial Fuel Cells
- Edge Computing
- World Polio Day
- Guidelines for Evaluation of Nanopharmaceuticals in India
- Artificial Leaf For Clean Gas

## Nuclear Energy Conclave

The **11<sup>th</sup> Nuclear Energy Conclave**, organized by the **India Energy Forum**, was held in New Delhi on 18<sup>th</sup> October 2019.

- The **theme** of the Conclave was: **“Economics of Nuclear Power-Innovation towards Safer & Cost Effective Technologies”**.
- India Energy Forum which was established in 2001 has acquired a unique status as a spokesman of total energy sector. Its Corporate Office is located in New Delhi.

### India's Nuclear Energy Programme

- The nuclear energy programme in India was launched around the time of independence under the leadership of **Homi J. Bhabha**.
- The main objectives of the Indian Nuclear Energy programme are to provide safe and reliable electric power for the country's social and economic progress and to be self-reliant in all aspects of nuclear technology.
- India has **limited reserves of uranium** but fairly **abundant reserves of thorium**.
- Accordingly, India has adopted a **three stage strategy** of nuclear power generation:
  - **Stage 1 Pressurised Heavy Water Reactor (PHWR):**
    - The PHWR is a pressure tube type reactor using **heavy water (D<sub>2</sub>O)** moderator, heavy water coolant and natural uranium dioxide fuel.
    - Considering the growing energy demands and the necessity to increase the energy potential, a second line of **light water reactors** have been added to the current indigenous programme of Pressurised Heavy Water Reactors.

### ○ Stage 2 Fast Breeder Reactor (FBR):

- India's second stage of nuclear power generation uses **Plutonium (Pu-239)** obtained from the first stage reactor operation, as the main fissile element of fuel core in fast breeder reactors (FBR).
- The Fast Breeder Programme is at the technology demonstration stage.

### ○ Stage 3 Thorium based Reactor:

- Thorium utilization is the long term objective of the Indian Nuclear Power Programme.
- The third phase of India's Nuclear Power Generation programme is breeder reactor based on Thorium- Uranium cycle.

### Status of Nuclear Energy in India

- Owing to the **waiver of the Nuclear Suppliers Group (NSG) to India in 2008**, the nuclear programme of country now has much less constraints.
  - The waiver paved the way for India to engage in nuclear trade and led to the Indo-US Civil Nuclear Deal. India has also signed civilian nuclear cooperation agreements with the U.S., U.K., France, Canada, Argentina, Australia and Russia, among others.
- There is an **early movement on Fast Breeder Reactors (FBR) deployment** and early deployment of indigenous Light Water Reactors (LWRs).
  - **Light-water reactors (LWRs)** are power reactors that are cooled and moderated with ordinary water. There are two basic types: the **Pressurized-Water Reactor (PWR)** and the **Boiling-Water Reactor (BWR)**.
  - PWR is a power reactor in which the heat is dissipated from the core using highly pressurized

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water (about 160 bar) to achieve a high temperature and avoid boiling within the core. BWR is a nuclear reactor with water as a coolant and as a moderator, boiling in the core. The resulting steam is generally used directly to drive a turbine.

## Cyber Attacks

Recently, the Nuclear Power Corporation of India Ltd. (NPCIL) has confirmed that **malware** had infected its system at the **Kudankulam Nuclear Power Plant (KKNPP)**.

- The malware named '**Dtrack**' is a **new spyware tool** that is believed to be actively targeting a large number of Indian institutions, in order to steal confidential data as well as a remotely downloading malicious tool- tracking key logs and monitoring IP (internet protocol) traffic.
  - **Dtrack** was **originated** in **North Korea** by the hackers' group Lazarus.
- The recent cyberattack revived the memories of the **Stuxnet virus attack on an Iranian nuclear facility in 2018**.
  - Cyberattack is a **malicious and deliberate attempt** by an individual or organization to breach the information system of another individual or organization.
  - There are various **types of cyberattacks** like malware, phishing, denial of service attacks, etc.

### Report on Cyber Attacks

- According to the **U.S. global computer security software company McAfee**, the month of **October 2019** saw the **most terrible cyberattacks**.
  - Malware like '**Ghostcat**' infects a user when the user visits a particular website and is served with a malicious advertisement. It collects the device information and eventually leads the user to malicious content. It targets mobile devices in general.
  - '**MedusaLocker**' is ransomware (a type of malware) that makes its way into users' devices by encrypting files.
  - According to the report, a technique called **stenography** is used which can **hide malicious code inside a file** that appears normal and allow hackers to **bypass security software and firewalls**.

## Way Forward

- Real-time intelligence is required for preventing and containing cyber attacks. To achieve that, India needs to secure its computing environment and the Internet of Things (IoT) with current tools, patches, updates and best-known methods in a timely manner.

## Microbial Fuel Cells

Recently, at a London Zoo, a fern started taking its own selfies. The Zoological Society of London (ZSL) scientists had laid the groundwork with the aim of **using plants to power camera traps and sensors in the wild**.

- This was achieved by **installing the microbial fuel cells in Pete** (a maidenhair fern).

### Microbial fuel cells

- A microbial fuel cell (MFC) is a **device** that **converts chemical energy to electrical energy** by the **action of microorganisms**.
- It is a bio-electrochemical system that uses bacteria as the catalyst to oxidize organic and inorganic matter, and consequently, generate electric current out of it.
  - **Plants naturally deposit biomatter** as they grow which in turn feeds the natural bacteria present in the soil. This **creates energy that can be harnessed by fuel cells**.
- It has **applications** in various fields such as power generation systems, bio-recovery, waste-water treatment, etc.

## Edge Computing

Edge computing is defined as the **deployment of data-handling activities** from **centralized and always-connected network segments** (like Dropbox, Gmail, etc.) and toward individual sources of data capture, such as endpoints like laptops, tablets.

- It is an **extension of cloud computing**, and differs in terms of time taken in processing the information. The data is analysed locally, closer to where it is stored, in real-time without latency.

### Advantages of Edge Computing

- Edge computing allows for **quicker data processing** and content delivery while streaming a video.

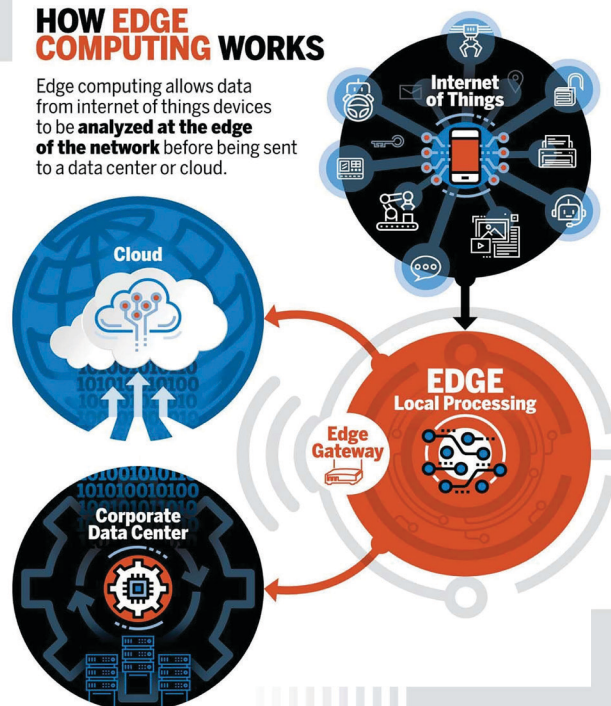
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## HOW EDGE COMPUTING WORKS

Edge computing allows data from internet of things devices to be **analyzed at the edge of the network** before being sent to a data center or cloud.



- **Future Technology** like 5G wireless technology and artificial intelligence enable faster response times, lower latency (delay), and simplified maintenance in computing.
- It is preferred over cloud computing in remote locations, as this works with **local storage**, similar to a mini data centre.
- An edge computing network **reduces the amount of data** that travels over the network which makes it **data efficient**.

### Cloud Computing

- It is the delivery of different services through the Internet. These resources include tools and applications like data storage, servers, databases, networking, and software.
- Cloud-based storage saves files on a remote database. As long as an electronic device has access to the web, it has access to the data and the software programs to run it.

## World Polio Day

World Polio Day was established by **Rotary International** on **24<sup>th</sup> October** to celebrate the **birth of Jonas Salk**, who developed a vaccine against poliomyelitis.

- The establishment of the **Global Polio Eradication Initiative (GPEI)** in **1988** reduced polio worldwide by **99%**.
- **World Polio Day (2019)** marked a milestone in polio eradication as the independent Global Commission for the Certification of Poliomyelitis Eradication (GCC) has declared Wild Polio Virus type 3 to be globally eradicated.
  - It follows the eradication of **smallpox** and **wild poliovirus type 2**.

### Wild Polio Virus type 3

- There are **three** individual and immunologically distinct wild poliovirus strains: **Wild Polio Virus type 1 (WPV1)**, **Wild Polio Virus type 2 (WPV2)** and **Wild Polio Virus type 3 (WPV3)**.
- Symptomatically, all **three strains are identical but there are genetic and virological differences**, which makes these three strains three separate viruses that must each be eradicated individually.
- **WPV2 and WPV3 have been eradicated globally but WPV1 remains in circulation** in just two countries namely, **Afghanistan and Pakistan**.

### Polio

- Polio is a crippling and potentially **fatal viral infectious** disease.
- There is **no cure**, but can be prevented through **immunization**.
- The strategy to eradicate polio is therefore based on preventing infection by immunizing every child until transmission stops.
- There are two types of vaccines to prevent infection.
  - **OPV (Oral Polio Vaccine)**: It is given orally as a birth dose for institutional deliveries, then primary three doses at 6, 10 & 14 weeks and one booster dose at 16-24 months of age.
  - **Injectable Polio Vaccine (IPV)**: It is introduced as an additional dose along with the 3rd dose of DPT under the universal immunization programme (UIP).
- **India received polio-free certification** by the **World Health Organisation (WHO)** in **2014**.
  - **Eradication of a disease** refers to the complete and permanent worldwide reduction to zero new cases of an infectious disease through deliberate efforts. If a disease has been eradicated, no

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further control measures are required. For eg-smallpox has been eradicated.

- However, **elimination of a disease** refers to reduction to zero (or a very low defined target rate) of new cases of an infectious disease in a defined geographical area. Elimination requires continued measures to prevent re-establishment of disease transmission. Yaws and Leprosy have been eliminated from India.

## Guidelines for Evaluation of Nanopharmaceuticals in India

Recently, the Government of India released “**Guidelines for Evaluation of Nanopharmaceuticals in India**”.

- There are **no internationally accepted uniform guidelines for nano-pharmaceuticals**.
- It takes into account the **physical, chemical and biological characteristics** of the **nano-material used and the product**, and the indication for which the product is intended to be used and other related aspects.

### Nanopharmaceuticals

- Nanopharmaceuticals is defined as a **pharmaceutical preparation containing nanomaterials** intended for internal use or external application on a human for the purpose of therapeutics, diagnostics and health benefits.
  - The **nanomaterial** is defined as material having a **particle size in the range of 1 to 100 nm in at least one dimension**.
- **Nano-formulations are not entirely new drugs** but medicines that have **better quality** because of the technology-led delivery mechanisms that are used to make its administration in the body more effective.

### Nanopharmaceuticals Guidelines

- These guidelines have been developed in line with the provisions of **Schedule Y of Drugs and Cosmetics Rules, 1945** as well as **Second Schedule of the New Drugs and Clinical Trials Rules, 2019** with specific requirements for nanopharmaceuticals.
- The guidelines include:

- The **nano-size range** should be declared in the **product specification**.
- The detailed methods of the **manufacturing process** and the **impact of nanomaterial waste disposal** on the environment should also be declared.
- The added **advantage and possible disadvantage of nanopharmaceuticals** in comparison to conventional/traditional drug/API should be clearly stated on the products.
  - However, **Nanocarrier based targeted drug delivery** and nanoformulations have **higher efficacy, lower toxicity** and are **safer than the conventional drugs**.
  - A Nanocarrier is a nanomaterial being used as a transport module for another substance like a drug.
- The stability testing for **Nanoformulations** should focus on **functionality, integrity, size range of nanopharmaceuticals**.
- It will cover nanopharmaceuticals in the form of **finished formulation as well as Active Pharmaceutical Ingredient (API)** of a new molecule or an already approved molecule with altered nanoscale dimensions, properties.
  - It also covers the phenomenon associated with the application of nanotechnology intended to be used for treatment, in vivo diagnosis, mitigation, cure or prevention of diseases and disorders in humans.

### Advantages of Guidelines

- Indian researchers and industry would be facilitated to undertake research in nanopharmaceuticals product development and commercialization.
- The guidelines will pave the way for significant benefits through such cutting edge technology and contribute to the mission of “Affordable Health Care for All”.

## Artificial Leaf For Clean Gas

Scientists have developed an ‘**artificial leaf**’ device that uses sunlight to produce a **syngas** currently made from fossil fuels.

- It is a **carbon-neutral device** and could be used to create a sustainable liquid fuel alternative to petrol.

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- Unlike the current industrial processes for producing syngas, the leaf does not release any additional carbon dioxide into the atmosphere.
  - **Syngas (Synthesis Gas)** is currently made from a **mixture of hydrogen and carbon monoxide** and is used to produce fuels, pharmaceuticals, plastics, and fertilizers.
  - The syngas is produced by **gasification of a carbon-containing fuel** to a gaseous product that has some heating value.
  - The general raw materials used for gasification (creation of syngas) are coal, petroleum-based materials, etc.
- The name syngas is derived from the use as an intermediate in generating **synthetic natural gas** and to create ammonia or methanol. It is a gas that can be **used to synthesize other chemicals**, hence the name synthesis gas, which was shortened to syngas.
  - Rather than running on fossil fuels, the artificial leaf is powered by sunlight.
  - The device is inspired by photosynthesis—the natural process by which plants use the energy from sunlight to turn carbon dioxide into food.



Note:

# Environment and Ecology

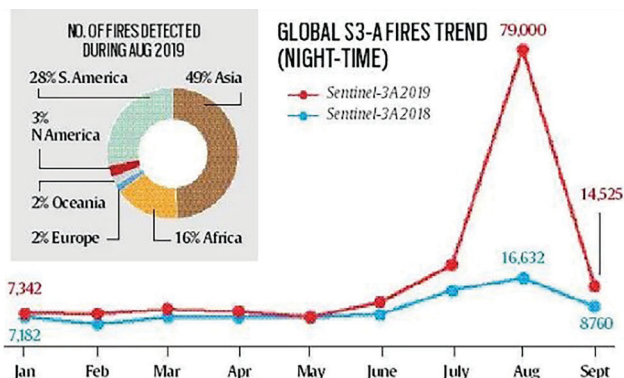
## Highlights

- *Wildfires*
- *Mountain Streams Emits Carbon Dioxide*
- *Asiatic Water Buffalo*
- *First Snow Leopard Survey*
- *Tasmanian Tiger*
- *Indian Ocean Dipole (IOD)*
- *SAFAR*

## Wildfires

As per the latest data from **Sentinel-3 World Fire Atlas** there were almost five times as many **wildfires** across the world in August 2019 compared to August 2018.

- There were 79,000 fires in August 2019 as compared to just over 16,000 fires detected in August 2018.
  - 49% (nearly half) of the fires were detected in Asia, around 28% were detected in South America, 16% in Africa, and the remaining were recorded in North America, Europe and Oceania.
  - It is to be noted that August and September 2019 were the months which witnessed fires in the **Amazon rainforest**.



## Sentinel-3 World Fire Atlas

- The **Sentinel-3 World Fires Atlas** Prototype product has been developed by the **European Space Agency (ESA)**.
  - Sentinel-3 is a multi-instrument mission to measure sea-surface topography, sea and land-surface temperature, ocean-colour and land colour with high-end accuracy and reliability.

- It is based on a constellation of two satellites: Sentinel-3A and Sentinel-3B.
- The mission is part of the European Commission Copernicus Programme for Earth Observation.

## Mountain Streams Emits Carbon Dioxide

Recently the first large-scale study of the **carbon dioxide emissions from mountain streams, and their role in global carbon fluxes** has been released.

- Mountains cover **25%** of the Earth's surface, but the streams make up just 5% of the global surface area of the fluvial networks.
- The emissions from mountains form a **major part** of the **Global Carbon Cycle**.
- The study specifically focused on their hydrologic and geomorphologic properties as well as the soil organic carbon content within the catchments of the mountainous region.

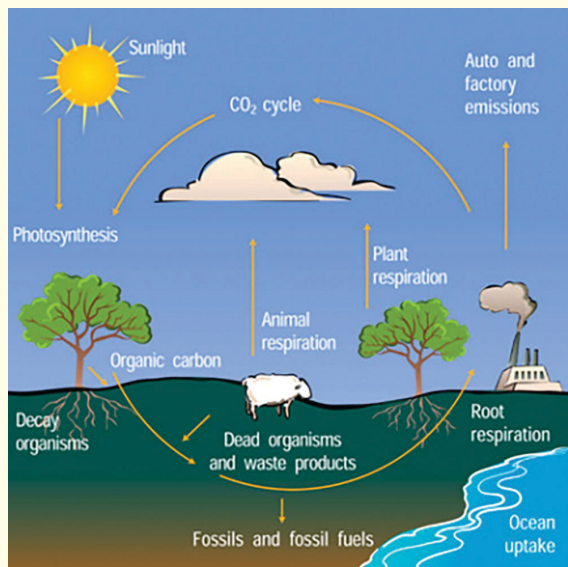
## Findings of the Study

- Researchers found that these streams have a **higher average CO<sub>2</sub> emission rate per square meter** than streams at lower altitudes, due to the **additional turbulence** caused as **water flows down the mountain slopes**.
- The **gas exchange velocities** across the **air-water interface** in mountain streams occurs **100 times faster** than regular flow.
- The findings seem to indicate that the **CO<sub>2</sub> comes from geological sources** as carbonate rock dominates geology in numerous regions around the world.

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### Global Carbon Cycle

- It refers to the exchanges of carbon within and between four major reservoirs: the atmosphere, the oceans, land, and fossil fuels.
- Carbon may be transferred from one reservoir to another in seconds (e.g., the fixation of atmospheric CO<sub>2</sub> into sugar through photosynthesis) or over millennia (e.g., the accumulation of fossil carbon like coal, oil, gas through deposition of organic matter).



## Asiatic Water Buffalo

Recently, due to anthrax, two Asiatic Water Buffaloes died in the Pobitora Wildlife Sanctuary.

- The Asiatic Wild Water Buffalo, scientifically known as **Bubalus Arnee**, is known to be found in the Central Indian Forests and is mostly restricted to the states of **Assam, Arunachal Pradesh and Madhya Pradesh**.
  - It has been recently found in the forests of Maharashtra after which the Maharashtra Government declared the Kolamarka forest area as a conservation reserve for the Asiatic Wild Buffalo.
- Asiatic buffalo has the **widest horn span among all bovids** found globally. The wild buffalo is mainly found in the alluvial grasslands, marshes, swamps and river valleys.
- The Asiatic wild buffaloes are of **enormous economic significance** as they are the direct ancestors of all the breeds of the domestic buffaloes.

- Their **population has decreased** at an alarming rate because of various reasons such as poaching, loss of habitat and breeding with domestic buffaloes.
- **Protection Status**
  - It has been listed as an **endangered species** by the **International Union for Conservation of Nature (IUCN)**.
  - It is listed under **Schedule-1** of the **Wild Life (Protection) Act, 1972**.
  - It is included in **CITES Appendix-III** and is legally protected in Bhutan, India, Nepal, and Thailand.

### Pobitora Wildlife Sanctuary

- **Pobitora Wildlife Sanctuary** has the **highest density of one-horned rhinos** in the world and **second highest concentration** in Assam after **Kaziranga National Park**.
  - It is often called '**Mini Kaziranga**' due to similar landscape and vegetation.
- The wildlife sanctuary is home to endangered one-horned rhinoceros and the other mammals such as Leopard, Leopard cat, Fishing cat, Jungle cat, Feral Buffalo, Wild pigs, Chinese pangolins, etc.
- There are **5 national parks in Assam** namely:
  - Dibru-Saikhowa National Park,
  - Kaziranga National Park,
  - Manas National Park,
  - Nameri National Park,
  - Rajiv Gandhi Orang National Park.

### Anthrax

- It is a serious infectious disease that is **caused by a bacteria** known as *Bacillus anthracis*.
- Although it is rare but it can **sometimes become fatal for humans** if they get infected with anthrax when they come in contact with infected animals or contaminated animal products.
- It is characterized by **symptoms** like blisters on the skin, chest pain, vomiting, diarrhea, and fever.

## First Snow Leopard Survey

The Government of India has launched the **First National Protocol on Snow Leopard Population Assessment**, to mark the occasion of **International Snow Leopard Day (23<sup>rd</sup> October)**.

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- The **first National Snow Leopard Survey of the nation** has been developed by scientific experts in association with the **Snow Leopard States/UTs** namely, **Ladakh, Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh.**
- The occasion also marked the inaugural session of the **4<sup>th</sup> steering committee meeting of the Global Snow Leopard & Ecosystem Protection (GSLEP) Program.**
  - The GSLEP is a **high-level inter-governmental alliance** of all the 12 snow leopard range countries.
    - The snow leopard countries are: **India, Nepal, Bhutan, China, Mongolia, Russia, Pakistan, Afghanistan, Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan.**
  - It majorly focuses on the need for **awareness and understanding of the value of Snow Leopard for the ecosystem.**
  - The GSLEP Program (2019) is being organized by the **Ministry of Environment, Forest and Climate Change at New Delhi.**
  - Currently, the Steering Committee meeting of GSLEP **chaired by Nepal and co-chaired by Kyrgyzstan.**



### Snow Leopard

- The snow leopard inhabits the **higher Himalayan and trans-Himalayan landscape** in the **five states of Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh.**
  - This area contributes to about 5% of the global snow leopard range.
- Snow leopards are categorized as **'Vulnerable'** by **IUCN** and in the **Schedule I** of the **Indian Wildlife (Protection) Act 1972.**
- They are listed in **Appendix I** of the **Convention on International Trade in Endangered Species (CITES)** and the **Convention on Migratory Species (CMS)**, revealing the need for the highest conservation status to the species, both globally and in India.
- **Other conservation efforts** launched by India are:
  - **Project Snow Leopard (PSL):** It promotes an inclusive and participatory approach to conservation that fully involves local communities.

- **SECURE Himalaya** is a **Global Environment Facility (GEF) – United Nations Development Programme (UNDP)** funded project on conservation of high altitude biodiversity and reducing the dependency of local communities on the natural ecosystem. This project is now operational in four **snow leopard range states**, namely, **Jammu and Kashmir, Himachal Pradesh, Uttarakhand, and Sikkim.**

### Convention on the Conservation of Migratory Species of Wild Animals (CMS)

- It is an environmental treaty under the aegis of the **United Nations Environment Programme.** It is also referred to as the **Bonn Convention.**
- It is the **only global convention** specializing in the **conservation of migratory species, their habitats and migration routes.**
- India has been a **party to the CMS since 1983.**

### CITES

- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an **international** agreement.
- It is **legally binding** on state parties to the convention, which are obliged to adopt their own domestic legislation to implement its goals.
- The CITES Secretariat is **administered by UNEP** and is located at Geneva, Switzerland.

### Global Environment Fund (GEF)

- It is a private equity fund focused on seeking long term financial returns by investments in clean energy under climate change.

## Tasmanian Tiger

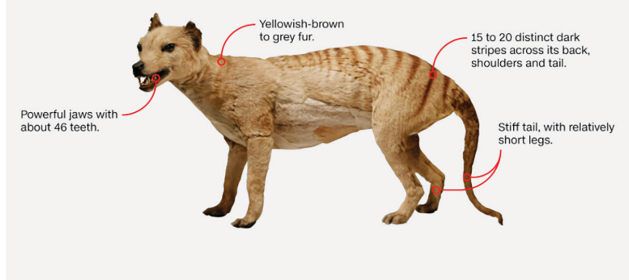
**Tasmania's** Department of Primary Industries, Parks, Water and Environment (**DPIPWE**) has **released a document** detailing eight reported sightings of the **Tasmanian tiger, or thylacine**, in the last three years.

- The Tasmanian tiger, or thylacine (**a dog headed pouched dog**) is an exclusively **carnivorous marsupial** that is considered to be extinct (as per the IUCN status).
- Thylacine, once, was widespread over continental Australia, extending North to New Guinea and south to **Tasmania (an Island state of Australia).**
- However, it was confined to Tasmania in recent times and disappeared from mainland Australia over 2000

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### What is a Tasmanian tiger?

The thylacine, or Tasmanian tiger, is a large carnivorous marsupial believed extinct for more than 80 years.

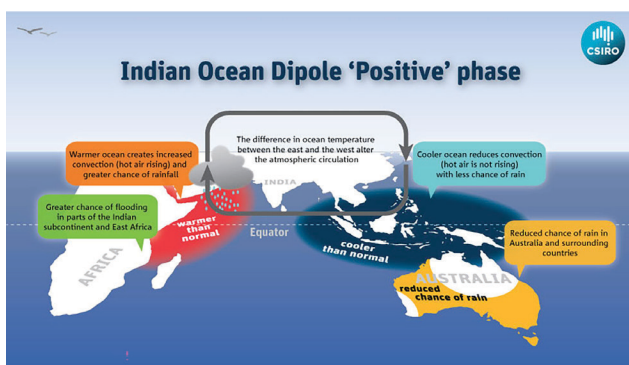


years ago, mainly because of **over-hunting** by humans, **diseases** and **competition from the Dingo (Canis lupus)**, a wild dog native to Australia.

- It is **also known as the Tasmanian Wolf** and bears some **resemblance to a dog**, with its distinguishing features being the dark stripes beginning at the rear of its body and extending into its stiff tail and abdominal pouch.

## Indian Ocean Dipole (IOD)

- It is an **atmosphere-ocean coupled phenomenon** in the tropical Indian Ocean (like the El Nino is in the tropical Pacific), characterised by a **difference in Sea-Surface Temperatures (SSTs)**.



- A **'positive IOD'** — or simply **'IOD'** — is associated with **cooler than normal SSTs in the eastern equatorial Indian Ocean** and **warmer than normal SSTs in the western tropical Indian Ocean**.
- The **opposite phenomenon** is called a **'negative IOD'**, and is characterised by warmer than normal SSTs in

the eastern equatorial Indian Ocean and cooler than normal SSTs in the western tropical Indian Ocean.

- It has been seen that **positive IOD year sees more than normal rainfall over central India**.

## SAFAR

The **System of Air Quality and Weather Forecasting And Research (SAFAR)** is a national initiative introduced by the **Ministry of Earth Sciences (MoES)**.

- It **measures the air quality** of a metropolitan city, by measuring the overall pollution level and the location-specific air quality of the city.
- The system is **indigenously developed** by the **Indian Institute of Tropical Meteorology (IITM), Pune** and is operationalized by the **India Meteorological Department (IMD)**.
- SAFAR is an **integral part of India's first Air Quality Early Warning System operational in Delhi**.
  - It monitors all weather parameters like temperature, rainfall, humidity, wind speed, and wind direction, UV radiation, and solar radiation.
  - **Pollutants monitored:** PM2.5, PM10, Ozone, Carbon Monoxide (CO), Nitrogen Oxides (NOx), Sulfur Dioxide (SO2), Benzene, Toluene, Xylene, and Mercury.
- The **World Meteorological Organization** has recognized SAFAR as a "prototype activity" on the basis of the high-quality control and standards maintained in its implementation.

### Air Quality Index (AQI)

- The AQI is an index for reporting daily air quality.
- It focuses on health effects one might experience within a few hours or days after breathing polluted air.
- AQI is calculated for eight major air pollutants: Ground-level ozone, PM10, PM2.5, Carbon monoxide, Sulfur dioxide, Nitrogen dioxide, Ammonia, Lead.
- Ground-level ozone and airborne particles are the two pollutants that pose the greatest threat to human health in India.

Note:

# Art & Culture

## Highlights

- Lakshmi Narasimha Temple: Hoysala Architecture
- Rangdum Monastery
- Assamese Bhaona
- Hori Habba
- Goura Gouri Festival
- Excavation Sites of Sangam Age
- 76th Anniversary of Azad Hind Government
- Petta Thullal

## Lakshmi Narasimha Temple: Hoysala Architecture

- The 13<sup>th</sup> century Lakshmi Narasimha temple in Bhadravati (Karnataka) is being renovated.



### About Lakshmi Narsimha Temple

- The temple was built during **Hoysala rule** in the **early 13<sup>th</sup> century**.
- It is built in '**Trikuta**' style, that is, having **three shrines** dedicated to Lakshmi Narasimha, Venugopalaswamy and Purushothama.
- The outer walls of the temple bear **great detailed carvings** in Hoysala style.
- The **concrete flooring on the platform**, also called **jagati**, is used by devotees as pradakshina path (passageway for circumambulation).

### About Hoysala Architecture

- Hoysala architecture is the building style developed under the rule of the Hoysala Empire between the **11<sup>th</sup> and 14<sup>th</sup> centuries**, mostly **concentrated in southern Karnataka**.



- **Hoysala** temples are sometimes called **hybrid or vesara** as their unique style seems **neither completely Dravida nor Nagara**, but somewhere in between.
- The Hoysala temples, instead of consisting of a simple inner chamber with its pillared hall, contain multiple shrines grouped around a central pillared hall and laid out in the shape of an intricately-designed star.
- The most characteristic feature of these temples is that they grow **extremely complex** with so many projecting angles emerging from the previously straightforward square temple, that the plan of these temples starts looking like a **star**, and is thus known as a **stellate-plan**.
- Since they are made out of **soapstone** which is a relatively soft stone, the artists were able to carve their sculptures intricately. This can be seen particularly in the jewellery of the gods that adorn the temple walls.
- They are easily distinguishable from other medieval temples by their highly original star-like ground-plans and a profusion of decorative carvings.
- Some of the famous temples are: **Hoysaleswara temple** (Lord of the Hoysalas) at **Halebid in Karnataka** that was built in dark schist stone by the Hoysala king

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in 1150, **Chennakeshava temple** in Somnathpura, Karnataka built around AD 1268 under Narasimha III, **Kesava temple** at Belur in Hassan district of Karnataka built by Vishnuvardhana.

## Rangdum Monastery

The Archaeological Survey of India (ASI) is planning to declare the **Rangdum Monastery** located in Ladakh (Kargil district) as a **monument of national importance**.

- The move aims to look into the opportunities for expansion of tourism in the Ladakh region in the backdrop of the decision to **split Jammu and Kashmir into two Union Territories**.
- Rangdum Monastery is the 18<sup>th</sup> century built monastery that is situated at an altitude of 4,031 meters at the head of the Suru Valley, in Ladakh.
  - Suru Valley is drained by the Suru River which is a tributary of the Indus River.
- Rangdum Monastery is a Tibetan Buddhist monastery belonging to the Gelugpa sect.

### Archaeological Survey of India (ASI)

- ASI is the **premier organization** for the archaeological research, scientific analysis, excavation of archaeological sites, conservation and preservation of protected monuments.
- It is an attached office under the Department of Culture, **Ministry of Culture**.
- ASI was founded in 1861 by Alexander Cunningham- the first Director-General of ASI.

## Assamese Bhaona

Recently, Bhaona performers from Assam made a foreign debut in Abu Dhabi.

- Bhaona is a **traditional** form of entertainment.
  - A Bhaona involves dialogues, songs, and dances.
  - It usually involves 40-50 performers wearing costumes and ornaments including those playing heavy drums and cymbals.
  - The **actors who perform** it are known as **Bhaoriya**.
- It was the creation of **Sankardeva** (a **Vaishnava saint** born in 1449 A.D in Nagaon district of Assam. He started the neo-Vaishnavite movement).

- **Initially**, he wrote his prose in **Sanskrit** but **later** used **Assamese and Brajavali** (a literary language limited to theatrical usage, in which Sankardeva wrote his songs and plays) to develop the following artforms:

- **Borgeet** - a new form of spiritual music,
- **Bhaona** - a mythology-based theatrical performance, and
- **Sattriya** - a classical dance form which acts as a medium for propagation of the Vaishnava faith.

## Hori Habba

'Hori Habba', is a popular **bull-catching** event in Karnataka.

- It is held during the **harvest season**. It is an ancient folk game native to Haveri district, and played on the lines of **Jallikattu** in **Tamil Nadu** and **Kambala** in **Dakshina Kannada** district.
- The government has not been allowing these **traditional games** to be played following a **ban on such sports** by the Supreme Court in **2017**.

## Goura Gouri Festival

Goura - Gauri festival celebrates the **pastoral life of the people of Chhattisgarh**.

- The gathering sees the rituals of '**gedi**', '**raut nacha**' and '**panthi nritya**' in the traditional attire.
  - **Gedi** is a form of dance of the **Gond people**, who are spread widely throughout **Madhya Pradesh** and **Chhattisgarh**, and is one of India's prominent tribal groups.
    - Gedi is a **pair of bamboo stilts with footrests**. The dancers strike the stilts on the ground to produce simple rhythmic beats.
  - **Raut Nacha** is a traditional dance of the **Yadav community**. In this dance, the Rauts, wearing a special costume, sing and dance in a group with sticks in their hands in the pathways of the village.
  - **Panthi Nritya** is performed by **Satnami community of Chhattisgarh**. Songs related to dance depicts the importance of human life with strong spiritual messages with prime focus on omnipotent devotion.
- **Surti, Hareli, Pola and Teeja** are some other festivals of the state.

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## Excavation Sites of Sangam Age

The Archaeological Survey of India (ASI) has approved Tamil Nadu's request to continue **excavations at four locations including Keeladi**.

- This development is expected to bridge the 1000 year gap in history between the Sangam Age and the **Indus Valley civilization**.
- The excavation will be undertaken at the following sites:
  - **Keeladi:**
    - Located in Sivaganga district on the banks of **river Vaigai**.
    - It is an **urban settlement** of the **Sangam Age**.
    - The recent excavations at Keeladi artifacts are **300 years older than previously believed — 3<sup>rd</sup> century BCE**.
      1. **The second urbanization** (the first being Indus Valley Civilization) of **Vaigai plains** happened in **Tamil Nadu around the 6<sup>th</sup> century BCE**.
      2. The second urbanisation of Vaigai plains was **contemporary of the Iron Age in Gangetic plains** and this was also the period of the **rise of various Heterodox sects**.
      3. The society in Keeladi had **used animals predominantly for agricultural purposes**.
  - **Kodumanal**
    - It is a village located in **Erode district, Tamil Nadu**.
    - It was a flourishing ancient trade city, known as **Kodumanam** (as inscribed in Pathitru Pathu of Sangam Literature).
    - It is located on the northern banks of **Noyyal River (a tributary of the Cauvery)**.
  - **Sivagalai**
    - It is a village in the Tuticorin district, **Tamil Nadu**.
    - It was once known as '**Small Ceylon**' by Britishers.
    - Evidence of **megalithic** archaeological remains was found here in 2018.
  - **Adichanallur**
    - It is located in Thoothukudi district, **Tamil Nadu**.
    - In 2004, iron-age (1500 BC to 500 BC) burial sites were unearthed by ASI from here.

### Sangam Age

- The word 'Sangam' is the Tamil form of the Sanskrit word 'Sangha' which means a group of persons or an association.
- The Sangam literature was largely consolidated from the third Sangam and provides information on conditions of life of people around the beginning of the Christian era.
- The Age of the Sangam refers to the age to which Sangam literature belonged.

### Vaigai River

- It is an east-flowing river.
- The Vaigai river basin is an important basin among the 12 basins lying between the Cauvery and Kanyakumari.
- This basin is bounded by the Cardamom Hills and the Palani Hills on the West and by the Palk Strait and Palk Bay on the East.

### Indus Valley Civilisation

- It flourished around **2,500 BC**, in the **western part of South Asia**, in **contemporary Pakistan and Western India**.
- The Indus Valley was home to the largest of the four ancient urban civilizations of Egypt, Mesopotamia, India, and China.
- In the 1920s, the Archaeological Department of India carried out excavations in the Indus valley wherein the ruins of the two old cities, viz. Mohenjodaro and Harappa were unearthed.

## 76<sup>th</sup> Anniversary of Azad Hind Government

The 76<sup>th</sup> anniversary of the formation of the Azad Hind Government was celebrated on **21<sup>st</sup> October, 2019**, at the Red Fort, Delhi.

### Azad Hind Government

- On **21<sup>st</sup> October 1943**, **Subhash Chandra Bose** announced the **formation of the Provisional Government of Azad Hind (Free India) in Singapore**, with himself as the Head of State, Prime Minister and Minister of War.
- The Provisional Government not only enabled Bose to negotiate with the Japanese on an equal footing

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but also facilitated the mobilisation of Indians in East Asia to join and support the **Indian National Army (INA)**.

- The struggle for independence was carried on by Subhash Chandra Bose from abroad. He found the outbreak of the Second World War to be a convenient opportunity to strike a blow for the freedom of India.
- Bose had been put **under house arrest in 1940** but he managed to **escape to Berlin on March 28, 1941**. The Indian community there **acclaimed him as the leader (Netaji)**. He was greeted with 'Jai Hind' (Salute to the motherland).
- In **1942**, the **Indian Independence League** was formed and a decision was taken to form the Indian National Army (INA) for the liberation of India.
- On an invitation from Ras Bihari Bose, **Subhash**

**Chandra Bose** came to East Asia on **June 13, 1943**. He was made president of the Indian Independence League and the **leader of the INA popularly called 'Azad Hind Fauj'**.

- He gave the famous battle cry '**Dilli Chalo**'. He promised independence to Indians saying, '**tum mujhe khoon do, main tumhe Azadi dunga**' (You give me blood, I will give you freedom).

## Petta Thullal

- Petta Thullal is the **ritualistic sacred dance** to celebrate the victory of good over evil in the legend of **Lord Ayyappa** who killed the demon princess Mahish.
- It denotes the beginning of the last leg of the annual **Sabarimala pilgrimage season in Kerala**.



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# Social Issues

## Highlights

- National Health Profile 2019
- National Symposium on Lymphatic Filariasis
- Draft Notification for Medical Implants
- PM National Dialysis Programme
- Mission Indradhanush
- Union World Conference on Lung Health
- Global Tuberculosis Report 2019: WHO
- Global Hunger Index-2019
- State of the World's Children Report 2019

## National Health Profile 2019

The **14<sup>th</sup> edition** of National Health Profile and its e-book (digital version) has been released by the **Central Bureau of Health Intelligence (CBHI)**.

- **CBHI** has been publishing the **National Health Profile (NHP)** since **2005** and its **digital version** since **2015**.
- The objective of this publication is to create a versatile database of health information of India and making it available to all stakeholders in the healthcare sector.
- The **NHP highlights** substantial health information under **major indicators** viz.
  - **Demographic indicators:** population and vital statistics.
  - **Socio-economic indicators:** education, employment, housing and amenities, drinking water and sanitation.
  - **Health status indicators:** incidence and prevalence of common communicable and non-communicable diseases.
  - **Health finance indicators:** health insurance and expenditure on health.
  - **Health infrastructure:** details of Medical and Dental Colleges, AYUSH Institutes, Nursing Courses, and Paramedical Courses

### Key Findings

- **Life Expectancy:**
  - Life expectancy in India has **increased** from 49.7 years in 1970-75 to 68.7 years in 2012-16. For females it is 70.2 years and 67.4 years for males.
    - Life expectancy refers to the number of years a person is expected to live based on the statistical average.

### ➤ Infant Mortality Rate (IMR):

- The IMR has **declined** considerably (33 per 1,000 live births in 2016), however, differentials of rural (37) & urban (23) are **still high**.
  - The infant mortality rate is the number of deaths under one year of age occurring among the live births in a given geographical area during a given year per 1,000 live births.

### ➤ Population Growth Rate:

- There has been a consistent **decline in the birth rate (20.2), the death rate (6.3) and the natural growth rate (13.9)** in India from 1991 to 2017.
  - The number of live births per thousand of the population per year is termed as **birth rate**.
  - The number of deaths per year per thousand of the population in a given area is termed as the **death rate**.
  - The difference between the number of live births and the number of deaths occurring in a year, divided by the mid-year population of that year, multiplied by a factor (usually 1,000) is termed as **Natural Growth Rate**.

### ➤ Demographics:

- It found the **high incidence of the young** and economically active population.
  - It reports that 27% of the population below 14 years, 64.7% in the age group of 15-59 and 8.5% above 60 years.

### ➤ Total Fertility Rate (TFR):

- NHP reports TFR of 2.3 for the country where it is 2.5 for rural areas and 1.8 for urban areas.
  - TFR measures the number of children born to a woman at the end of the childbearing age.

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**Central Bureau of Health Intelligence (CBHI)**

- Central Bureau of Health Intelligence (CBHI) was established in **1961** under the Directorate General of Health Services with the vision to have **"A strong Health Management Information System (HMIS) in the entire country"**.

## National Symposium on Lymphatic Filariasis

A National Symposium on the theme **'United to Eliminate Lymphatic Filariasis'** was inaugurated recently.

- The Indian government has also signed the **'Call to Action to eliminate Lymphatic Filariasis by 2021'**.

**Lymphatic Filariasis**

- Lymphatic filariasis, commonly known as **elephantiasis** and is considered a **neglected tropical disease**.
- It **impairs** the lymphatic system and can lead to the **abnormal enlargement of body parts**, causing pain, severe disability, and social stigma.
- Lymphatic filariasis is a **vector-borne disease**, caused by infection with parasites classified as nematodes (roundworms) of the family Filariodidea.

**India's Initiative**

- The Government launched the **Accelerated Plan for Elimination of Lymphatic Filariasis (APELF) in 2018**, as part of intensifying efforts towards its elimination.
- It has adopted a **twin pillar strategy** - prevention through Mass Drug Administration (MDA) using a combination of 2 anti-filarial drugs (DEC and Albendazole) and providing Morbidity Management and Disability Prevention (MMDP) services to those affected by the disease.
- The government is ready to scale-up the use of **Triple Drug Therapy (IDA)** in a phased manner starting from December 2019.

**Global Programme to Eliminate Lymphatic Filariasis (GPELF)**

- The **World Health Organisation (WHO)** launched its Global Programme to Eliminate Lymphatic Filariasis (GPELF) in 2000.
- In 2012, the WHO neglected tropical diseases roadmap reconfirmed the target date for achieving elimination by 2020.

- The GPELF aims to provide access to a minimum package of care for every person with associated chronic manifestations of lymphatic filariasis in all areas where the disease is present, thus alleviating suffering and promoting improvement in their quality of life.

## Draft Notification for Medical Implants

A draft notification, issued by the Ministry of Health and Family Welfare, has **proposed** to bring **"all devices" used for medical application, under the purview of Drugs and Cosmetics Act, 1940**. This will make "all devices" to be termed as "drugs".

- All devices will include medical instruments, apparatus, appliance, implant, material or other article, whether used alone or in combination, including software or an accessory, especially for human beings or animals.
- Manufacturers and importers of most of these devices will have at least 1.5 years to voluntarily register with the Central Drugs Standard Control Organisation.

**The Rationale Behind the Draft Notification**

- Defective implants can cause crippling pain and even death. For ex., Johnson and Johnson's faulty hip implants.

**Johnson and Johnson's faulty hip implants case**

- In 2018, **Johnson and Johnson's hip implant called Pinnacle was found to be leaking the cobalt-chromium ions into the body**, leading to serious health complications, including metal poisoning of the blood, debilitating pain, and damage to the body organs.
- Further, Johnson and Johnson have paid compensations to US patients who had received the defective implants. However, in India, the company challenged government orders to compensate 4,700 patients who had undergone hip replacement surgeries.
- At present **in India, there are no specific legal provisions to provide compensation to patients in such cases.**

**Impact**

- If implemented, the country's drug regulator will enforce standards to ensure the safety and effectiveness of

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these products while its pricing regulator will monitor the prices.

- **Central Drugs Standard Control Organisation (CDSCO) is drug regulator** in India.
  - It applies the provisions of the Drugs and Cosmetics Act, as well as the Medical Devices Rules 2017 on all medical devices.
  - It can also punish for violations as per the Act.
- The **National Pharmaceutical Pricing Authority (NPPA)** monitor the **prices of drugs**. NPPA is an organization under Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers, set up in 1997.
- Merely expanding the scope of regulation to all devices is not enough in a moment of growing number of safety disasters involving devices. There is a pressing **need for framing of a new medical devices act**.

## PM National Dialysis Programme

Recently, the Health Ministry issued guidelines for establishing **peritoneal dialysis services** under the **Pradhan Mantri National Dialysis Programme**.

- There are two main types of dialysis namely- **Hemodialysis, and Peritoneal dialysis**.
  - Peritoneal dialysis, **people will have access to the treatment option** that could be performed at home (as in **hemodialysis**, treatment needs to be performed at a designated dialysis centre).
  - The peritoneal dialysis **avoids the substantial costs** of infrastructural set-up, maintenance, and staffing.

### PM National Dialysis Programme

- The programme was announced by the **Ministry of Health & Family Welfare** in **2016** under the **National Health Mission (NHM)** in **PPP (Public-Private Partnership) model**.
- It aims to provide **free dialysis services to the poor**.
- The **first phase** of the programme envisaged setting up of **hemodialysis centres** in all districts of the country.
- **Financing:**
  - **For Below Poverty Line (BPL) economic group:** **100% expenses** are directly covered under NHM by the government.
  - For **non-BPL patients:** They can get treated at the district hospitals by paying the same rates as paid by the government for the BPL patient.

### Dialysis

- Dialysis is a treatment that does some of the functions by healthy kidneys. It is needed when one develops an end-stage kidney failure.
- Dialysis maintains balance of body by:
  - Removing waste, salt and extra water to prevent them from building up in the body.
  - Keeping a safe level of certain chemicals in your blood, such as potassium, sodium and bicarbonate.
  - Helping to control blood pressure.

### National Health Mission

- National Health Mission (NHM) was launched by the government of India in **2013** **subsuming** the National Rural Health Mission and the National Urban Health Mission.
  - It was further extended in March 2018, to continue till March 2020.
- The NHM envisages achievement of **universal access** to equitable, affordable & quality health care services that are accountable and responsive to people's needs.

## Mission Indradhanush

The Government will launch the second phase of nationwide immunisation drive i.e. **Intensified Mission Indradhanush 2.0**, to mark the **25 years of Pulse polio programme**.

- Intensified Mission Indradhanush 2.0 aims to achieve **at least 90% pan-India immunisation coverage by 2022**.
- **Mission Indradhanush**, that was launched in **December 2014**, has **increased India's immunisation coverage** significantly **to 87% from 67%** in 2014.
- However, official data on India's immunisation coverage is still 62%, as given in the **National Family Health Survey-4** (2015-16).

### Immunization Programme in India

- Immunization Programme in India was **introduced in 1978** as 'Expanded Programme of Immunization (EPI) by the Ministry of Health and Family Welfare.
- In **1985**, the Programme was modified as '**Universal Immunization Programme (UIP)**'. The **stated objectives** of the Programme include:
  - Rapidly increasing immunization coverage.

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- Improving the quality of services.
- Establishing a reliable cold chain system to the health facility level.
- Introducing a district-wise system for monitoring of performance.
- Achieving self-sufficiency in vaccine production.
- UIP prevents mortality and morbidity in children and pregnant women against 12 vaccine preventable diseases. But in the past it was seen that the increase in immunization coverage had slowed down and it **increased at the rate of 1% per year between 2009 and 2013.**
- To accelerate the coverage, **Mission Indradhanush** was envisaged and implemented since **2015** to rapidly increase the full immunization coverage to **90%.**

### **Mission Indradhanush**

- The aim is to fully immunize more than 89 lakh children who are either unvaccinated or partially vaccinated under UIP.
- It **targets children under 2 years of age and pregnant women** for immunization.
- It provides **vaccination against 12 Vaccine-Preventable Diseases (VPD)** i.e. diphtheria, Whooping cough, tetanus, polio, tuberculosis, hepatitis B, meningitis and pneumonia, Haemophilus influenzae type B infections, Japanese encephalitis (JE), rotavirus vaccine, pneumococcal conjugate vaccine (PCV) and measles-rubella (MR).
  - However, Vaccination against Japanese Encephalitis and Haemophilus influenzae type B is being provided in selected districts of the country.
- It is a nationwide initiative with a **special focus on 201 high focus districts.** These districts accounted for nearly 50% of the total partially vaccinated or unvaccinated children in the country.
- The **rate** of increase in full **immunization coverage increased to 6.7%** per year through the first two phases of 'Mission Indradhanush'.

### **Intensified Mission Indradhanush**

- The Intensified Mission Indradhanush (IMI) was launched by the Government of India in **2017** to reach each and every child under two years of age and all those pregnant women who have been left uncovered under the routine immunisation programme.

- Under IMI, **greater focus has been given on urban areas** which was one of the gaps of Mission Indradhanush.
- The **target** under IMI was to increase the **full immunization coverage to 90% by December 2018.** However, **only 16 districts** in the country **have achieved 90% coverage so far.**
- The **Intensified Mission Indradhanush 2.0** will target the **districts which have immunisation coverage of 70% or below.**

### **Pulse Polio Immunization Programme**

- With the global initiative of eradication of **polio** in 1988 following World Health Assembly resolution in 1988, Pulse Polio Immunization programme was launched in India in the **financial year 1994-95.**
- It was started with an objective of achieving **hundred percent coverage under Oral Polio Vaccine.**
- Children in the age group of 0-5 years administered polio drops during national and sub-national immunization rounds (in high risk areas) every year.
- The **World Health Organization (WHO)** on 24<sup>th</sup> February 2012 removed India from the list of countries with active endemic wild poliovirus transmission and in 2014, **India was declared Polio free.**
- As a risk mitigation measure, the country has also introduced **Inactivated Polio Vaccine** across the country in all states.

## **Union World Conference on Lung Health**

The Vice-President of India inaugurated the **50<sup>th</sup> Union World Conference on Lung Health** at Hyderabad.

- The **theme** of the conference is '**Ending the Emergency: Science, Leadership, Action**'.
- The conference theme **resonates strongly with TB**, but it also **raises awareness** that all threats to **lung health** – TB, air pollution, tobacco and many more – are emergencies that our science, leadership, and action need to meet head-on.
- It is the **world's largest gathering of stakeholders** organized by the **International Union Against Tuberculosis (IUAT).**
  - It is being organized since **1920.**
- India provides a unique backdrop for discussions on ending **Tuberculosis (TB)** and lung disease with

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the current highest burden of TB in the world, and ambitious targets to eliminate TB by 2025.

- An agreement was also reached to lower the price of **rifapentine** (a critically important drug used to prevent tuberculosis).

#### International Union Against Tuberculosis

- International Union Against Tuberculosis (IUAT) was founded at the post-war conference, held in Paris in 1920.
- It became the first NGO to be officially recognized by WHO in 1940.
- The IUAT plays a central role in international clinical trials to determine the best ways to use the new tools for TB treatment and co-founds the TB Surveillance Research Unit.

#### Tuberculosis (TB)

- It is an infectious disease caused by the bacterium *Mycobacterium tuberculosis*. It is spread through the air from people suffering from TB.
- A single patient can infect ten or more people in one year. TB remains a major public health problem in India, with the country accounting for 26% of all TB cases reported globally.
- The Bacillus Calmette–Guérin (BCG) vaccine used for TB was developed by Albert Calmette and Camille Guérin in 1921.
- It is treatable and **curable disease**. It is treated with a standard 6 month course of 4 antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer.
- **Multidrug-resistant tuberculosis (MDR-TB)** is a form of TB caused by bacteria that **do not respond to isoniazid and rifampicin**, the 2 most powerful first-line anti-TB drugs.

## Global Tuberculosis Report 2019: WHO

The **World Health Organization (WHO)** has released its **2019 edition** of the **Global Tuberculosis (TB) Report**.

- The report provides a comprehensive and up-to-date assessment of the TB epidemic and progress in the response at global, regional and country levels for India.
- WHO has been publishing global TB report every year **since 1997**.

#### Key Findings

- **TB** remains the **top infectious killer** in the world claiming over 4,000 lives a day.
- Geographically, **most TB cases in 2018** were in the WHO regions of **South-East Asia (44%)**, Africa (24%) and the Western Pacific (18%).
- **Eight countries** that accounted for **two thirds of the global total** include **India (27%)**, China (9%) and Indonesia (8%).
- **MultiDrug Resistant TB**
  - In 2018, there were about **half a million new cases** of rifampicin-resistant TB (of which 78% had multidrug resistant TB).
  - The three countries with the **largest share** of the global burden were **India (27%)**, China (14%) and the Russian Federation (9%).
- **TB Diagnosis**
  - Globally, **7.0 million new cases of TB were notified** in 2018 – an increase from 6.4 million in 2017.
  - Most of the increase in global notifications of TB cases since 2013 is **explained by trends in India and Indonesia**, the two countries that rank first and third worldwide in terms of estimated incident cases per year.
- **Concerns**
  - There is a gap between the number of notified TB patients and the number of estimated TB patients.
  - The gap is due to a combination of **underreporting of detected cases and underdiagnosis** (i.e. people with TB do not access health care or are not diagnosed when they do).
  - **India (25%)**, Nigeria (12%), Indonesia (10%) and the Philippines (8%) account for more than half of the total gap.
- **TB Treatment Outcomes**
  - The latest treatment outcome data for new cases of TB show a global treatment **success rate of 85%** in 2017, an increase from 81% in 2016. The improvement was mainly **due to progress in India**.
- **Financing for TB Prevention**
  - Funding for the provision of TB prevention, diagnostic and treatment services has doubled since 2006.
  - **In India, domestic funding quadrupled between 2016 and 2019.**

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### ➤ Suggestions

- Access to TB care and preventive treatment needs to be expanded.
- Substantial costs faced by TB patients and their households should be mitigated.
- **Intensified research and development** is required to meet the **Sustainable Development Goals (SDGs)** and End TB Strategy targets set for 2030.
  - **SDG 3** aims to end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases by 2030.
  - The **End TB Strategy** aims to end the global TB epidemic, with targets to reduce TB deaths by 95% and to cut new cases by 90% between 2015 and 2035.

## Global Hunger Index-2019

In the recently released Global Hunger Index (GHI) Report-2019, **India** was ranked at **102<sup>nd</sup> position out of 117 countries**.

- The report is an **annual publication** that is jointly prepared by the **Concern Worldwide (an Irish agency)** and the **Welt Hunger Hilfe (a German organization)**.
- The report is based on **four indicators** namely,
  - **Undernourishment** (which reflects inadequate food availability)
  - **Child Wasting** (which reflects acute undernutrition)
  - **Child Stunting** (which reflects chronic undernutrition)

- **Child Mortality** (which reflects both inadequate nutrition and unhealthy environment)

- A **score is calculated** based on the indicators. A **low score gets a country a higher ranking** and implies a better performance.

### Key Findings

#### ➤ Sharp Decline in the Ranking

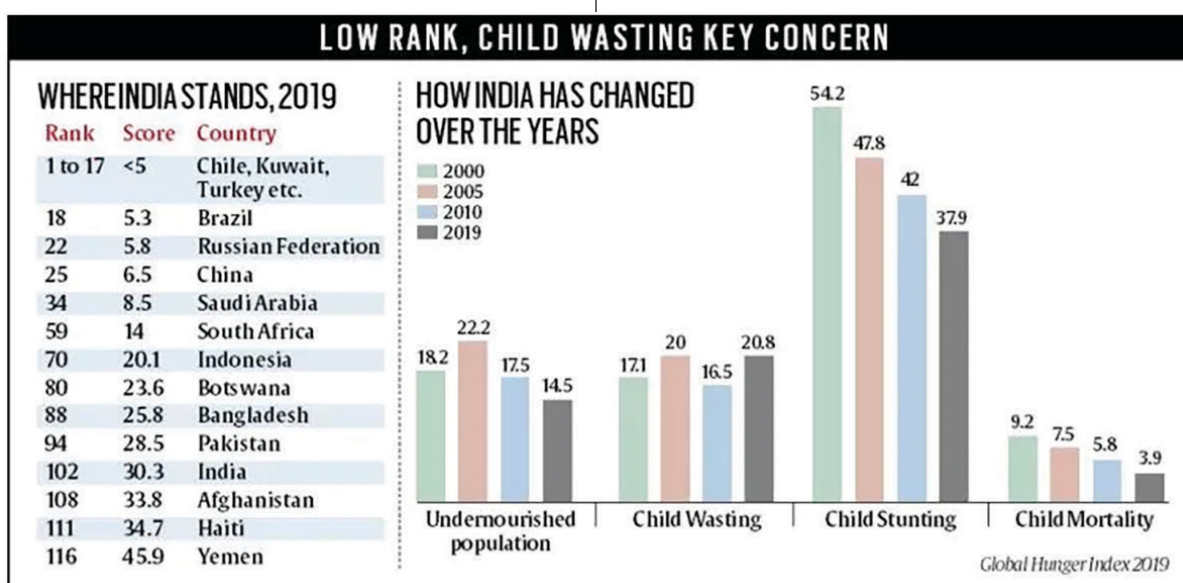
- India's rank slipped from 95th position (in 2010) to 102nd (in 2019).
- Over a longer-term duration, the fall in India's rank is sharper, i.e., from 83rd out of 113 countries in 2000 to 102nd out of 117 in 2019.

#### ➤ Comparison with Other Countries

- Among the **BRICS grouping**, **India is ranked the worst**.
- Within **South Asia**, **India is behind every other country**. Sri Lanka, Nepal, Bangladesh and Pakistan are all ahead of India.
- In stark contrast to India, which has the world's largest democracy and one of the biggest economies, most of the countries below India on the GHI — Afghanistan, Haiti or Yemen etc — are either poorly governed or war-torn or ravaged by natural calamities.

#### ➤ Child Wasting

- The share of wasting among children in India marked a steep rise from **16.5% in the 2008-2012** to **20.8% (highest for any country) in 2014-2018**.



Note:



- India is the worst among all countries on this parameter.
- **Open Defecation**
  - The report took note of open defecation in India as an impacting factor for health.
  - As of 2015–2016, 90% of Indian households used an improved drinking water source while 39% of households had no sanitation facilities.
- **Improvement**
  - India improved in **indicators** that include, **under-5 mortality rate**, prevalence of **stunting** among children, and prevalence of **undernourishment** owing to inadequate food.

## State of the World's Children Report 2019

The **United Nations Children's Fund (UNICEF)** has released its 'State of the World's Children' report for 2019.

### Key Findings

- **Malnutrition:**
  - At least 1 in 3 children under 5 is undernourished or overweight.
  - At least 1 in 2 children suffer from hidden hunger.
- **Implications:**
  - The **triple burden of malnutrition – undernutrition, hidden hunger and overweight** – threatens the survival, growth and development of children, young people, economies and nations.
  - **For example**, Iron deficiency (a form of hidden hunger) reduces children's ability to learn and increases women's risk of death during or shortly after childbirth.
- **Causes:**
  - The triple burden of malnutrition is driven by the **poor quality of children's diets**: 2 in 3 children are not fed the minimum recommended diverse diet for healthy growth and development.
  - **Globalization, urbanization, inequities, humanitarian crises and climate shocks** are driving unprecedented negative changes in the nutrition situation of children around the world.
- **Suggestions:**

- **Food environments** are crucial.
  - There is a need to empower families, children and young people to demand nutritious food.
  - Similarly, there is a need to drive food suppliers to do the right thing for children.
- **Supportive systems** – health, water and sanitation, education and social protection – should be mobilized to scale up nutrition results for all children.

### India-Specific Findings

- **Malnutrition:**
  - 35% of Indian children suffer from stunting, 17% suffer from wasting, 33% are underweight and 2% are overweight.
  - Indian children are being diagnosed with adult diseases such as hypertension, chronic kidney disease and diabetes.
  - Every second woman in the country is anaemic, as are 40.5% children.
- **In comparison with other countries:**
  - Among countries in South Asia, **India fares the worst (54%)** on the prevalence of children under five who are either stunted, wasted or overweight.
    - Afghanistan and Bangladesh follow at 49% and 46%, respectively. Sri Lanka and the Maldives are the better performing countries in the region, at 28% and 32%, respectively.
  - India also has the **highest burden of deaths** among children under five per year, with over 8 lakh deaths in 2018.
    - It is followed by Nigeria, Pakistan and the Democratic Republic of Congo, at 8.6 lakh, 4.09 lakh and 2.96 lakh deaths per year, respectively.
- **Causes:**
  - India is moving away from seasonal food as well as traditional food whereas the consumption of processed food has increased.
  - Over the decades, despite growing incomes, protein-based calories remain low and unchanged, and the calorific share of fruits and vegetables has declined.
- **Steps Appreciated:**
  - **POSHAN Abhiyaan** or the **National Nutrition Mission** is playing a major role in improving nutrition indicators across India.

Note:



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- The **Anaemia Mukht Bharat** programme to fight anaemic prevalence has been recognized as one of the best programmes implemented by governments across the world to address malnutrition.
- The **6×6×6 strategy** (six target beneficiary

groups, six interventions and six institutional mechanisms) of the programme has been highlighted for using anaemia testing and treatment as the entry point to provide information on healthy diets.



Note:

# Security

## Highlights

- National Anti-Drone Guidelines
- National Security Guard (NSG)
- EX-EASTERN BRIDGE-V
- Danx-19
- Indo-French Joint Exercise Shakti - 2019

## National Anti-Drone Guidelines

Recently, the **Ministry of Civil Aviation** has **finalized National Counter Rogue Drone Guidelines** for handling the threats from Unmanned Aircraft Systems.

- The genesis of the counter rogue drone guidelines lies in the rising number of drone-related safety incidents across the world including in India.
  - Recent incidents of the utilization of drones to target VVIPs in Venezuela and [Saudi Aramco drone attacks](#) are a stark reminder of the threat level from rogue drones.
  - India has an estimated over **6 lakh rogue or unregulated Unmanned Aerial Vehicles (UAVs)** of various sizes and capacities
- The strategic installations differ from state to state and place to place, based on their geographical condition, criticality and construction type but standard categorization would be:
  - **Full-scale model:**
    - It will work for the protection of vital assets of **critical national importance** like Rashtrapati Bhawan, Parliament House, nuclear installations, major airports, etc;
    - Counter-Unmanned Aircraft System (C-UAS) with primary and passive detection means like radar, Radio Frequency (RF) detectors, electro-optical, and infrared cameras to be installed.
  - **Mid-segment model:**
    - It will protect **installations like metro airports, oil refineries, ports, and power plants**, etc.
    - A lower level of threat mitigation techniques (compared to the full-scale model) to be installed with Counter-Unmanned Aircraft System (C-UAS).

### ○ Basic model:

- Aims to protect **state secretariats, important official premises, monuments of national importance** etc.
- The basic threat mitigation technology to be used.

- The Counter-Unmanned Aircraft System (C-UAS) includes the following modern weapons:

### ○ Sky Fence:

- It aims to block a lethal drone that uses a range of signal disruptors to jam the flight path and prevent them from entering their target, a sensitive installation or event venue.

### ○ Drone gun:

- It is capable of jamming the radio, a global positioning system (GPS) and a mobile signal between the drone and the pilot.
- Further, it forces the drone to the ground in good time before it could wreak any damage.
- Australia has already designed such kind of weapon with an effective range of 2 km.

### ○ Advanced Test High Energy Asset (ATHENA):

- It works by firing a high energy laser beam on a rogue drone resulting in its complete destruction in the air.
- It is a very costly technology and is currently being tested by the US army.

### ○ Drone Catcher:

- It swiftly approaches an enemy drone and grabs it by throwing a net around it.
- Such a tool is required when a rogue drone is needed to be captured safely to extract incriminating evidence from it.

### ○ Skywall 100:

Note:



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- It is the ground version of the 'drone catcher' and it works by bringing down a UAV using a parachute that is hurled through a net from 100 meters distance.
- In addition to the counter rogue drone deployment models, the civil aviation ministry has also suggested a set of legal procedures to handle rogue drones.
  - The legislation needs to address the **risk-based use of Counter-UAS authority and coordination** among relevant departments and agencies.
  - The law shall state a legal framework for authorized use of C-UAS systems by security agencies for protecting vital assets, safeguarding manned aviation, supporting law enforcement activities, protecting national borders and conducting operations.

#### Radio Frequency (RF)

- It refers to the electromagnetic radio waves in the range of 3 kHz to 300 GHz, as well as the alternating currents carrying the radio signals.
- This is the frequency band that is used for wireless communications transmission and broadcasting.
- The frequency band is being divided into different parts, which are then assigned to different technology industries. This is known as the radio spectrum. For example, the Very High Frequency (VHF) band, which ranges from 30-300 MHz, is being used for FM radio, TV broadcasts, and amateur radio and its counterparts.

### National Security Guard (NSG)

The **35<sup>th</sup> raising day of National Security Guard (NSG)** was observed on **15<sup>th</sup> October, 2019**.

- The NSG is a counter-terrorism unit that formally came into existence in 1986 by an act of Parliament- 'National Security Guard Act, 1986'.
- It was established **in the wake of 1984 Operation Blue Star** (an Indian military action carried out to remove militant religious leader from the Golden Temple, Amritsar), for combating terrorist activities with a view to protect states against internal disturbances.
- It operates under the **Ministry of Home Affairs** and is a task-oriented force that has two complementary elements in the form of:

- **Special Action Group (SAG)** comprising of the Army personnel - the main offensive or the strike wing of the NSG, and
- **Special Ranger Groups (SRG)** comprising of personnel drawn from the **Central Armed Police Forces/State Police Forces**. They generally handle VIP securities.
- Its motto is 'Sarvatra, Sarvottam, Suraksha'. Its personnel are popularly referred as Black Cat Commandos.
- It has been given the specific role to handle all facets of terrorism in any part of the country as a Federal Contingency Force.
- **Operations undertaken:**
  - Operation Black Thunder (Golden Temple, Amritsar, 1986 & 1988).
  - Operation Ashwamedh (Indian Airlines Flight-IC427 hijacking, India, 1993).
  - Operation Thunderbolt or Vajra Shakti (Akshardham Temple attack, Gujarat, 2002).
  - Operation Black Tornado (Mumbai Blasts, 2008).

### EX-EASTERN BRIDGE-V

EASTERN BRIDGE V is the **joint bilateral exercise** between the **air forces of India and Oman**.

- It is a **biennial exercise** that aims to enhance interoperability during mutual cooperation between the two air forces.
- The 2019 exercise took place at the Air Force Base Masirah, Oman.
- In 2017, the exercise was conducted at Jamnagar, India.
- Other Exercises Between India and Oman
  - **Naseem Al-Bahr** is the **naval exercise** conducted between both the countries.
  - **AL Nagah** is the exercise between the **armies** of two countries.

### Danx-19

**Andaman and Nicobar Command (ANC)** has conducted the **second edition of Defence of Andaman & Nicobar Islands 2019 (DANX-19)** from 14<sup>th</sup>-18<sup>th</sup> October 2019.

- Indian Army, Navy, Air Force, Coast Guard and special forces from newly formed **Armed Forces Special Operations Division (AFSOD)**, participated in the exercise.

Note:



- The exercise was carried out for mobilisation and field manoeuvres to validate defensive plans of ANC headquarters and ensuring territorial integrity of the A&N Islands.

### ***Andaman and Nicobar Command (ANC)***

- It is the **first and only Tri-Service theatre command** of the Indian Armed Forces, based at Port Blair in the Andaman and Nicobar Islands of India.
- It was **created in 2001** to safeguard India's strategic interests in Southeast Asia and the Strait of Malacca by increasing rapid deployment of military assets in the islands.

## **Indo-French Joint Exercise Shakti-2019**

'Exercise SHAKTI' is a biennial exercise that is conducted alternately in India and France.

- The exercise will focus on **counter-terrorism operations** in the backdrop of semi-desert terrain.
- The exercise aims at enhancing understanding, cooperation, and interoperability between the two Armies.
- Defence Exercises between India and France:
  - **Varuna – Naval exercise**

- **Garuda – Air exercise**
- **Shakti – Army exercise**



### **Note:**

- **Gagan Shakti** is conducted by the **Indian Air Force** to showcase its **air dominance** over the entire **extended area of the Indian Ocean Region**. It includes all-terrain operations – desert, high altitude, maritime scenarios, and special operations – in real-time with a specific focus on key areas like aerial combat, air to surface combat, paratrooper assault and medical evacuation.
- **Garuda Shakti** is the **joint military exercise** between **India and Indonesia**.
- **Mitra Shakti** is the joint military exercise between **India and Sri Lanka**.



Note:

# Miscellaneous

## Highlights

- Booker Prize
- National Unity Day
- Nirvik Scheme
- Cyclone Maha
- Dar es Salaam and Zanzibar
- GOAL (Going Online as Leaders)
- Mt Paektu
- Nelloptodes Greta
- Sakhalin Oil Field
- Australia's Uluru Rock
- Aflatoxins
- Thotlakonda Buddhist Monastery
- Liver Transplant Registry
- Bhashan Char Island
- United Nations Day
- Mole Day
- Tech Sagar
- Siachen Area Opens for Tourism
- Ramgarh Dam

## Booker Prize

The Booker Prize 2019 was awarded jointly to **Margaret Atwood** and **Bernardine Evaristo**.

- According to the rules, the Booker prize is awarded annually for a single book and the prize must not be divided. However, the judges insisted they "couldn't separate" **Atwood's "The Testament"** and **"Girl, Woman, Other" by Evaristo**.
- Margaret Atwood is the oldest ever booker winner and Bernardine Evaristo is the first black women to win the prize.
- It is **awarded annually** to the **best novel** of the year **written in English** and **published in the UK or Ireland**.

## National Unity Day

National Unity Day is celebrated every year on **31<sup>st</sup> October** to commemorate the **birth anniversary of Sardar Vallabhbhai Patel**.

- It is also known as **Rashtriya Ekta Diwas**.
- In 2018, the Government of India unveiled the **'Statue of Unity'** in Gujarat in the honour of Sardar Vallabhbhai Patel.
  - It is the tallest statue in the world.

### Sardar Vallabhbhai Patel

- Sardar Patel was born on **31<sup>st</sup> October 1875** in **Nadiad, Gujarat**.

- He was the **first Home Minister and Deputy Prime Minister of India**.
- He played an important role in the **integration of many Indian princely states** to make an Indian federation.
  - At the time of independence, Sardar Patel played a key role in convincing several princely states to align with the Indian Union.
  - He also worked hard as a social leader for the Independence of India.
- **Women of Bardoli** bestowed the title **'Sardar'** on Vallabhbhai Patel, which means 'a Chief or a Leader'.
- He is also remembered as the **'Patron saint of India's civil servants'** as he established the modern all-India services system.

## Nirvik Scheme

- Export Credit Guarantee Corporation of India (ECGC) has introduced the Export Credit Insurance Scheme (ECIS) called NIRVIK to **enhance loan availability and ease the lending process**.
- It is an insurance cover guarantee that will cover up to 90% of the principal and interest. The cover will include both pre and post-shipment credit.
  - The ECGC currently provides credit guarantee of up to 60% loss.
- The enhanced cover will ensure that Foreign and Rupee export credit interest rates will be below 4% and 8% respectively for exporters.

Note:

**Export Credit Guarantee Corporation of India**

- ECGC Ltd is wholly owned by the **Ministry of Commerce and Industry**.
- The Government of India had initially set up **Export Risks Insurance Corporation in 1957**.
- Its objective was to promote exports from the country by providing credit risk insurance and related services for exports.

## Cyclone Maha

A depression developed in the **Comorin Sea (near the southernmost end of India)** has intensified into a cyclonic storm, named '**Maha**'.

- The name has been given by **Oman**.
- It lies centered over **Lakshadweep and the adjoining southeast Arabian Sea and the Maldives area**.
- Cyclone storm 'Maha' is the **second in the 2019 northeast monsoon season**, following close on the heels of **super cyclone Kyarr** which took its way towards the Arabian peninsula.

## Dar es Salaam and Zanzibar

As part of the Indian Navy's Overseas Deployment, four indigenously built ships of the Indian Navy visited the ports at **Dar es Salaam and Zanzibar** located in **Tanzania**.



### Zanzibar

- Zanzibar, an **island in the Indian Ocean**, is located **off the coast of east-central Africa**.
- It is located on the Indian Ocean trade routes making it accessible to both traders and colonists from Arabia, South Asia, and the African mainland.

### Dar es Salaam

- It is the **largest city and economic capital of Tanzania**.
- It is located in a bay off the Indian Ocean coast.

## Mt Paektu

**Mount Paektu or Changbai** (in Chinese) is considered **sacred by the Koreans**.

- It is a **volcanic mountain** that last erupted over 1,000 years ago.
- It is **situated** at the border between Democratic People's Republic of Korea (DPRK) and China.
- At a height of about 9,000 feet, it has the **highest peak** in the Korean peninsula.
- The mountain is considered sacred as Koreans treat the mountain to be the **spiritual origin of the Korean kingdom**, where the founder (Kim Il Sung) was born.



## GOAL (Going Online as Leaders)

The **second phase of GOAL (Going Online as Leaders)** has been jointly launched by the **Ministry of Tribal Affairs and Facebook** to digitally mentor 5000 young women in India's tribal-dominated districts.

Note:



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- The GOAL is a **Facebook program** aimed at **guiding and encouraging tribal girls** from across India to become **village-level digital young leaders** for their communities
- It will provide economically and socially marginalized young women with the tools and guidance for the development of **livelihood skills**.
- It will help to **close the digital gender gap** by enabling more women to get online and access digital services.

## Nelloptodes Gretae

Scientists at the Natural History Museum in London have officially named a tiny species of beetle **Nelloptodes gretae**. It has been named after the **16-year-old Swedish environmental campaigner Greta Thunberg**.



- N. gretae was **first** found in **Kenya in the 1960s** which was later donated to the Natural History Museum in London in 1978.
- The naming signifies Greta's contribution to raising awareness of environmental issues.
  - There are parasites named after Bob Marley (*Gnathia marleyi*), a genus of fish called after Richard Dawkins (*Dawkinsia*), a spider called *Spintharus leonardodicaprio* after Leonardo DiCaprio are some other species named after famous personalities

### Greta Thunberg

The Swedish teenage climate activist Greta Thunberg was recently awarded the Right Livelihood Award-2019, also known as Sweden's alternative Nobel Prize.

## Sakhalin Oil Field

Recently the Minister of Petroleum and Natural Gas has visited Sakhalin oil field in Russia.

- During the recent **Vladivostok Summit**, there was agreement on a roadmap of cooperation over the next five years in the hydrocarbon sector.

- It included strengthening Liquefied Natural Gas (LNG) exports to India; encouraging Russian companies to participate in gas projects in India including in Arctic LNG infrastructure projects.
- Sourcing of **coking coal** from the Russian Far East is now a major priority.



### Vladivostok Summit

- Recently **5<sup>th</sup> meeting** of the **Eastern Economic Forum (EEF)** was held in Vladivostok.
- This is the **first time** that an **Indian Prime Minister** visited the **Russian Far East Region (Vladivostok)**.

### Coking Coal

- Coking coal, also known as **metallurgical coal**, is used to create coke, one of the key **inputs for the production of steel**.
- Coke is used as a **fuel** and as a **reducing agent** in **smelting iron ore** in a blast furnace (converting iron oxide (hematite) into iron metal).

## Australia's Uluru Rock

Australia's giant **Red Monolith - Uluru** (Also known as **Ayers Rock**) has been permanently closed for trekking by the Australian government.

- The spiritual significance for **Anangu (An aboriginal tribe of Australia)** is responsible for the ban.

### Uluru

- It is the **huge red rock monolith** located in the **Central Australian desert**.
- Ayers Rock (now Uluru) was first declared a national park in 1950 and renamed as **Uluru-Kata Tjuta National Park** in 1993.

Note:





- Uluru-Kata Tjuta National Park is included in the **UNESCO World Heritage List** for both its natural and cultural values.
- Uluru is made up of **sandstone** and is about half a billion years old.
- It stands 348 metres high and has a circumference of 9.4 km.

#### World Heritage Site

- The sites are designated as having “**outstanding universal value**” under the **Convention Concerning the Protection of the World Cultural and Natural Heritage 1972** is included in the UNESCO World Heritage Sites list.
- There are three types of sites:
  - **Cultural heritage sites** include hundreds of historic buildings and town sites, important archaeological sites, and works of monumental sculpture or painting.
  - **Natural heritage sites** are restricted to those natural areas that:
    - Furnish outstanding examples of Earth’s record of life or its geologic processes
    - Provide excellent examples of ongoing ecological and biological evolutionary processes.
    - Contain natural phenomena that are rare, unique, superlative, or of outstanding beauty,
    - Furnish habitats for rare or endangered animals or plants or are sites of exceptional biodiversity.
  - **Mixed heritage sites** contain elements of both natural and cultural significance.

## Aflatoxins

- Aflatoxins are **toxins produced by certain fungi** which are generally found in agricultural crops like

maize, peanuts, cotton seed and others. They are **carcinogenic** in nature.

- According to a **World Health Organization (WHO)** study, consumption of food containing aflatoxin has been suspected to cause aflatoxicosis, the outcome of which consists of acute liver failure, jaundice, lethargy and nausea, eventually leading to death.
- The exposure to **Aflatoxin-M1 (AFM1)** from milk causes stunting among children.

## Thotlakonda Buddhist Monastery

Mahastupa of the Buddhist heritage site of **Thotlakonda**, which was reconstructed in 2016 by the State Archaeology department, collapsed recently.



- It is **2000 years old** **monastic complex** with remnants of stupas, chaitya grihas and viharas atop **Thotlakonda Hill, Andhra Pradesh**.
  - The Buddhist monks arriving from places like China, Burma, and many other countries used to stay at this site for months before finishing their learning.

- **Stupas:** These are Buddhist commemorative monument usually housing sacred relics associated with the Buddha or other saintly persons.
- **Chaityas:** A Chaitya was a rectangular prayer hall within a stupa placed in the centre, the purpose was prayer.
- **Viharas:** Viharas were the residences of the monks.

## Liver Transplant Registry

India’s **first voluntary liver transplant registry** has been started by the **Liver Transplantation Society of India**. The registry aims to collate **national data of the procedures and their outcomes**.

- Nearly **2,000 liver transplants** are carried out in the country annually, the **highest in the world**, yet there is no India-specific data.
- **In the Western countries, organ transplants are highly regulated** and permissions are given to hospitals and

Note:

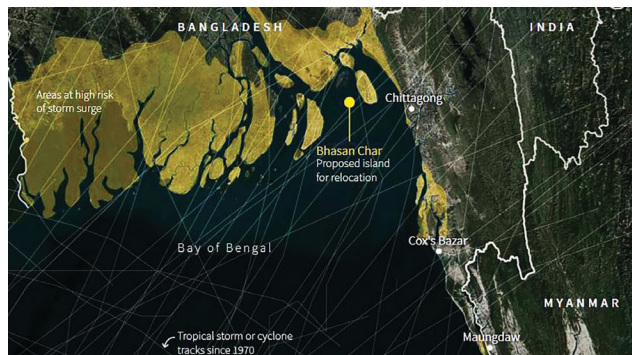


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doctors based on the outcomes, rate of mortality, morbidity, etc.

## Bhashan Char Island

Rohingya refugees living in Bangladesh camps have agreed to move to Bhashan Char Island in the Bay of Bengal.



- The island is also known as **Thengar Char Island**.
- Bhashan Char island was **formed about two decades ago** on the **mouth of river Meghna**.
- This uninhabited island is **located** around 30 kilometres east of Hatiya island in **South-East Bangladesh**.
- The Bhashan Char falls in an ecologically fragile area prone to floods, erosion and cyclone.

## United Nations Day

Each year on **24 October**, the **United Nations (UN)** celebrates its anniversary. UN Day marks the **anniversary of the entry into force of the UN Charter** and the **founding of the Organization in 1945**.

- The name "**United Nations**" was coined by the United States President Franklin D. Roosevelt.
- The main organs of the UN are:
  - the General Assembly,
  - the Security Council,
  - the Economic and Social Council,
  - the Trusteeship Council,
  - the International Court of Justice,
  - the UN Secretariat.
- The forerunner of the United Nations was the League of Nations, an organization conceived in circumstances of the First World War, and established in 1919 under the Treaty of Versailles "to promote international cooperation and to achieve peace and security."
- It will celebrate its **75<sup>th</sup> anniversary** on **24 Oct, 2020**.

## Mole Day

Mole Day is an **unofficial holiday** celebrated among **chemists, chemistry students** and **chemistry enthusiasts** on **October 23**, between **6:02 AM** and **6:02 PM**, making the date 6:02 10/23 in the US date format.

- The time and date are derived from **Avogadro's number**, which is approximately  **$6.02 \times 10^{23}$** , defining the **number of particles (atoms or molecules) in one mole of a substance**, one of the seven base SI units.
- The **seven base units in the SI system** are:
  - the kilogram (kg), for mass
  - the second (s), for time
  - the kelvin (K), for temperature
  - the ampere (A), for electric current
  - the mole (mol), for the amount of a substance
  - the candela (cd), for luminous intensity
  - the meter (m), for distance

### Avogadro's Number

- The number of particles (atoms, molecules or ions) present in 1 mole of any substance is fixed, with a value of  $6.022 \times 10^{23}$ .
- This is an experimentally obtained value. This number is called the Avogadro Constant or Avogadro Number (represented by  $N_0$ ), named in honour of the Italian scientist Amedeo Avogadro.
- 1 mole (of anything) =  $6.022 \times 10^{23}$  in number, as, 1 dozen = 12 nos.
- The Avogadro constant  $6.022 \times 10^{23}$  is defined as the number of atoms in exactly 12 g of carbon-12.

## TechSagar

The **National Cyber Security Coordinator's** office in partnership with the **Data Security Council of India (DSCI)** has launched '**TechSagar**', an **online portal of India's technological capability**.

- It provides actionable **insights about capabilities of the Indian Industry, academia and research** across **25 technology areas** like **Internet of Things (IoT)**, **Artificial Intelligence (AI)**, etc.
- **Agenda**
  - The **losses due to cyber crime** globally on an average is **2.5% of the Gross Domestic Product (GDP)**.

Note:

- Thus, India's dream of growing to \$5 trillion economy by 2025 is being seriously threatened by the losses due to **cyber crimes**.
- TechSagar will facilitate new opportunities for businesses and academia to collaborate, connect and innovate in the future.

#### National Cyber Security Coordinator

- In **2014**, the Prime Minister's Office created the position of the National Cyber Security Coordinator.
- The NCSC office coordinates with different agencies at the national level for **cyber security matters**.

#### Data Security Council of India

- DSCI is a **not-for-profit premier industry body** on data protection in India, setup by **NASSCOM**, committed to making cyberspace safe, secure and trusted by establishing best practices, standards and initiatives in cyber security and privacy.
- Its **Registered Office** is located in **New Delhi**.

## Siachen Area Opens for Tourism

The **Siachen Glacier area of Ladakh** has been declared **open for tourists** by the Government of India.

- Siachen, the **world's highest battlefield**, was **closed 35 years ago** for civilians.
- The announcement came during the inauguration of '**Col Chewang Rinchen Setu**'.
  - Col Chewang Rinchen Setu is built over **River Shyok**, which connects Durbuk and Daulat Beg Oldie in Eastern Ladakh.
  - The location of the bridge is sandwiched **between strategic Karakoram and Chang Chenmo ranges**.
  - The Setu is a **430-metre bridge** built at an altitude of about 15,000 feet using **Micro Piling Technology**.
    - Micropiles are a deep foundation element constructed using high-strength, small-diameter steel casing and/or threaded bar.
  - The bridge is built by **Border Roads Organisation (BRO)**.

#### Siachen

- The entire Siachen Glacier, with all major passes, is under the administration of India since 1984 (**Operation Meghdoot**).

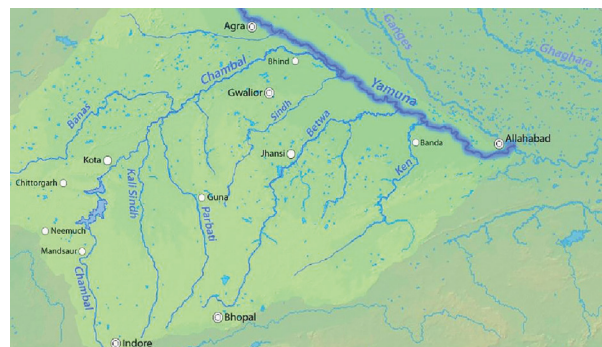


- The Siachen Glacier is located in the **Eastern Karakoram range in the Himalayas**, just northeast of **Point NJ9842** where the Line of Control between India and Pakistan ends.
- It is the **second-longest glacier in the world's non-polar areas**.
- The Siachen Glacier lies immediately south of the great drainage divide that separates the Eurasian Plate from the Indian subcontinent in the extensively glaciated portion of the Karakoram sometimes called the "**Third Pole**".

## Ramgarh Dam

The Ramgarh dam, located in the state of **Rajasthan**, which earlier supplied drinking water to the city of Jaipur has dried completely in the last decade.

- To resolve this problem, it has been recommended that the Chambal river water be supplied to the dam through the proposed **Eastern Rajasthan Canal Project**.
  - The Eastern Rajasthan Canal Project proposes to transfer excess water from the Chambal river basin to 13 districts facing water scarcity in Rajasthan.
- The dam was **constructed in 1904** during the reign of erstwhile Jaipur ruler Sawai Madho Singh-II.



Note:



- It is to be noted that the Ramgarh lake had **hosted rowing events during the 1982 Asian Games**.

### ***Chambal River***

- It is the chief **tributary of the Yamuna River**.
- It's a 960 km. long river that **originates at the Singar Chouri peak** in the northern slopes of the **Vindhya mountains (Indore, Madhya Pradesh)**.
- It flows through the states of **Madhya Pradesh, Rajasthan** and **Uttar Pradesh**.

- **Tributaries:** Banas, Kali Sindh, Parbati.
- **Main Power Projects/Dam:** Gandhi Sagar Dam, Rana Pratap Sagar Dam, Jawahar Sagar Dam, and Kota Barrage.
- The **National Chambal Sanctuary** is located along river Chambal on the tri-junction of Rajasthan, Madhya Pradesh and Uttar Pradesh. It is known for critically endangered gharial, the red-crowned roof turtle, and the endangered Ganges river dolphin.



Note:



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**Summary**

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**Summary**



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# Current Affairs (CONSOLIDATION)

**NOVEMBER 2019**  
**(PART – I)**

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# Polity and Governance

## Highlights

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- UTs: J&K and Ladakh
- EIU's Financial Inclusion Report
- Entry Law for Visitors in Meghalaya
- Formation Day
- Gujarat Anti-Terror Act, 2015
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- Supreme Court Ruling on the Finance Act, 2017
- ICEDASH and ATITHI

## 15-Point Reforms Charter for Parliament

### Why in News

For effective and better functioning of the Parliament and State Legislatures, the Vice President of India recently introduced a 15 point reform charter.

### Issued Charter

- **Political Conscience:** Call for a new political consciousness amongst legislators to review their roles and responsibilities.
- **Quorum:** Political parties **must ensure attendance** of at least 50% of their legislators throughout the proceedings of the Houses by adopting a **roster system**.
  - This was needed in the backdrop of required **Quorum (10% of the strength of the Houses)**, which if not met, leads to the adjournment of the House.
- **Whip:** Review of **whip system** which **hinders the freedom of expression** of the legislators.
  - This will allow a **reasonable degree of dissent** without impacting the stability of the government.
- **Anti-Defection:** Review of the **Anti Defection Law** to rectify the areas like incentivizing legislators to resort to actions that invite expulsion from the party besides

providing for time-bound disposal of defection cases by the Presiding Officer.

- **Department related Standing Committees:** Measures for effective functioning of Department related Standing Committees like longer tenure (instead of the present one year), promoting specialization, etc were needed.
- **Legislative Impact Assessment:** A detailed framework for pre and post Legislative Impact Assessment was needed.
  - Every legislative proposal must incorporate a detailed account of social, economic, environmental and administrative impact for wider awareness and subsequent legal assessment.
- **Voting Preferences:** Need for moving away from **identity-based voting** to that of development-oriented exercise of voting preferences. Role of caste, community, region and religion in influencing the voting preferences needs to be minimized.
- **Responsible Government and Opposition:** Need for responsive governments positively acting on the concerns of the opposition and the need for responsible and constructive opposition while resorting to available parliamentary instruments.
- **Simultaneous Polls:** Building consensus on the proposal of **simultaneous polls** to allow unrestricted governance.

Note:

- **Reservation of Women:** Enacting for reservation of women in legislatures.
- **Rules and Regulations:** Making rules that automatically take action against erring members in case of interruptions and disruptions. Need for timely and effective actions against legislators for non-ethical conduct.
- **Transparency & Accountability:** Regular publication of reports by the Secretariats of Legislatures on the attendance of Members and their participation in debates.
- **Addressing** the concern of a **rising number of legislators with criminal records.**
- **Setting up of special courts** for time-bound adjudication of criminal complaints against legislators.
- A **minimum number of sittings** for both the Houses of Parliament and State Legislatures per year **need to be appropriately prescribed.**

## UTs: J&K and Ladakh

### Why in News

Radha Krishna Mathur and Girish Chandra Murmu have been appointed as the first **Lieutenant-Governors (L-G)** of Ladakh and Jammu & Kashmir (J&K), respectively.

### Background

- This move has come after the Centre **scrapped provisions of Article 370** and split it into two Union Territories (UTs) under the **J&K Reorganisation Act, 2019.**
  - This is the **first time that a state has been divided into UTs.**
  - Kargil and Leh districts constitute the UT of Ladakh while rest of the region constitutes the UT of Jammu and Kashmir.
  - Now, India has **28 states and 9 UTs.**

### Current Status

- The two new UTs **officially came into existence on 31<sup>st</sup> October 2019**, the **144<sup>th</sup> birth anniversary of Sardar Vallabhbhai Patel**, who is credited for the merger of over 560 princely states into the Union of India.
  - With this, President's rule imposed in undivided Jammu and Kashmir in June 2018 stands revoked.

- The flag and constitution of Jammu and Kashmir, as well as the Ranbir Penal Code (RPC), cease to exist, with the Indian Penal Code (IPC) now extending to both UTs.
- The UT of J&K will have a 114-member elected Assembly and a Chief Minister whereas the Union territory of Ladakh will be controlled directly by the L-G (i.e. without an Assembly).

### Administration of Union Territories

- **Articles 239 to 241** in **Part VIII of the Constitution** deal with the UTs.
- Every **UT is administered by the President acting through an administrator** appointed by him.
  - The President can specify the designation of an administrator which may be **Lieutenant Governor** or **Chief Commissioner** or **Administrator.**
- The Parliament can make laws on any subject of the three lists (i.e. Union, State and Concurrent) for the union territories.

## EIU's Financial Inclusion Report

### Why in News

According to the **Economist Intelligence Unit's (EIU) 2019 Global Microscope on Financial Inclusion report**, **India** (ranked at **5<sup>th</sup> position**) is among the top nations with the most conducive environment for financial inclusion.

- The Global Microscope assesses the enabling environment for financial inclusion across **5 categories and 55 countries.**
- It covers five domains:
  - Government and Policy Support.
  - Stability and Integrity.
  - Products and Outlets.
  - Consumer Protection.
  - Infrastructure.
- The 2019 edition featured **11 new gender-focused indicators** that measured financial inclusion for both women and men.
- **EIU is the research and analysis division of The Economist Group**, a sister company to The Economist newspaper. It has its office in London, United Kingdom.

Note:



### Summary of India's performance

Category	Score	Rank	Average Score
<b>Overall Score</b>	<b>71</b>	<b>=5</b>	<b>52</b>
1 Government and policy support	76	=8	54
2 Stability and integrity	76	12	65
3 Products and outlets	92	3	57
4 Consumer protection	81	9	60
5 Infrastructure	60	31	59

India: strengths			India: areas for improvement		
Indicator	Rank		Indicator	Rank	
2.3 Customer due diligence	=1		2.4 Supervisory capacity	=29	
3.2 Credit portfolios for middle-and low-income customers	=1		5.3 Connectivity	=45	
3.3 Emerging services	=1		1.1 Broad strategies for financial inclusion	=19	

### Key Findings

- The overall **environment for financial inclusion has improved** globally with India, Colombia, Peru, Uruguay and Mexico having the most favourable conditions for inclusive finance.
- However, **only one-third of countries include a gender approach** in their financial inclusion strategies and even fewer have set clear, gender-related goals.

### Financial Inclusion and India

- RBI has prepared a **draft National Strategy for Financial Inclusion** to deepen financial services' coverage in the country. It is expected to be finalised in 2019 and will cover a five-year period.
- The RBI has set up a **high-level committee to review the existing status of digitisation** and devise a medium-term strategy for increasing digital payments.
- In August 2019, the RBI released the **Enabling Framework for Regulatory Sandbox (RS)**, which created

the basis for a regulatory sandbox that allows fintech start-ups to live-test innovative products and services.

## Entry Law for Visitors in Meghalaya

### Why in News

Recently, the Meghalaya Cabinet has approved **amendments to the Meghalaya Residents Safety and Security Act (MRSSA) 2016**.

- The ordinance makes **registration on entry mandatory** for visitors who intend to **spend more than 24 hours** in the state of Meghalaya.
  - This will **require non-resident visitors to register** themselves on the lines of the **Inner Line Permit (ILP)** system of **Arunachal Pradesh, Nagaland and Mizoram**.

### Meghalaya Residents Safety and Security Act (MRSSA) 2016

- The Act aims to **ensure the security of the tenants** as well as the safety and security of the **citizens of the state**.
- It provides for **verification and regulation** of the tenants residing in rented houses in the state.
- It also **establishes District Task Force and Facilitation Centres** for effective enforcement of various laws for the safety and security of the citizens.

### Inner Line Permit

- It is an **official travel document** issued by the Government of India **to allow inward travel of an Indian citizen into a protected/restricted area** for a limited period.
- It is a **special permit required by "outsiders"** from other regions of the country to enter the **three states (Arunachal Pradesh, Nagaland and Mizoram)**.
- It is based on the **Bengal Eastern Frontier Regulation Act (BEFR), 1873**.
  - This Act was enacted to protect the British interests from the hill tribes who used to invade the British subjects.
  - An imaginary line known as the inner-line was created to divide the two communities so that neither party could go beyond the line without a permit from the appropriate authorities.

Note:

## Formation Day

### Why in News

Seven Indian states — **Andhra Pradesh, Chhattisgarh, Madhya Pradesh, Punjab, Haryana, Karnataka and Kerala** — observed their **foundation day** on **1<sup>st</sup> November**.

- The **Andhra Pradesh Reorganisation Act of 2014** bifurcated the erstwhile Andhra Pradesh into two separate states, namely **Andhra Pradesh** and **Telangana**.
- In **2000**, **Chhattisgarh** was created out of **Madhya Pradesh**.
- In **1966**, the State of **Punjab** was bifurcated to create **Haryana**.
- **Kerala and Karnataka** were formed under the **States Reorganisation Act, 1956**.

### Constitutional Provision

- **Article 3** authorises the **Parliament** to:
  - Form a new state by separation of territory from any state or by uniting two or more states or parts of states or by uniting any territory to a part of any state.
  - Increase the area of any state.
  - Diminish the area of any state.
  - Alter the boundaries of any state.
  - Alter the name of any state.
- However, Article 3 lays down **two conditions**:
  - The Bill can be introduced in the Parliament only with the prior recommendation of the President.
  - Before recommending the bill, the President has to refer the same to the state legislature concerned for expressing its views within a specified period.
    - The President (or Parliament) is not bound by the views of the state legislature and may either accept or reject them, even if the views are received in time.

## Gujarat Anti-Terror Act, 2015

### Why in News

The President of India gave assent to the **Gujarat Control of Terrorism and Organised Crime (GCTOC) Bill**, an **anti-terror legislation** passed by Gujarat in 2015.

### Key Provisions

- It defines a **'terrorist act'**, as an act committed with the intention to disturb law and order or threaten the unity, integrity, and security of the state.
- It also mentions **organized crime** which are criminal activities run for a **substantial profit**.
  - It includes economic offences namely, Ponzi schemes, multi-level marketing schemes, and organized betting.
- The investigating agencies **can intercept telephonic conversations** and submit them as **legitimate evidence** in court.
  - However, the **approval** for interceptions of telephonic conversations will be cleared at the level of **additional chief secretary**.
- The **confessions made before a police officer** will also be considered as **evidence**.
  - However, the confessions made to an officer of the rank of **Superintendent of Police (SP) or above** would only be admissible in court.
- It provides **180 days' time** for authorities to file a charge sheet **instead of** the usual **90 days** and also proposes **stricter conditions for bail**.
- It also provides for the **creation of a special court** as well as the appointment of special public prosecutors.

### Controversial Provisions of GCTOC Bill

- The consideration of **intercepted telephonic conversations** as legitimate evidence is **violative** of the **Right to Privacy (Article 21)**.
- Also, the consideration of **confession made before police officers as evidence** is violative of the fundamental rights of an accused (**Article 20**).
  - **Article 20(3)** of the constitution says that no person accused of any offence shall be compelled to be a witness against himself.
- The **extension of time** for filing the charge sheet has been increased **up to 180 days** from 90 days.
  - The clause keeps a **person under detention** for a **longer** period of time.
- These provisions are **on the lines** of the **Centre's Prevention of Terrorism Act (POTA), 2002**.
  - But **arbitrary use** of such provisions led to the **repulsion of POTA in 2004**.

Note:

### ***Advantages of the Bill***

- Gujarat shares a **border with Pakistan**, and hence, such legislation is required for better safety and security, especially in a coastal and border state.
- It will give **sufficient power to police officials** and enhance the security of the state.

## **Places of Worship Act, 1991**

### ***Why in News***

The **Supreme Court** in its **recent Ayodhya verdict** mentioned the **Places of Worship (Special Provisions) Act, 1991** which freezes the status of any place of worship as it existed at the time of Independence.

### ***The Places of Worship (Special Provisions) Act, 1991***

- The Act imposes a positive obligation on the State to maintain the religious character of every place of worship as it existed at the time of Independence.
- **Section 3** of the Act **bans the conversion of a place of worship or even a section of it** into a place of worship of a different religious denomination or of a different segment of the same religious denomination.
  - This legislative obligation on the State to preserve and protect the equality of all faiths is an essential secular feature and one of the basic features of the Indian Constitution.
- **Exemption**
  - The **disputed site at Ayodhya is exempted** from the Act. Due to this exemption, the trial in the Ayodhya case proceeded even after the enforcement of this law.
  - The Act also does not apply to any place of worship which is an ancient and historical monument or an archaeological site **covered by the Ancient Monuments and Archaeological Sites and Remains Act, 1958**.
- **Penalty:** Section 6 of the Act prescribes a punishment of **maximum three-years imprisonment** along with a fine for contravening the provisions of the Act.

## **Occupational Safety, Health and Working Conditions Code, 2019**

### ***Why in News***

The Standing Committee on Labour has invited suggestions from the public on the Occupational Safety, Health and Working Conditions (OSH) Code, 2019.

- The OSH Code was introduced in the Lok Sabha in July, 2019.
- It **aims to regulate the employment of workers**, including those engaged by contractors, and their working conditions across sectors.
- It is **one of the four codes** that are part of the Centre's **labour reforms** agenda.
  - The four labour codes—on **Wages, Industrial Relations, Social Security and Occupational Safety, and Health and Working Conditions**—intend to provide workers with wage security, social security, safety, health and grievance redress mechanisms.

### ***Key Provisions***

- **Replaces 13 labour laws** relating to safety, health and working conditions, including the Factories Act, 1948, the Mines Act, 1952, and the Contract Labour (Regulation and Abolition) Act, 1970.
- **Applicability**
  - Establishments employing at least 10 workers,
  - All mines and docks,
  - Provides special provisions for certain types of establishments and classes of employees, such as factories and building and construction workers.
- A **National Occupational Safety and Health Advisory Board** in place of multiple committees at present.
  - The Board will have tripartite representation from trade unions, employer associations and state governments.
  - The Board will advise the government on the standards, rules and regulations on workers' safety, besides overseeing the implementation of the Code.
- **Licensing Requirements**
  - One registration, one licence and one tax return instead of multiple registrations, licenses and returns as required in the existing 13 labour laws.

Note:

- **Formalisation of Employment:** The Code provides for a statutory provision to **issue appointment letter** to every employee of the establishment.
- **Safety and Welfare Provisions**
  - The employer is required to provide a **hygienic work environment** with ventilation, comfortable temperature and humidity, sufficient space, clean drinking water, and toilets.
  - The Code provides for uniform threshold for welfare provisions for all establishments. Welfare Provisions include crèche, canteen, first aid, welfare officer etc.
- **Duties of Employees** include taking care of their own health and safety, complying with the specified safety and health standards, and reporting unsafe situations to the relevant authority.
- **Working Hours For Women:** Women, after their consent, will be permitted to work beyond 7 pm and before 6 am subject to the safety, holidays, working hours or any other condition as prescribed by the state or the central government.
- **Penalty**
  - An offence that leads to the death of an employee will be punishable with imprisonment of up to two years, or a fine up to five lakh rupees, or both.
    - The courts may direct that at least 50% of such fine be given as compensation to the heirs of the victim.
  - If an employee violates provisions of the Code, s/he will be subject to a fine of up to Rs 10,000.

## Reconstitution of National Integration Council

### Why in News

In the backdrop of due **Ayodhya verdict**, the reconstitution of the National Integration Council (NIC) has **gained prominence**.

### National Integration Council

- It is an **extra-constitutional body**.
- It is **chaired by Prime Minister of India**.
- It comprises of Cabinet ministers, Chief Ministers of states, political leaders, Chairman of the University Grants Commission, **Commissioner for Scheduled**

**Castes and Scheduled Tribes**, representatives of industry, business and trade unions.

- The NIC was constituted to combat the evils of communalism, casteism, regionalism, and linguism as a **follow up of National Integration Conference** held under the chairmanship of the then **Prime Minister Pt. Jawaharlal Nehru in 1961**.
- The **last meeting of the NIC** took place in **2013** which passed a resolution on maintaining communal harmony and ending discrimination by condemning atrocities on Scheduled Castes and Scheduled Tribes.

## CJI under the RTI Act

### Why in News

The **Supreme Court** has ruled that the **office of the Chief Justice of India (CJI)** is a **public authority** under the **Right to Information (RTI) Act, 2005**.

- The RTI Act provides for right to information for citizens to secure access to information under the control of public authorities in order to promote transparency and accountability in the working of every public authority.

### Highlights of the Ruling

- The **Supreme Court is a “public authority”** and the office of the **CJI is part and parcel of the institution**. Hence, if the Supreme Court is a public authority, so is the office of the CJI.
  - The Judiciary cannot function in total insulation as judges enjoy a constitutional post and discharge public duty.
- However, **Right to Privacy** is an important aspect and has to be **balanced with transparency** while deciding to give out information from the office of the Chief Justice of India.
  - RTI cannot be used as a tool of surveillance and judicial independence has to be kept in mind while dealing with transparency.
- On the issue related to the appointment of judges, the Supreme Court held that **only the names of the judges recommended by the Collegium for appointment can be disclosed**, not the reasons.

### Outcome of the Ruling

- The **office of the CJI will now entertain RTI applications**.

Note:



- Under the RTI Act, 2005, every public authority has to provide information to persons requesting for the information under the Act.
  - **Public Authority** includes the body constituted by or under the Constitution. **Article 124** of the Constitution deals with the establishment of the Supreme Court of India.
  - **Information** includes any material in any form, including records, documents, memos, e-mails, etc.
- The Ruling is an **example for other bodies** such as political parties, number of schools, trusts and public-private partnerships who resist categorisation as public authorities under the Act.
- However, it has been seen that **Offices** such as those of the Prime Minister and the President which are public authorities under the RTI Act have often **denied information quoting separate observations by the Supreme Court**.
  - For instance, in 2011, the Supreme Court observed that:
    - Officials need to furnish only such information which already exists and is held by the public authority and not collate or create information.
    - The nation does not want a scenario where 75% of the staff of public authorities spends 75% of their time in collecting and furnishing information to applicants instead of discharging their regular duties.

**Note:**

The **Central Bureau of Investigation (CBI)** is out of the purview of the RTI Act. It was granted exemption in 2011.

## Compliance to the RTI Act, 2005

### Why in News

The think tank 'Vidhi Centre for Legal Policy' has released a report titled, 'Sunshine in the Courts: Ranking the High Courts on their compliance with the RTI Act'.

- It developed a 'Convenience Index' which evaluates the extent to which the RTI Rules framed by the High Courts make it convenient for citizens to file RTI applications.

- According to the **Right to Information (RTI) Act, 2005**, every High Court is required to draft RTI Rules to lay down a procedure for filing RTI applications.

### Key Findings

- There is a **wide gap** between the judiciary's pronouncements on the RTI Act and the manner in which the High Courts are implementing it.
- **Violation of the Act**
  - Despite **Section 8** of the RTI Act restricting the number of grounds for **denying information to citizens**, the RTI rules of several High Courts have included additional grounds for rejecting requests for information.
    - High Courts at Bombay, Delhi, Gauhati and Gujarat are among the ones which have created additional grounds for non-disclosure of information.
  - There is a lack of good quality proactive disclosures by several High Courts on their websites. This is violative of **Section 4(1)(b) of the RTI Act**.
- **Transparency**
  - There is a **lack of administrative and financial transparency** within High Courts.
  - Fewer High Courts are only willing to provide copies of their budgets and audit reports under the RTI Act.
- **Payment of Fees**
  - High Courts of Allahabad, Chhattisgarh and Gauhati are among the ones which do not recognise convenient modes of payments like postal orders.
    - The High Courts of Chhattisgarh and Jharkhand prescribe only court fee stamps as relevant mode of payment.
- **Ranking on the 'Convenience Index'**
  - On the index, **not a single High Court** was able to match the **convenience** offered by the Government of India's RTI Rules.
  - The **High Courts at Patna, Delhi and Kerala** performed the **best** on the index.
  - The **High Courts at Gujarat, Madras, Meghalaya and Chhattisgarh** performed the **worst**.
- **In Comparison with the Government of India**
  - RTI rules of several High Courts provide for a relatively **inconvenient procedure** when compared to the RTI rules of the Government of India.

Note:



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- For example, many courts currently charge **five times** the amount charged by the Centre for filing RTI applications.

### Recommendations

- The High Courts should publish clearly discernible rules on the website in the local language of the state.
- Having more modes of payment through the RTI fees in order to make it simple for citizens to file RTI applications.

## New Water Policy Committee

### Why in News

The **Ministry of Jal Shakti** recently constituted a **committee under Mihir Shah** (former Planning Commission member and a water expert) **to draft a new National Water Policy (NWP)**.

- The objective is to update the National Water Policy, 2012.
  - NWP is formulated to govern the planning and development of water resources and their optimum utilisation. The **first NWP** was adopted in September 1987. It was reviewed and updated in 2002 and later in 2012.
- The Committee is expected to recommend key changes in water governance structure and regulatory framework.

### Key Features of the National Water Policy, 2012

- **Integrated Water Resources Management:** The policy laid down the concept of an Integrated Water Resources Management approach that took the river basin/sub-basin as a unit for planning, development, and management of water resources.
  - Integrated Water Resources Management (IWRM) is a process that promotes the coordinated development and management of water, land and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.
- **Minimum Water Flow:** To maintain the minimum flow of a portion of a river to meet ecological needs.
- **Inter-basin Transfers:** To meet basic human needs and achieve equity and social justice, inter-basin transfers

of water need to be considered on the basis of the merits of each case after evaluating the environmental, economic and social impacts of such transfers.

- Problems such as decreasing spring sets in Himalayas, budgeting and restructuring of water subsidies, irrigation, etc. demand the prioritization of water usage.

## President's Rule in Maharashtra

### Why in News

The **state of Maharashtra** has been placed **under the President's Rule** amid a stalemate over government formation after the assembly polls in October 2019.

- The **Union Cabinet recommended the President's rule** in the state **after Governor of the state submitted a report** regarding the same.
  - In his report, the Governor said a situation has arisen that **a stable government is not possible** and the government could not be carried on in accordance with the provisions of the Constitution.
- The **President signed a proclamation** imposing President's rule in Maharashtra **under Article 356(1)**. The **Assembly** has been kept in **suspended animation**.

### President's Rule

- **Meaning**
  - President's Rule implies the **suspension of a state government** and the imposition of **direct rule of the Centre**.
  - It is also known as **'State Emergency'** or **'Constitutional Emergency'**.
- **Use of Article 356**
  - **The Supreme Court in Bommai case (1994) enlisted the situations** where the exercise of power under Article 356 could be proper.
  - One such situation is that of **'Hung Assembly'**, i.e. where after general elections to the assembly, no party secures a majority.
- **Constitutional Provisions**
  - The President's Rule is imposed through the **invocation of Article 356** of the Constitution **by the President on the advice of the Union Council of Ministers**.
  - Under Article 356, President's Rule is imposed if the President, upon receipt of the report from the

Note:

Governor of the State or otherwise, is satisfied that a situation has arisen in which the government of the State cannot be carried on in accordance with the provisions of the Constitution.

#### ➤ **Parliamentary Approval and Duration**

- A proclamation imposing President's Rule **must be approved by both the Houses of Parliament within two months** from the date of its issue.
- The approval takes place through **simple majority** in either House, that is, a majority of the members of the House present and voting.
- Initially valid for six months, the President's Rule **can be extended for a maximum period of three years** with the approval of the Parliament, every six months.

#### ➤ **Consequences of President's Rule**

- The **state governor, on behalf of the President, carries on the state administration** with the help of the chief secretary of the state or the advisors appointed by the President.
- The President can declare that the powers of the state legislature are to be exercised by the Parliament.

#### **Punchii Commission's**

##### **Guidelines in case of a Hung Assembly**

- The **party or combination of parties which commands the widest support in the Legislative Assembly** should be called upon to form the Government.
- If there is a **pre-poll alliance or coalition**, it should be treated as one political party and if such coalition obtains a majority, the leader of such coalition shall be called by the Governor to form the Government.
- **In case no party or pre-poll coalition has a clear majority**, the Governor should select the Chief Minister in the order of preference as indicated below:
  - The group of parties which had pre-poll alliance commanding the largest number.
  - The largest single party staking a claim to form the government with the support of others.
  - A post-electoral coalition with all partners joining the government.
  - A post-electoral alliance with some parties joining the government and the remaining including independents supporting the government from outside.

- The President either **suspends or dissolves the state legislative assembly**.

#### ➤ **Revocation**

- A proclamation of President's Rule **may be revoked by the President at any time** by a subsequent proclamation. Such a proclamation **does not require parliamentary approval**.
- This happens, in case, the leader of a party produces letters of support from a majority of members of the Assembly, and stakes his claim to form a government.

## **India Justice Report, 2019**

### **Why in News**

Recently, the **India Justice Report (2019)** prepared by the **Tata Trusts in collaboration with the Centre for Social Justice**, Common Cause, and the Commonwealth Human Rights Initiative has been released.

- This is the **first-ever** ranking of Indian states on **justice delivery**.
- The report has **divided states** on the basis of the **population** into **two parts**:
  - The **large-medium** states (Population 1 crore and above)
  - The **small** states and Union Territories (Population less than 1 crore)

### **Key Points**

- **Maharashtra** has **topped** the list among **large-medium States** followed by Kerala, Tamil Nadu, Punjab, and Haryana.
  - In this category, Jharkhand, Bihar and Uttar Pradesh are at the **bottom**.
- **Goa** leads the list of **smaller states** followed by Sikkim and Himachal Pradesh.
- The report has been prepared based on **publicly available data of different government entities** on the **four pillars** of justice delivery — **police, judiciary, prisons, and legal aid**.
  - Each pillar is analyzed through the prism of budgets, human resources, personnel workload, diversity, infrastructure, and five-year trends.

### **Issues with Indian Justice System**

- **Vacancies**

Note:

- On average, the **police** have a vacancy of **23% (2017)**, and the judiciary between **20%-40%** across the high courts and lower judiciary. **Gujarat is the only state to reduce vacancies across all four pillars.**

#### ➤ Representation

- **No State/ UT is able to meet** all its **diversity quotas** (ST, SC, and OBC). **Karnataka comes closest to achieve** diversity quotas (missed its SC reservation target by 4%).
- **Women are poorly represented** across the Justice system. They account for 7% of the Police, 10% of Prison staff and about 26.5% of all judges in the High Court and subordinate courts.

#### ➤ Budgets

- The Justice system is affected by **low budget allocations**.
- The **per capita expenditure** on legal aid is just **75 paise**.
- **Punjab** is the only large state whose police, prison and judiciary expenditures have **increased** at a pace **higher than the increase in overall state expenditure**.

#### ➤ Judicial Pendency

- Nationally, at the subordinate court level, **on average** a case remains pending for **five years or more**.
- Only six states i.e. Gujarat, Daman and Diu, Dadra and Nagar Haveli, Tripura, Odisha, Lakshadweep, Tamil Nadu, and Manipur managed to clear as many court cases were filed.

#### ➤ Prisons

- Prisons are **over-occupied at 114%**, where 68% are undertrials awaiting investigation, inquiry or trial.

#### Way Forward

- Judiciary and the government needs to put **collaborative effort** to plug the gaps in the management of the police, prisons, forensics and the **filling up of vacancies**.
- The efficient Indian Justice System will ensure the implementation of **Article 14** (Equality before law), **Article 22(1)** (Protection against arrest and detention in certain cases), **Article 39(A)** (Free legal aid for poor) and **Article 21** (Right to protection of life and personal liberty) of the Indian Constitution.

## Justice meter

While Maharashtra emerged as the overall topper among large/medium States in justice delivery, Tamil Nadu and Kerala fared better in individual categories

\*Scores out of a total of 10 points



#### Policing

- Tamil Nadu topped with a score of 6.49\*
- U.P. was at the bottom with a score of 2.98, whereas Bihar got 3.77



#### Judiciary

- Tamil Nadu was on top with a score of 6.99 | ■ Bihar was the worst performer with a score of 2.41, while U.P. scored 3.7, Karnataka 3.76, Uttarakhand 4.17 and Jharkhand 4.3



#### Legal aid

- Kerala topped with a score of 6.58 | ■ U.P. fared the worst, followed by Uttarakhand, Bihar and Odisha



#### Prisons

- Kerala ranked on top with a score of 7.18
- Jharkhand fared the worst with a score of 3.46, whereas Uttarakhand scores 3.72, Punjab 4.35, Andhra Pradesh 4.35 and U.P. 4.42

- It will also ensure **SDG 16** which recognizes the need to **provide access to justice** for all and to build effective, accountable and inclusive institutions at all levels.

#### Constitutional Provision

- **Article 39A** provides that State shall secure that the operation of the legal system promotes justice on a basis of equal opportunity, and shall, in particular, provide free legal aid, by suitable legislation or schemes or in any other way, to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disability.
- **Articles 14 and Article 22(1)** make it obligatory for the State to ensure equality before the law and a legal system that promotes justice on a basis of equal opportunity to all.

## Bonded Labour System in India

### Why in News

Recently, the **National Human Rights Commission (NHRC)** conducted a seminar on **"bonded labour"**.

- According to the **International Labour Organization (ILO)** there are **1.17 crores** bonded labourers in India (2014).

### Reasons for the Persistence of Bonded Labour

- The lack of awareness among workers and employers
- Low conviction rates
- Social bias towards bonded labour
- Migratory nature of bonded labour

Note:



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- Weaker implementation of **Bonded Labour System (Abolition) Act 1976**.

### **Bonded Labour**

- It is a practice in which employers give **high-interest loans** to workers who work at **low wages to pay off the debt**.
- The Supreme Court of India has interpreted bonded labour as the **payment of wages that are below the prevailing market wages and legal minimum wages**.
- The **Constitution of India prohibits** forced labour under **Article 23 (Fundamental Rights)**.
- Bonded labour was historically associated with rural economies where peasants from economically disadvantaged communities were bound to work for the landlords.
- Bonded labour is found to exist in both rural and urban pockets in unorganized industries such as brick kilns, stone quarries, coal mining, agricultural labour, domestic servitude, circus, and sexual slavery.

### **Bonded Labour System (Abolition) Act 1976**

- The Act extends to the whole of India but **implemented by** respective **state governments**.
- It provides for an **institutional mechanism** at the **district level** in the form of **Vigilance Committees**.
  - Vigilance committees advise District Magistrate (DM) to ensure the provisions of this Act are properly implemented.
- The State Governments/UTs may confer, on an Executive Magistrate, the powers of a Judicial Magistrate of the first class or second class for the trial of offences under this Act.

### **Central Sector Scheme for**

### **Rehabilitation of Bonded Labourers (2016)**

- Under this scheme financial assistance to the extent of ₹ 3 lakhs is provided to released bonded labourers along with other non-cash assistance for their livelihood.

## **Overseas Citizenship of India**

### **Why in News**

**Kartarpur Corridor** is **accessible** to the Persons of Indian origin holding the **Overseas Citizenship of India (OCI) card**.

## **Overseas Citizenship of India**

### ➤ **Definition**

- The **Ministry of Home Affairs** defines an OCI as a person who:
  - Was a citizen of India on or after 26<sup>th</sup> January 1950; or
  - Was eligible to become a citizen of India on 26<sup>th</sup> January 1950; or
  - Is a child or grandchild of such a person, among other eligibility criteria.
- According to **Section 7A of the OCI card rules**, an applicant is **not eligible** for the OCI card if he, his parents or grandparents have ever been a citizen of Pakistan or Bangladesh.
- The **category** was introduced by the government in **2005**. The Government of India via **Citizenship (Amendment) Act, 2015 merged** the Person of Indian Origin (PIO) category with OCI category in 2015.

### ➤ **Benefits to OCI Cardholders**

- OCI cardholders can enter India multiple times, get a multipurpose lifelong visa to visit India, and are exempt from registering with Foreigners Regional Registration Office (FRRO).
- If an individual is registered as an OCI for a period of five years, he/she is eligible to apply for Indian citizenship.
- At all Indian international airports, OCI cardholders are provided with special immigration counters.
- OCI cardholders can open special bank accounts in India, buy the non-farm property and exercise ownership rights and can also apply for a Permanent Account Number (PAN) card.

### **Constitutional Provisions**

- The Constitution deals with citizenship under Articles 5 to 11 in Part II. However, it contains neither any permanent nor any elaborate provisions in this regard.
- It only identifies the persons who became citizens of India on 26<sup>th</sup> January 1950 (i.e. when the Constitution commenced).
- It empowers the Parliament to enact a law to provide for matters relating to citizenship. Accordingly, the Parliament has enacted the Citizenship Act, 1955, which has been recently amended in 2015.

Note:



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### ➤ Limitations

- OCI cardholders do not get voting rights, cannot hold a government job and purchase agricultural or farmland.
- They cannot travel to restricted areas without government permission.

### Person of Indian Origin

- A Person of Indian Origin (PIO) means a foreign citizen (except a national of Pakistan, Afghanistan, Bangladesh, China, Iran, Bhutan, Sri Lanka and Nepal)
  - Who at any time held an Indian passport or
  - Who or either of their parents/ grandparents/ great grandparents were born as permanent resident in India as defined in Government of India Act, 1935 and other territories that became part of India thereafter or
  - Who is a spouse of a citizen of India or a PIO.
- PIO category was merged with OCI category in 2015.

## Disqualification of Karnataka MLAs

### Why in News

Recently, the Supreme Court upheld the disqualification of 17 dissident legislators approved by the then Karnataka Assembly Speaker K.R. Ramesh Kumar under the Tenth Schedule (Anti-Defection law).

### Background

- In 2019, a **motion of no-confidence was to be considered** in Karnataka Assembly against the ruling party. During this process, a few of the **legislators resigned from their respective parties**. However, their resignation was **not taken under consideration** by the then Assembly Speaker in lieu of the confidence vote that was to be held within a few days.
- As soon as the **trust vote was not achieved** during the floor test by the ruling party, the **Speaker disqualified those rebellious members**. This raised the question of the **disqualification of members under the Anti-defection law** (Tenth Schedule) **versus the role of Speaker to accept their resignations**.
- Also, the **Speaker barred those MLAs from contesting elections** till the time incumbent Assembly's term gets

over, i.e., by 2023. This raised another question whether disqualification under Tenth Schedule can lead to a bar upon legislators to contest by-elections during the tenure of the incumbent Legislative Assembly.

### Supreme Court Ruling

- **Tenth Schedule versus Re-contesting elections:** The Supreme Court upheld the disqualification of the dissident legislators however it also held that their ouster **does not put any bar upon them from contesting by-polls**.
  - According to the Court, 'neither under the Constitution nor under the statutory scheme (i.e., **Representation of the People Act, 1951 or the Anti-Defection Law**) it is mentioned that disqualification under the Tenth Schedule would lead to a bar for contesting re-elections.'
  - The court also remarked that even the **91<sup>st</sup> Amendment Act, 2003** which did not allow a disqualified member to be appointed as a minister, did not give Speaker the power to put a ban upon them to contest elections till the end of the term.

### Anti-Defection Law

- The Anti-Defection Law was passed in 1985 through the **52<sup>nd</sup> Amendment** to the Constitution. It added the **Tenth Schedule** to the Indian Constitution. The main intent of the law was to combat "the evil of political defections".
- According to it, a member of a House belonging to any political party becomes disqualified for being a member of the House, (a) if he voluntarily gives up his membership of such political party; or (b) if he votes or abstains from voting in such House contrary to any direction issued by his political party without obtaining prior permission of such party and such act has not been condoned by the party within 15 days.

### Powers of Speaker with regard to Anti-Defection Law

- Any question regarding disqualification arising out of defection is to be decided by the presiding officer of the House.
- After Kihoto Hollohan versus Zachilhu case (1993), the Supreme Court declared that the decision of the presiding officer is not final and can be questioned in any court. It is subject to judicial review on the grounds of malafide, perversity, etc.

Note:

### ➤ Resignation versus Disqualification:

- In this case, the court observed, 'on the one hand, resignation does not take away the effect of a prior act that amounts to disqualification. On the other, Speakers are not given a free power to sit on resignation letters indefinitely.'
- Under **Article 190(3) of the Constitution**, the Speaker has to ascertain the voluntary and genuine nature of a resignation before accepting it.
- It is a limited inquiry process only to check if the letter is authentic and if the intent to quit is based on free will. Once it is clear, the Speaker has no option but to accept the resignation.
- The Court also observed that **a pending disqualification action does not become nonfunctional by mere submission of the resignation letter**. This would defeat the purpose of the Tenth Schedule if it was held that disqualification proceedings would become unfruitful upon tendering resignation.

## Supreme Court Ruling on the Finance Act, 2017

### Why in News

The Supreme Court of India has struck down the rules framed under the amended Finance Act 2017 for appointments to tribunals.

### Key Points

- The Supreme Court has struck down the Tribunal, Appellate Tribunal and other Authorities (Qualifications, Experience and other Conditions of Service of Members) Rules, 2017, saying it suffers from various infirmities.
- The Supreme Court found that these rules formulated by the central government under **Section 184 of the Finance Act, 2017** are contrary to the parent law/enactment.
  - The search and selection committee envisaged under the rules, for making appointments to tribunals, consists predominantly of central government appointees and the Chief Justice of India has been given a "token representation".

- **Excessive interference of the executive in appointment of members and presiding officers of statutory tribunals** can be detrimental to the independence of the judiciary besides being an affront to the doctrine of separation of powers.

- The apex court, however, upheld Section 184 of the Finance Act which had entitled the Central government to frame rules to determine appointment, service conditions, removal and other aspects of tribunals. It said that Section 184 does not suffer from excessive delegation of legislative functions.

### Finance Act

- Ordinarily, the Finance Act is enacted at the beginning of every accounting year to give **effect to the government's fiscal policies**.
- The Finance Act **legalises the income side of the budget** and completes the process of enactment of the budget.

## ICEDASH and ATITHI

### Why in News

The **Ministry of Finance** has launched **two Information Technology (IT) initiatives** – **ICEDASH** and **ATITHI**.

- **ICEDASH** – For improved monitoring of customs clearance of imported goods.
- **ATITHI** – For facilitating arriving international passengers.
- Both the initiatives have been **developed by the Central Board of Indirect Taxes and Customs (CBIC)**.

### Central Board of Indirect Taxes and Customs

- CBIC is a part of the Department of Revenue under the **Ministry of Finance**.
- It deals with the tasks of formulation of policy concerning levy and collection of Customs, Central Excise duties, **Central Goods & Services Tax**, Integrated GST (IGST) and prevention of smuggling.

### National Informatics Centre

- NIC of the **Ministry of Electronics and Information Technology** provides network backbone and **e-Governance** support to the Central Government, State Governments and UT Administrations.
- It was established in 1976 and is located in **New Delhi**.

Note:



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**ICEDASH**

- It is an **Ease of Doing Business (EoDB) monitoring dashboard of the Indian Customs** that will help public see the daily customs clearance times of import cargo at various ports and airports.
- It will help the businesses in comparing clearance times across ports and thus plan their logistics accordingly.
- It has been **developed in collaboration with the National Informatics Centre (NIC)**.

**ATITHI**

- It is an **easy to use mobile app for international travelers to file the Customs declaration in advance**.
- Passengers can use this app to file declaration of dutiable items and currency with the Indian Customs even before boarding the flight to India.
- It would encourage tourism and business travel to India.



Note:



# Economic Scenario

## Highlights

- Core Sector Output Falls by 5.2%
- Purchasing Manager's Index
- Elephant Bonds
- Relaxation of Fumigation Norms on Import of Onions
- Rising NPAs due to Unrated Loans
- A Special Fund for Housing Projects
- Core Investment Companies
- Base Year for GDP Calculation
- Policy on Credit Rating for MSMEs
- Steel Scrap Recycling Policy
- Index of Industrial Production (IIP)
- NBFC Liquidity Norms

## Core Sector Output Falls by 5.2%

### Why in News

- The output of **eight Core Infrastructure Industries** has **contracted by 5.2%** in **September 2019**, indicating the severity of the economic slowdown.
- Except for fertilizers (output improved by 5.4% in September), the other seven infrastructure industries experienced a contraction.
  - The **coal sector is the worst performer** on account of an extended monsoon, a surge in renewable energy supply and labour issues at state-run Coal India Ltd.
- The eight Core Industries in decreasing order of their weightage: **Refinery Products > Electricity > Steel > Coal > Crude Oil > Natural Gas > Cement > Fertilizers**.

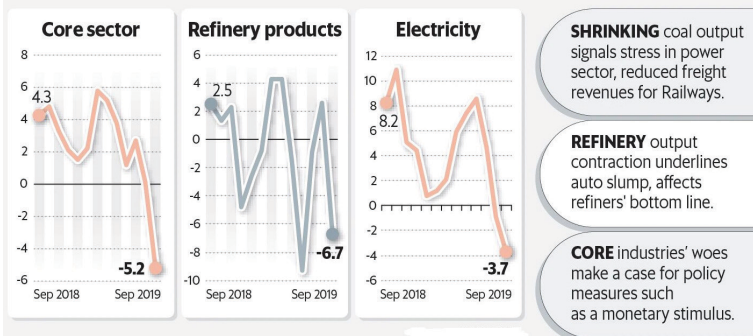
### Core Industries

- Core industry can be defined as the main industry which has a multiplier effect on the economy.
- In most countries, there is particular industry that seems to be backbone of all other industries and it qualifies to be the core industry.
- **The Eight Core Industries comprise 40.27% of the weight of items included in the Index of Industrial Production (IIP).**

Industry	Weight (In %)
Petroleum & Refinery production	28.04
Electricity generation	19.85
Steel production	17.92
Coal production	10.33
Crude Oil production	8.98
Natural Gas production	6.88
Cement production	5.37
Fertilizers production	2.63

## CORE SHOCK

Production of key primary sources of energy like crude oil and coal as well as refined petroleum products and electricity took a beating in September.



## Purchasing Manager's Index

### Why in News

The manufacturing **Purchasing Manager's Index (PMI)** was recorded at a 2-year low in **October 2019**. The score has decreased from 51.4 in September 2019 to 50.6 in October 2019.

**Definition:** PMI is an indicator of business activity – in the manufacturing and services sectors.

Note:

### Calculation of PMI

- It is a **survey-based measure** that asks the respondents, about changes in their perception about key business variables as compared with the previous month.
- It is **calculated separately for the manufacturing and services sectors** and then a composite index is constructed.
  - The **latest composite PMI decreased to 49.8 in September 2019 from 52.6 in August 2019.**
- The PMI is a number from 0 to 100.
  - PMI **above 50** represents an **expansion when compared to the previous month.**
  - PMI **under 50** represents a **contraction.**
  - A reading **at 50** indicates **no change.**
  - If **PMI of the previous month is higher than the PMI of the current month** (as is the case mentioned above), it represents that the **economy is contracting.**
- The PMI is usually **released at the start of every month.** It is, therefore, considered a **good leading indicator** of economic activity.

**Purpose:** To **provide information** about current and future business conditions to company decision-makers, analysts, and investors. As the official data on industrial output, manufacturing and GDP growth comes much later, PMI helps to make informed decisions at an earlier stage.

## Elephant Bonds

### Why in News

A **High Level Advisory Group on Trade Policy (HLAG)** recently suggested the government to issue '**Elephant Bonds**'. This will help India to **recover up to \$500 billion of black money** that is stashed overseas.

### Key Points

- An Elephant Bond is a **25-year sovereign bond** (a bond **issued by a national government**).
  - It is issued to those people who declare their previously undisclosed income and are then bound to invest 50% of that amount in these securities.
  - The fund gathered by the issuance of these bonds is utilized to finance infrastructure projects only.
- HLAG recommended these bonds in order to boost India's growth by utilizing the collected money (via

this mechanism) to fund infrastructure projects in the country.

- One of the key features of the proposed mechanism is that those disclosing their black money will receive immunity from all local laws including those under foreign exchange, black money laws, and taxation laws.
- Countries like Indonesia, Pakistan, Argentina, and the Philippines have already launched their own tax amnesty schemes for persons who disclose undeclared income without the risk of prosecution.
  - **Tax amnesty** is a limited-time opportunity for a specified group of taxpayers to pay a defined amount, in exchange for forgiveness of tax liability (including interest and penalties).
- The move is also expected to bring down the real interest rate. It will **also strengthen the rupee.**
- The HLAG was set up under the **Ministry of Commerce and Industry in the year 2018.**

## Relaxation of Fumigation Norms on Import of Onions

### Why in News

The Ministry of Agriculture and Farmers Welfare has allowed the **relaxation of fumigation norms** for the **import of onions** for a limited time period.

- The norms will also provide **relaxation from the endorsement on the Phytosanitary Certificate (PSC)** as per the **Plant Quarantine Order, 2003** for onion imports.
- The imported onions which arrive at Indian ports without fumigation and endorsement to that effect on the PSC would be fumigated in India by the importer through an accredited treatment provider.
  - On a **regular basis**, imported onions are allowed in the country only after the commodity is fumigated and certified by the exporting nation.

### Fumigation

- **Fumigation** is a **pest control method** that involves filling the airspace within a structure with toxic gas. Eg. Methyl Bromide, Phosphine, etc.
  - Methyl bromide is forbidden in developed nations, and its use was restricted by the **Montreal Protocol** due to its role in ozone depletion.

Note:



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- It is mainly used to **control pests** in storage buildings (structural fumigation), soil, and grains.
- It is also used during processing of goods to be imported or exported to **prevent transfer of exotic organisms**.

### Phytosanitary Certificate

- Phytosanitary certificates are issued to indicate that consignments of plants, plant products meet specified phytosanitary import requirements under **International Plant Protection Convention (IPPC), 1951**.
  - **Phytosanitary measures** are aimed at the protection of human, animal and plant health from diseases, pests, and contaminants.
- Usually, **PSCs** are **generated** by the **exporting country**.
- It can **only** be **issued by** an authorized officer from a government department that is authorized by a **National Plant Protection Agency (NPPO)**.
  - NPPO is in force to protect the threat of spreading pests, contamination or diseases into the country of import.

### Plant Quarantine Order, 2003

- It ensures the import of pest and fungus free agricultural commodities in the country which is or may be destructive to crops.
- Plant quarantine is a technique that ensures disease- and pest-free plants.

### Montreal Protocol

- The Montreal Protocol regulates the release, production and consumption Ozone Depleting Substances (ODS).
- The protocol provides for phasing out halogenated hydrocarbons like tetrachloride, CFCs used in aerosols, halons used in fire extinguishers, HydroChloroFluoroCarbons (HCFCs) used in refrigeration and foams, and methyl used in fumigation activity of agriculture.
- In 2016, Kigali amendment was made to the protocol to phase out HydroFluoroCarbon (HFC), a set of 19 gases in the hydrofluorocarbon family used extensively in the air-conditioning and refrigeration industry. Though HFCs are not ozone-depleting but are thousand times more dangerous than carbon dioxide in causing global warming.
- Under the amendment, developed nations will begin phasing down HFC gases by 2019, while developing countries will follow suit by 2024.

- During the process, a plant is isolated while tests are performed to detect the presence of a problem.

## Rising NPAs due to Unrated Loans

### Why in News

- According to data from the Reserve Bank of India (RBI), **Non-Performing Assets (NPAs)** for unrated loans has **increased to 24% (2018) from about 6% (2015)**.
  - **Unrated Loans** are loans that are **not rated** by credit rating agencies.
- **High levels of NPAs** in unrated loans indicate **more economical risk** for the banks as unrated loans are not secured through ratings.

Credit rating	Rating description
AAA	Prime
AA+	High grade
AA	
AA-	
A+	Upper medium grade
A	
A-	
BBB+	Lower medium grade
BBB	
BBB-	
BB+	Non Investment grade speculative
BB	
BB-	
B+	Highly speculative
B	
B-	
CCC+	Substantial risks
CCC	
CCC-	
CC	Extremely speculative
C	Default imminent
RD	In default
SD	
D	

### Key Points

- Unrated borrowers account for about **60%** of the total number and **40%** of the total exposure of large borrowers.
  - The central bank requires banks to report individual exposure of **more than Rs. 5 crore** with the Central Repository of Information on Large Credits (CRILC), to capture data on large borrowers.
  - The borrowers having an aggregate fund-based working capital of Rs. 150 crore and above are termed as **large borrowers**.

Note:

### How Unrated Loans and Related NPAs can be Reduced?

- By regularising credit ratings for loan exposure, RBI has raised **risk-weighted assets** on unrated loans.
  - **Higher risk-weighted assets** on unrated loans **reduce** the capacity of banks to lend such loans, thereby encouraging them to get such loans rated.
  - The risk-weighted assets are used to determine the **minimum amount of capital** that must be held by banks to **reduce the risk** of insolvency.
- Banks also need to consider rated exposures as some of the private sector banks experienced significant stress in their exposures to the credit rating of BB category (and below it) rated loan accounts.
- However, the **RBI's Financial Stability Report** projected the gross NPA ratio of all banks to come down from 9.3% in March 2019 to 9.0% by March 2020.
  - The recoveries pick up pace due to the resolution of some cases under the Insolvency and Bankruptcy Code and banks write off their bad loans.

#### Central Repository of Information on Large Credits

- It has been constituted by RBI in 2014 to collect, store, and publish data on all borrower's credit exposures.
- Banks will have to provide credit information to CRILC about their borrowers with an aggregate fund-based and non-fund based exposure of and over Rs. 5 crores (Rs. 50 million).
- It also helps financial institutions and banks to assess their non-performing assets (NPAs) and also share this information with other institutions.

## A Special Fund for Housing Projects

### Why in News

The Union Cabinet has approved the creation of an **Alternative Investment Fund (AIF)** of ₹25,000 crores to **revive stalled affordable and middle-income housing projects** across the country.

### Key Points

- **Fund Size**
  - The fund size will initially be ₹25,000 crores. However, the fund is not capped at ₹25,000 crores

and will likely grow as a lot of sovereign funds have shown interest.

### ➤ Fund Management

- The fund will be set up as **Category-II Alternative Investment Fund** registered with the **Securities and Exchange Board of India (SEBI)**.
- It will be managed by SBICAP Ventures Limited (SVL), wholly-owned subsidiary of SBI Capital Markets Ltd.

### ➤ Eligible Projects

- All **affordable and middle-income** housing projects that are
  - Net worth positive
  - Registered with the Real Estate Regulatory Authority (RERA) and
  - That has not been deemed liquidation-worthy.
- Stuck projects classified as **Non Performing Assets** and those undergoing resolution under the **National Company Law Tribunal** will also be eligible for funding — a change from the **announcement made in September 2019**.

### ➤ Funding Procedure

- The fund will provide money in **escrow accounts** that can be used only for the completion of the identified projects.
- The receivables from the project will be used to **repay the fund**.

### Expected Benefits

- The fund is expected to revive more than 1,600 housing projects which are stalled.
- **Impact on Other Sectors:** The revival of the real estate sector will also lead to the demand of cement, iron & steel industries, thereby generating employment.
- The fund will also generate a commercial return for its investors.
  - The AIF is expected to pool investments from government-related and private investors, including public financial institutions, sovereign wealth funds, public and private banks, etc.

#### Alternative Investment Fund

- Alternative Investment Fund means any fund established in India which is a **privately pooled investment** vehicle which collects funds from sophisticated investors, whether Indian or foreign, for

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investing it in accordance with a defined investment policy for the benefit of its investors.

- An alternative investment is a **financial asset** that does not fall into one of the conventional equity/income/cash categories.
- Private equity or venture capital, hedge funds, real property, commodities, and tangible assets are all examples of alternative investments.
- It is **regulated** by the **SEBI**.
- Categories
  - **Category I AIFs:** These generally invest in start-ups or early stage ventures which the government or regulators consider as socially or economically desirable.
    - e.g. venture capital funds, infrastructure funds.
  - **Category II AIFs:** These are AIFs which do not fall in Category I and III and which do not undertake leverage or borrowing other than to meet day-to-day operational requirements and as permitted in the SEBI (Alternative Investment Funds) Regulations, 2012.
    - e.g. real estate funds, private equity funds.
  - **Categories III AIFs:** AIFs which employ diverse or complex trading strategies and may employ leverage including through investment in listed or unlisted derivatives.
    - e.g. hedge funds, private investment in Public Equity Funds.

## Core Investment Companies

### Why in News

A working group formed by the [Reserve Bank of India \(RBI\)](#) has recommended measures to strengthen **Core Investment Companies (CIC)**.

### Core Investment Companies

- Core Investment Companies (CICs) are specialized [Non-Banking Financial Companies \(NBFCs\)](#).
- A Core Investment Company **registered with the RBI** has an **asset size** of above **Rs. 100 crore**.
- Their main business is the acquisition of shares and securities with certain conditions.
  - For e.g. they should not hold **less than 90%** of net assets in the form of investment in equity shares,

preference shares, bonds, debentures, debt or loans in group companies.

- Group companies are an arrangement involving **two or more entities** related to each other through any of the following relationships, viz., subsidiary, joint venture, associate, promoter-promotee for listed companies, a related party, common brand name, and investment in equity shares of 20% and above.

### Key Recommendations

- **Registration:** The current **threshold of Rs 100 crore asset size** and access to public funds for registration as CIC should be retained.
- **Related to Group Companies:**
  - Every group having a CIC should have a Group Risk Management Committee.
  - The number of layers of CICs in a group should be restricted to two. As such, any CIC within a group shall not make investments through more than a total of **two layers of CICs**, including itself.
    - The word **"layer"**, means **subsidiary or subsidiaries** of the holding company.
- **For Better Governance:**
  - CICs need to induct **independent directors**, conduct **internal audits** and prepare consolidated financial statements.
  - There is a need for ring-fencing boards of CICs by excluding employees/executive directors of group firms from its board.
  - CICs should constitute board-level committees — Audit Committee, Nomination and Remuneration Committee and Group Risk Management Committee.
- **For Step - down CICs:**
  - A Step-down CIC means the subsidiary company of a company which is a subsidiary of another company.
  - Step-down CICs may not be permitted to invest in any other CIC while allowing them to invest freely in other group companies.
  - Capital contribution by a CIC in a step-down CIC, over and above 10% of its owned funds, should be deducted from its adjusted net worth, as applicable to other NBFCs.

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## Base Year for GDP Calculation

### Why in news

The **Ministry of Statistics and Programme Implementation (MoSPI)** is considering **changing the base year** for the **Gross Domestic Product (GDP)** calculation from **2011-12 to 2017-18**.

### GDP calculation in India

- GDP is the **total monetary or market value of all the finished goods and services** produced within a country's borders in a specific time period.
- India's **Central Statistics Office** calculates the nation's GDP.
- In 2015, the Central Statistics Office (CSO) did away with GDP at factor cost and adopted the international practice of GDP at market price and the Gross Value Addition (GVA) measure to better estimate economic activity.
  - GDP at market price = GDP at factor cost + Indirect Taxes – Subsidies
- Presently, India's GDP is calculated with two different methods, one based on GVA (at basic prices), and the second on expenditure (at market prices).
  - **GVA** provides the rupee value for the amount of goods and services produced in an economy after deducting the cost of inputs and raw materials that have gone into the production of those goods and services. It also gives **sector-specific picture** like what is the growth in an area, industry or sector of an economy.
  - The **expenditure-based method** indicates how different areas of the economy, such as **trade, investments, and personal consumption**, are doing.

### Base Year

- The base year of the GDP is chosen to enable inter-year comparisons. It gives an idea about changes in purchasing power and allows calculation of inflation-adjusted growth estimates.
- Last time, the base was changed to 2011-12 from 2004-05.

### Need for Change

- **Globally Aligned:** Change of base year to calculate GDP is done in line with the global exercise to capture

economic information accurately. The new series will be in compliance with the United Nations guidelines in System of National Accounts-2008.

- **Accuracy:** GDP based on 2011-12 does not reflect the current economic situation correctly. Ideally, the base year should be changed after every five years to capture the changing economy.

## Policy on Credit Rating for MSMEs

### Why in News

The government is in the process of launching '**Digital data based credit ratings**' of **Micro, Small and Medium Enterprises (MSME)**. These credit ratings will help MSMEs in getting loans from banks.

- The government is thinking rating of enterprises on **two parameters**: prompt repayments and GST payments.

### Key Points

- The MSME sector has an important place in the Indian economy. According to the Ministry of MSME's 2017-18 report, the sector employed 111 million people, which is approximately **21% of the overall employment in the country**. The sector also contributed **28.8% to the country's GDP**.
- Despite such an importance, MSMEs face problems in accessing institutional finance.
  - The main problem faced by MSMEs in accessing institutional finance is their **lack of collateral**, which makes it hard for them to offer any security for bank loans.
  - Another significant problem is that often they **do not have credit histories**. This makes lending to them a risky proposition for banks.
  - Another major hurdle for MSME financing is the **information opacity** prevalent in the sector as many units do not have complete accounting records, audited financial statements, or well-articulated business plans. This makes credit assessment by potential lenders very difficult.

### How will the digital data-based credit system help the sector?

- Credit scoring based on digital data will give the lender a **holistic view of a borrower's creditworthiness**.

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- **Transaction data and surrogate data** like utility payments, bill payments will give a detailed view of the business.
- Each of the **data points can be treated as variables for credit appraisal** and can be assigned specific weightage depending on the nature of the businesses within the overall MSME segment.
- Further, deployment of credit underwriting mechanisms powered by advanced technologies such as **Artificial Intelligence (AI)**, machine learning and data analytics can provide useful insights.

## Steel Scrap Recycling Policy

### Why in News

Recently, the **Ministry of Steel** has issued the **Steel Scrap Recycling Policy**.

### Key Features

- **Circular Economy in the Steel Sector**
  - That is, utilising steel scrap emanating from **vehicles and white goods (that have reached their end of life)** for quality steel production.
  - This will **reduce dependency on imports** and decongest the Indian cities from End of Life Vehicles (ELVs).
- **Extended Producer Responsibility (EPR)**
  - Automobile manufacturers will design vehicles keeping in mind the **recyclability** of the vehicle at the end of life.
  - The policy envisages a framework to facilitate and promote the establishment of **metal scraping centres** in India.
- **Hub and Spoke model**
  - The Hub and Spoke (H&S) model is used when there are **multiple locations sourcing**, with a central location called the '**Hub**'. The central location provides a single point of contact to the client, whilst the in-country extensions are called '**Spokes**'.
  - Under the Policy, formal and scientific collection, dismantling and processing activities for the end of life products, that are sources of recyclable (ferrous, non-ferrous and other non-metallic) scraps, are being promoted.
- **Focus on the Environment**

- The Policy will work on the Principles of **6Rs: Reduce, Reuse, Recycle, Recover, Redesign and Remanufacture**.
- It aims to **reduce GreenHouse Gas (GHG) emissions**.
- It also aims to create a mechanism for treating waste streams and residues produced from dismantling and shredding facilities in compliance with **Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016** issued by the **Ministry of Environment, Forest and Climate Change (MoEF & CC)**.

### Steel Scrap in India

- **Used or reused steel** in the form of scrap is the **secondary raw material** for the Indian steel industry.
  - **Iron ore** is the primary source of steel making.
- The availability of raw materials at competitive rates is imperative for the growth of the steel industry and to achieve the **National Steel Policy (NSP) 2017 target**.
  - NSP-2017 aims to develop a globally competitive steel industry by creating 300 million tonnes per annum steel production capacity by 2030.

## Index of Industrial Production (IIP)

### Why in News

The **Index of Industrial Production (IIP)** for the month of September 2019 **has contracted by 4.3%** as compared to the month of September 2018.

- This is the first time after November 2012 that all three broad-based sectors (Mining, Manufacturing, and Electricity) have contracted and also the lowest monthly growth in the 2011-12 base year series.

### Reasons for Recent IIP Contraction

- **Lower agricultural growth** impacting rural demand adversely: India is witnessing **agricultural distress** because of multiple factors like lack of easy credit, the declining average size of farm holdings, poor policy, and planning, etc.
- **A slowdown in the Indian industrial sector:** Indian **industrial sector is facing slowdown** driven by disruptive technologies, changes in consumer behaviour, changing global industrial scenario, etc.

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- **Structural growth slowdown in the Indian Economy:** India is facing a long-term, **deep-rooted economic slowdown** which would require the government to undertake some structural policies like economic reforms of 1991.

### Index of Industrial Production

- The Index of Industrial Production (IIP) is an index that shows the **growth rates in different industry groups** of the economy in a fixed period of time.
- It is compiled and published monthly by the **Central Statistical Organization (CSO), Ministry of Statistics and Programme Implementation**.
- The IIP is basically divided into three sectors, though a use-based classification is also provided by the CSO.
  - The **three sectors** include: Mining, Manufacturing and Electricity.
    - Electricity, crude oil, coal, cement, steel, refinery products, natural gas, and fertilisers are the **eight core industries** that comprise about 40% of the weight of items included in the Index of Industrial Production.
  - **Use based classification include:** Primary Goods, Capital Goods, Intermediate Goods, Infrastructure/Construction goods, Consumer durables and Consumer nondurables.
- **Base Year for IIP is 2011-2012.**
- **Significance of IIP**
  - IIP is the only measure on the physical volume of production.
  - It is used by government agencies including the Ministry of Finance, the Reserve Bank of India, etc, for policy-making purposes.
  - IIP remains extremely relevant for the calculation of the quarterly and advance GDP estimates.

## NBFC Liquidity Norms

### Why in News

- The **Reserve Bank of India (RBI)** has introduced 'liquidity management framework' for **Non-Banking Financial Companies (NBFCs)**.
- The RBI move has come following liquidity crunch among some NBFCs in meeting their recent repayment obligations after the **collapse of the Infrastructure Leasing and Financial Services (IL&FS) group**.

### Non-Banking Financial Company

- A **NBFC** is a company **registered under the Companies Act, 1956 engaged in the business** of loans and advances, acquisition of stocks/bonds/debentures issued by Government or other marketable securities of a like nature, leasing, hire-purchase, insurance business, chit business but **does not include** any institution whose principal business is that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/construction of immovable property.
- A **non-banking institution** which is a company and has **principal business of receiving deposits** under any scheme or arrangement in one lump sum or in installments by way of contributions or in any other manner is also a **non-banking financial company** (Residuary non-banking company).

### Features of NBFCs

- NBFC cannot accept demand deposits.
- NBFCs do not form part of the payment and settlement system and cannot issue cheques drawn on itself.
- Deposit insurance facility of Deposit Insurance and Credit Guarantee Corporation is not available to depositors of NBFCs.

### Key Points

- **Liquidity Coverage Ratio**
  - All non-deposit taking NBFCs (**NBFC-NDs**) with **asset size of Rs 10,000 crore** and above and **all deposit-taking NBFCs** have to maintain a liquidity buffer in terms of **Liquidity Coverage Ratio (LCR)**.
    - However **Type I - NBFC-ND entities** are exempt from the applicability of LCR norms. Type I - NBFC-ND entities are those which do not accept public funds and do not have customer interface and do not intend to engage in such activities.

### Note:

- **LCR** refers to the **proportion of highly liquid assets** held by companies to ensure their ongoing ability **to meet short-term obligations**.
- It will promote resilience of NBFCs to potential liquidity disruptions by ensuring that they have sufficient **High Quality Liquid Asset (HQLA)** to

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survive any acute liquidity stress scenario lasting for 30 days.

- **HQLA** means liquid assets that can be readily sold or immediately converted into cash at little or no loss of value, or used as collateral to obtain funds in a range of stress scenarios.
- The LCR requirement **will be binding on NBFCs from 1<sup>st</sup> December, 2020** with the minimum HQLAs to be held being **50% of the LCR**, progressively reaching up to the level of 100% by 1<sup>st</sup> December, 2024.
- **Assets to be included as HQLA** include cash, government securities and marketable securities issued or guaranteed by foreign sovereigns. These assets should be free of any financial liability.
- **Significance:** The presence of liquid reserve will prevent a NBFC from going into a default loss if some inflows get delayed.
- NBFCs should adopt **liquidity risk monitoring tools** and metrics in order to capture strains in liquidity position.



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# International Relations

## Highlights

- India – Germany
- International Civil Aviation Organisation
- Pakistan Suspends Exchange of Postal Mails
- International Seed Treaty
- India and Brazil Signed Amended DTAC
- Bolivia Crisis
- 11<sup>th</sup> BRICS Summit
- 16<sup>th</sup> India-ASEAN Summit
- India and Uzbekistan
- 3<sup>rd</sup> RCEP Summit

## India – Germany

### Why in News

German Chancellor **Angela Merkel** visited India from 31<sup>st</sup> October - 1<sup>st</sup> November 2019 for the **fifth round of Intergovernmental Consultations (IGC)**.

- IGC are held **at the level of Head of Governments** which allow for a comprehensive review of cooperation and identification of fresh areas of engagement.

### Key Highlights

- **Pacts signed** in fields such as space, civil aviation, maritime technology, medicine, education, agriculture and **Artificial Intelligence (AI)**.
- **Cooperation in Defence**
  - India has invited Germany to take advantage of opportunities in defence sector in the upcoming **defence corridors** in Uttar Pradesh and Tamil Nadu.
  - The countries agreed to work on bilateral and multilateral platforms to counter terrorism and extremism.
- **Stand on International Issues**
  - To continue cooperation to expedite reforms in the United Nations **(UN) Security Council**.
  - Stressed on restoring full functioning of the **World Trade Organisation (WTO) dispute settlement system** and reforming the organisation without undermining its fundamental principles such as **Special & Differential Treatment** etc.
- **Climate Change**
  - Agreed to provide financial support to climate initiatives aimed at reducing greenhouse gas emissions.

- Germany expressed its readiness to provide 1.1 billion dollar to India for green urban mobility.
- **Economic Sector**
  - To deepen efforts to restart negotiations between the European Union (EU) and India on the **Bilateral Trade and Investment Agreement (BTIA)**.
- **Science and Technology**
  - To conduct joint research on the development and use of Artificial Intelligence (AI).
  - To identify best possible approaches on **cyber security**.

### India – Germany Ties

- India and Germany have a '**Strategic Partnership**' since 2001.
- **Germany is India's largest trading partner in Europe.**
- India and Germany are members of **G-4 along with Brazil and Japan**. The G4 nations support each other's bids for permanent seats on the United Nations Security Council.



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- Both countries are also members of the **Financial Action Task Force (FATF)**.

## **International Civil Aviation Organisation**

### **Why in News**

The recent incident of **Pakistan's denial of use of its airspace to India**, has been taken up by the Indian Government to the **International Civil Aviation Organisation (ICAO)**.

- India sought overflight clearance from Pakistan for the Prime Minister's aircraft to go to Saudi Arabia on 28<sup>th</sup> October, 2019.
- Pakistan cited alleged human rights violations in Jammu and Kashmir to deny the request.

### **International Civil Aviation Organisation**

- It is a **United Nations specialized agency**, established in **1944**, which laid the foundation for the standards and procedures for peaceful global air navigation.
- The **Convention on International Civil Aviation** was signed on **7<sup>th</sup> December 1944 in Chicago**.
  - It established the core principles permitting international transport by air, and also led to the creation of the ICAO.
- Its one of the **objectives** is to foster the planning and development of international air transport so as to ensure the safe and orderly growth of international civil aviation throughout the world.
- **India** is among its **193 members**.
- It is headquartered in **Montreal, Canada**.

## **Pakistan Suspends Exchange of Postal Mails**

In a unilateral decision, **Pakistan** has stopped the **exchange of postal mails with India without any prior notice**.

- Under **Universal Postal Union (UPU)** rules, when a country decides to suspend postal exchange with a country, it must notify the operator of the other country and, if possible, the duration for which services are being stopped.

- The UPU's International Bureau too has to be notified.
- Apart from UPU rules, **three other agreements** cover postal exchange between India and Pakistan:
  - **Exchange of Value Payable Article, 1948**
  - **Exchange of Postal Article, 1974**
  - **International Speed Post Agreement, 1987**

### **Universal Postal Union (UPU)**

- Universal Postal Union is the **specialized agency** of the **United Nations**.
- It was established in **1874** and is the **second oldest** international organization worldwide after **the International Telecommunication Union (1865)**.
- Its **headquarter** is located in **Bern, Switzerland**, and consists of 192 member countries.
- It **frames** rules for **international mail exchange and fixes rates for international postal services**.
- It performs advisory, mediating and liaison role, and provides technical assistance where needed.
- **India joined** the UPU in **1876**.

## **International Seed Treaty**

### **Why in News**

The **eighth session** of the governing body of the **International Treaty of Plant Genetic Resources for Food and Agriculture (ITPGRFA)** held in **Rome, Italy** from 11<sup>th</sup> to 16<sup>th</sup> November 2019.

- The Governing Body sessions are **held biennially**.
- India highlighted the need for conservation of plant genetic resources and the uniqueness of Indian legislation '**Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act**' to address the related issues.

### **International Treaty on Plant Genetic Resources for Food and Agriculture**

- It was adopted by the **31<sup>st</sup> session** of the **Conference of the Food and Agriculture Organization (FAO) of the United Nations** on 3<sup>rd</sup> November 2001.
- **Objective**
  - To recognize the contribution of farmers to the diversity of crops.

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- To establish a global system to provide farmers, plant breeders and scientists with access to plant genetic materials.
- To conserve and sustainably use plant genetic resources for food and agriculture, and fair and equitable sharing of the benefits arising out of their use, in harmony with the **Convention on Biological Diversity**.
- It is also known as **Seed Treaty** as it is a comprehensive international agreement for ensuring food security through the conservation, exchange and sustainable use of the world's Plant Genetic Resources for Food and Agriculture (PGRFA).
- **India is a signatory to the treaty.**

### **Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001**

- It aims to **protect farmers' and breeder's rights**.
- The act establishes '**Protection of Plant Varieties and Farmers' Rights Authority**' under the Ministry of Agriculture and Farmers Welfare.
  - The **major functions of Authority** include registration of new plant varieties; documentation of varieties registered; preservation of plant genetic resources; maintenance of the National Register of Plant Varieties and maintenance of National Gene Bank (for conserving seeds of registered varieties).
- According to the Act, a **farmer is entitled to** save, use, sow, resow, exchange, share or sell his farm produce including seed of a variety protected under the **PPV&FR Act, 2001** except the brand name.
- The Act is **compliant to articles of the Seed Treaty**.
- A few months back in April 2019, **PepsiCo sued Gujarati farmers** by invoking the provisions of the act.

## **India and Brazil Signed Amended DTAC**

### **Why in News**

Recently, the Union Cabinet has approved the **signing of the Protocol amending the Convention between India and Brazil for the Double Taxation Avoidance Convention (DTAC)**.

- The amendments aim to implement the recommendations contained in the **G20 OECD Base Erosion and Profit Shifting Project (BEPS)**.

- It will also help to streamline the **existing DTAC with international standards** which will help to provide tax certainty to investors and businesses of both countries.

### **Double Tax Avoidance Agreements (DTAAs)**

- A **DTAA is a tax treaty** signed between **two or more countries**.
- DTAAs are intended to make a country an **attractive investment** destination by providing **relief on dual taxation**.
- It applies in cases where a **taxpayer resides in one country** and **earns income** in another.
  - The relief is provided by exempting income earned abroad from tax in the resident country or providing credit to the extent taxes have already been paid abroad.

### **Base Erosion and Profit Shifting (BEPS)**

- BEPS is a term used to describe tax planning strategies that exploit mismatches and gaps that exist between the tax rules of different jurisdictions.
- It **minimizes the corporate tax** that is payable overall, by either making tax profits 'disappear' or shift profits to low tax jurisdictions where there is little or no genuine activity.
  - **Corporate tax** is a tax imposed on the net income of the company.
- BEPS is of major significance for **developing countries** due to their **heavy reliance on corporate income tax**, particularly from multinational enterprises (MNEs).
- The BEPS initiative is an **OECD initiative**, approved by the **G20**, to identify ways of providing more standardized tax rules globally.

#### **OECD/G20 Base Erosion and Profit Shifting (BEPS) Project**

- In 2013, OECD and G20 countries adopted a 15-point Action Plan to address BEPS.
- The OECD/G20 BEPS Project aims to create a single set of consensus-based international tax rules to address BEPS, and hence to protect tax bases.
- In 2016, the OECD and G20 established an Inclusive Framework on BEPS. Over 100 countries and jurisdictions have joined the Inclusive Framework.

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### Difference Between Convention, Agreement, and Protocol

- **Agreement:** It is a negotiated and usually legally enforceable understanding between two or more legally competent parties.
  - A binding contract can (and often does) result from an agreement.
- **Convention:** It is a formal agreement between States. These are normally open for participation of a large number of States.
  - The generic term 'convention' is thus synonymous with the generic term 'treaty'.
- **Protocol:** A protocol is an agreement that negotiators formulate and sign as the basis for a final convention or treaty.

## Bolivia Crisis

### Why in News

Jeanine Anez became the 66<sup>th</sup> President of Bolivia by replacing Evo Morales who fled the country to escape a violent crisis. She is the second woman to hold this post in Bolivia.



### Crisis

- **Evo Morales** was the first indigenous President of Bolivia who came to power in 2006. The past Presidents were of European descent.
  - The indigenous communities consist of two-thirds of Bolivia's population.
- The recent protests after his re-election to President escalated into a rebellion over the charges of election rigging.

### Bolivia

- Bolivia is officially known as the **Plurinational State of Bolivia**.
- It is a **landlocked country** located in western-central South America.
- The **capital** of Bolivia is **Sucre** while the seat of government and financial centre is located in La Paz.
- Bolivia is a **member** of the **free trade bloc** known as **Andean Community (CAN)**.

### Andean Community (CAN) and MERCOSUR

- The Andean Community is a **trade bloc of four countries - Bolivia, Colombia, Ecuador and Peru**.
  - The **Headquarters** of CAN is located in **Lima, Peru**.
  - The regional integration in the Andean countries began with the signing of the **Cartagena Agreement** (by Bolivia, Chile, Colombia, Ecuador and Peru) in 1969 creating the Andean Pact with the objective of creating a Customs Union and a Common Market.
    - **Chile withdrew in 1976** claiming economic incompatibilities.
- Apart from CAN, **MERCOSUR** is the **other major trading block of South America**.
  - MERCOSUR was established in **1991 by the Treaty of Asunción**, which was later amended and **updated by the 1994 Treaty of Ouro Preto**.
  - Its full members are **Argentina, Brazil, Paraguay, Uruguay**. Venezuela's membership was suspended in 2016.
  - **MERCOSUR** and **CAN** signed a Framework Agreement for the creation of a **Free Trade Area** between each other in April 1998.
  - CAN and MERCOSUR, along with nations like Chile, have been spearheading deeper integration of all South America through the **Union of South American Nations (UNASUR)** patterned on the European Union.

## 11<sup>th</sup> BRICS Summit

### Why in News

The 11<sup>th</sup> BRICS Summit took place from 13<sup>th</sup>-14<sup>th</sup> Nov 2019 in Brasilia, Brazil. The theme of the 2019 BRICS summit is "**Economic Growth for an Innovative Future**".

- **BRICS** countries adopted the **Brasilia Declaration**.

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### Brasilia Declaration

- **Reforming Multilateral Systems:** There is an urgent need to **strengthen and reform** the **United Nations** and other multilateral organisations, including the **World Trade Organisation (WTO)** and the **International Monetary Fund (IMF)**, to address the significant challenges being faced by the developing countries.
- **Support to Multilateralism:** The trade war between China and the U.S. and rising protectionism is hurting the global economy. Multilateralism is crucial for emerging countries to protect their own interests.

### India's Stand at the Summit

- **Increase Trade:** Intra-BRICS trade accounts for just **15% of world trade**, it needs to be increased. India invited business leaders of the member nations for investment, particularly in infrastructure development.
- **Address Water Scarcity:** India proposed to hold the **first meeting of BRICS Water Ministers in India**.
- **Terrorism:** India highlighted the menace of terrorism which has resulted in the loss of \$1 trillion to the world economy.

### BRICS

- BRICS is an acronym for the grouping of the world's leading emerging economies, namely **Brazil, Russia, India, China** and **South Africa**.
  - In **2001**, the **British Economist Jim O'Neill** coined the **term BRIC** to describe the **four emerging economies** of Brazil, Russia, India, and China.
  - The grouping was **formalised** during the first meeting of BRIC Foreign Ministers in **2006**.
  - **South Africa** was invited to **join BRIC** in December **2010**, after which the group adopted the **acronym BRICS**.
- It comprises **42% of the world's population**, has **23% of the global GDP** and around **17% of the world trade**.
- The **chairmanship** of the forum is rotated annually among the members, in accordance with the **acronym B-R-I-C-S**. **Brazil is the current chair of the grouping**.
- The **BRICS Leaders' Summit** is convened **annually**.
- During the **Sixth BRICS Summit in Fortaleza (2014)** the leaders signed the Agreement establishing the **New Development Bank (NDB)**. They also signed the **BRICS Contingent Reserve Arrangement**.

### Meetings on the sidelines of the Summit

- **India - Brazil**
  - India invited the President of Brazil as the Chief Guest at the **Republic Day 2020**.
  - Brazil has decided to grant **visa-free** travel to Indian citizens.
- **India - China**
  - The Chinese President invited the Indian Prime Minister for the **3<sup>rd</sup> informal summit in China in 2020**. The **first** informal summit took place at **Wuhan (China-2018)** and **second** at **Mamallapuram (India-2019)**.
  - Both the leaders reviewed preparations for celebrating the **70<sup>th</sup> anniversary** of the establishment of diplomatic relations between the two countries in **2020**.
- **India - Russia**
  - **1<sup>st</sup> Bilateral Regional Forum** at the level of Russian Provinces and the Indian States will be held in **2020**.
  - India has been invited for investment in the **Arctic region**. The US \$ 25 billion target of bilateral trade by 2025 has already been achieved.

## 16<sup>th</sup> India-ASEAN Summit

### Why in News

The Prime Minister of India attended the **16<sup>th</sup> India-ASEAN Summit** in **Bangkok, Thailand** on November 03, 2019.

### Key Highlights

- Along with this Summit, the other summits that took place in Thailand are-
  - **35<sup>th</sup> ASEAN Summit**,
  - **14<sup>th</sup> East Asia Summit**, and
  - **3<sup>rd</sup> meeting of RCEP**.
- During the summit, the discussions were held to promote India-ASEAN strategic partnership along with cooperation in the field of maritime security and **blue economy**, trade and investment, connectivity, science and technology, and innovation.
- The Prime Minister also discussed about the mutual coordination between India's vision of the **Indo-Pacific region** and the **Association of Southeast Asian Nations (ASEAN)** outlook for maintaining strategic balance

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in the region, which has been witnessing growing Chinese assertiveness.

- At the **Regional Comprehensive Economic Partnership (RCEP)** Summit, a trade negotiation deal is **yet to be finalized** after considering all issues that concern Indian interests in trade in goods, services, and investments.
- The PM addressed the Indian community at the **'Sawasdee PM Modi'** event in **Bangkok**.
  - In the **Thai language**, the word 'Sawasdee' is used for **greetings and goodbye**.

### India-Myanmar

- The Indian Prime Minister highlighted the **importance of Myanmar to India's Act East Policy and the Neighbourhood First policies**.



- The emphasis was laid on building a stable and peaceful border by improving physical connectivity to and through Myanmar to Southeast Asia via building roads, ports, and expansion of air connectivity.
- India plans to host a business event for the **CLMV countries (Cambodia, Laos, Myanmar, and Vietnam)** in Yangon at the end of November 2019.

### India-Indonesia

- India and Indonesia discussed the threat of extremism and terrorism and agreed to work closely bilaterally and globally to tackle this menace.
- The Indian PM highlighted the need for **greater market access** for Indian commodities in Indonesia including, pharmaceutical, automotive and agricultural products.
- India shares a **Comprehensive Strategic Partnership with Indonesia**. And this year (2019), **India and Indonesia** commemorated the **70<sup>th</sup> anniversary of the establishment of diplomatic relations**.



### India-Thailand

- India and Thailand agreed to explore opportunities for cooperation in areas such as trade, culture, and defence industries sector.



- Emphasis was laid to enhance connectivity between the two countries, including in the areas of physical and digital connectivity.
- **Thailand 4.0 initiative** of transforming Thailand into a value-based economy is complementary to India's priorities Digital India, Skill India, Swachh Bharat Mission, Smart Cities, Jal Jeevan Mission, etc.
- In the contemporary context, India's **Act East policy** is complemented by Thailand's Look West policy which has made the relationship deep, robust and multifaceted.

## India and Uzbekistan

### Why in News

- The Defence Minister of India attended the **18<sup>th</sup> meeting of the Council of Heads of Government (CHG)** of the **Shanghai Cooperation Organization (SCO)** on 2<sup>nd</sup> November, 2019 in Tashkent, Uzbekistan.
- The meeting was the third CHG meeting after India became a full member of the SCO in 2017.

Note:

- SCO is a **permanent intergovernmental international organisation** that was **created in 2001**.
- It's one of the objectives is to strengthen mutual trust and neighbourliness among the member states.
- At present, it has **eight member states**. Its **Secretariat** is located in **Beijing, China**.

### Highlights from the SCO Meeting

- **Common Challenges:** To work together to defeat challenges like terrorism, climate change, endemic poverty, and inequality.
- **Multilateralism:** India is committed to a transparent, rules-based, open, inclusive and non-discriminatory multilateral trading system with the **World Trade Organisation (WTO)** at its centre.
- **Disaster Management:**
  - India invited SCO Member states to join the **'Coalition for Disaster Resilient Infrastructure'**.
  - India will soon hold Joint Urban Earthquake Search and Rescue exercise of SCO member States along with SCO Expert level meeting on disaster prevention.
- **Security Cooperation:** Emphasis on the importance of SCO joint military exercise **'CENTER 2019'**.
- India will host the **meeting of Council of Heads of Government** in **2020**.

### Highlights from India - Uzbekistan Discussions

- The defence minister of India also held bilateral consultations with the defence minister of Uzbekistan.
- Three memorandums of understanding (MoU) were signed to enhance cooperation in military medicine and military education.
- India affirmed its commitment to develop a state-of-the-art Information Technology (IT) complex in Armed Forces Academy of Uzbekistan for the benefit of the soldiers.
- Both the Defence Ministers presided over the inauguration of the **first India-Uzbekistan Joint Exercise, "Dustlik 2019"** which was held at Chirchiq Training Area near Tashkent and will focus on counter-terrorism.

### India - Uzbekistan Ties

- **Areas of Cooperation:** Uzbekistan and India have signed Agreements and MoUs in areas such as trade,

investment, education, civil aviation, tourism, science & technology and agriculture.

- **Economic Ties:** Bilateral relations are managed through an intergovernmental Commission, which oversees trade and economic relations.
- **Cultural Relations:**
  - There is a close affinity between the cultures of the two countries. Indian films, actors and songs are extremely popular across Uzbekistan.
  - After the first major co-production of **Alibaba aur Chalis Chor in 1980**, Indo-Uzbek jointly produced film 'Hoichoi Unlimited' premiered in Uzbekistan on 31st March 2019.
  - **The Lal Bahadur Shastri Centre for Indian Culture** teaches Hindi, Yoga and Kathak and holds cultural performances across Uzbekistan.

## 3<sup>rd</sup> RCEP Summit

### Why in News

In the recently held **Regional Comprehensive Economic Partnership (RCEP) Summit** in Thailand, India decided not to finalize the RCEP trade deal. India has expressed its concerns over lowering and elimination of tariffs on products from other countries, as it would negatively affect the domestic agricultural and industrial sector.

- **All members of RCEP (except India) have concluded the text-based negotiations** for the **trade deal**. The agreement is **expected to be signed by 2020**.
- The purpose of the deal is to create an integrated market. This would ensure easier availability of products and services across the entire region.

### Regional Comprehensive Economic Partnership

- RCEP is a **proposed regional economic integration agreement** among the **10 Association of Southeast Asian Nations (ASEAN) countries** and its six free-trade agreement partners – **Australia, New Zealand, Japan, China, South Korea, and India**.
- It will be one of the largest free-trade bloc accounting for 45% of the world's population, and a combined GDP of about \$21.3 trillion (around 30% of global GDP) and 40% of the world trade.

Note:



### Reasons for India's Exit

- **Inadequate Protection against Import-surge:** India has apprehensions that the rising imports due to the signing of the Free Trade Agreement (FTA) would lead to flooding of Chinese products in the Indian market.
  - India had already been demanding an auto-trigger mechanism that would allow it to raise tariffs on products in instances where imports cross a certain threshold; which now won't happen with this deal.
- **Trade Deficit:** Despite having separate bilateral FTAs with most RCEP nations, India has recorded [trade deficits with these countries](#).
  - India already has a trade deficit of over \$50 billion with China, and the current deal will further lead to increasing of this deficit.
- **Lack of Market Access:** India has not received any credible assurance on its demand for more market access with respect to mobility of Indian labour, services and agricultural commodities, and its concerns over non-tariff barriers.
  - RCEP participants (like China) have used non-tariff barriers in the past to prevent India from expanding its exports to the country.
  - A nontariff barrier is a way to restrict trade by using barriers other than a tariff. These include quotas, embargoes, sanctions, and levies.
- **Problem with Base Year:** India's demands regarding the base year that would be used to reduce tariffs on the products (traded as part of the pact) was not considered.
  - India demanded for considering 2014 as the base year for tariff reductions instead of 2013, as India raised import duties on several products between 2014 and 2019. Using a base year before 2014 would lead to a drastic drop in the import duties

on these products which would negatively impact Indian interests.

- **Sectors Impacted:** Due to the availability of cheaper alternatives from other participant countries, some domestic sectors may take a hit.
  - For instance, the Indian dairy industry would face stiff competition from Australia and New Zealand, if India signs this deal.
  - Likewise, steel and textiles sectors have also demanded protection from similar competition.
- **Rules of Origin:** India has concerns over possible circumvention of these rules.
  - **Rules of Origin is the criteria used to determine the national source of a product.** Their importance is derived from the fact that duties and restrictions in several cases depend upon the source of imports.
  - Current provisions in the deal reportedly do not prevent countries (on which India would originally maintain higher tariffs) from routing their products through other countries.
  - This may allow countries like China to dump in more products into India.

### Way Forward

- A mutually beneficial RCEP in which all countries gain reasonably is the need of the hour.
  - **India has a services trade surplus with the world.** Therefore, it is trying to push for a strong agreement on the services trade, including a deal on easier movement of skilled manpower.
- RCEP provides a chance for India to bring in historic trade reforms in the economic sector, which in itself will cement India's position as a major global economy and make Indian industry globally competitive.



Note:

# Science and Technology

## Highlights

- DNA Bill, 2019
- Pegasus Spyware
- Semi - Dirac Metals
- New Subtype of HIV Discovered
- Devices to Control Air Pollution
- Geochemical Baseline Atlas
- NavIC
- Length of a Day on Each Planet
- Vigyan Samagam
- World's First Drug for Alzheimer's Disease

## DNA Bill, 2019

### Why in News

Recently, the **scope for violations of privacy** in the proposed DNA data bank was discussed by a parliamentary panel on the contentious **DNA Technology (Use and Application) Regulation Bill, 2019**.

### Key Highlights

- The Bill provides for the establishment of a **National DNA Data Bank** and **Regional DNA Data Banks for states**.
  - DNA laboratories are required to share DNA data with the National and Regional DNA Data Banks.
  - Every Data Bank will be required to maintain **indices for the following categories** of data-
    - a crime scene index
    - a suspects' or undertrials' index
    - an offenders' index
    - a missing persons' index
    - an unknown deceased persons' index
- It aims to **store the unique genetic information** for administrative purposes.
- It also provides for the establishment of a **DNA Regulatory Board**, which will supervise the DNA Data Banks and DNA laboratories.
- The **Secretary, Department of Biotechnology**, will be the **ex officio Chairperson** of the board and the additional members will be-
  - Experts in the field of biological sciences.
  - Director General of the National Investigation Agency.
  - Director of the Central Bureau of Investigation.

### Concerns

- **Threat of data Hacking:** After the incident of **malware infection at the Kudankulam Nuclear Power Plant** there is a risk of this sensitive data bank being hacked.
- **Violation of Human Rights:** It also puts human rights at stake as it can lead to misuse and miscarriages of justice.
- **Not Cost Effective:** Creating large databases is not a very budget friendly option with limited resources.
- **Inadequate Resources:** Currently, laboratories are able to assess only one or two samples at a time which results in delayed investigations.
- **Possibility of misuse of DNA samples:** Through DNA, the identity as well as other characteristics can be known which can be misused for blackmailing the person who has submitted his/her DNA samples.
- **Single Use:** Bill envisages the use of a DNA sample for a particular specified purpose only. For any other purpose, the DNA sample will have to be processed again.

### Way Forward

- **Modernisation of Technology:** Processing around 40 to 50 samples will help in quick resolution of various cases.
- **Multiple usage:** Situations may arise that demand usage of a DNA sample multiple times so use of DNA should not be restricted to a particular purpose.
- **Effective implementation:** It is required to ensure the proper storage and usage of DNA samples.
- **Securing Human Rights:** The authorities need to regulate three broad areas of concern – capacity, training and consent before unleashing the DNA Bill in India.

Note:

## Pegasus Spyware

### Why in News

**WhatsApp** recently filed a **lawsuit in the U.S court against Israel's NSO Group**, alleging that the firm was incorporating **cyber-attacks** on the application by infecting mobile devices with malicious software.

### Key Points

- Users across at least **20 countries** in Africa, Asia, Europe, the Middle East and North America were affected by the spyware.
  - Targeted users in India included journalists, human rights activists, political dissidents, lawyers, and diplomats.
- The spyware named '**Pegasus**' is developed by the Israeli cyber arms firm NSO in 2016.
  - Pegasus exploited a **weakness in WhatsApp's video-call feature** that allowed attackers to inject the spyware on to phones simply by ringing the number of targets' device. It **enters the phone even if the call is not answered**.
  - Once Pegasus is installed, it can access the targeted users' private data including passwords, contact lists, calendar events, text messages and live voice calls from popular mobile messaging apps.
  - It can also **turn the phone into a spying device** by switching on its camera or microphone.

## Semi - Dirac Metals

### Why in News

Researchers from the Indian Institute of Technology - Bombay have discovered special properties in a class of materials called "**semi-dirac metals**".

### How Semi - Dirac

#### Metals differ from other metals?

- In general, metals are **good conductors** of electricity.
- A key aspect that decides the quality of conduction is the way **energy depends on the momentum of electrons**.
- **Dirac metals** differ from normal metals in that the **energy depends** linearly on the **momentum**. This difference is also responsible for its unique properties.

- Semi-Dirac metals behave like Dirac metals in one direction and like normal metals in the perpendicular directions (since their microscopic structure is different along with the two directions).
- Examples of **semi-dirac metals** are systems such as **TiO<sub>2</sub>/V<sub>2</sub>O<sub>3</sub> nanostructures** (Oxides of Titanium and Vanadium).

### Properties Discovered

- The direction-dependence of microscopic properties gives Semi - Dirac material special optical properties.
  - Semi-Dirac materials have **very high optical conductivity of electromagnetic waves (light waves)**. These waves are of a specific frequency and a specific polarisation.
  - **Optical conductivity** is a measure of the **opacity** offered by the material to the passage of light through it.
    - Semi - Dirac materials would be transparent to light of a given frequency and polarisation when it is incident along a particular direction. These materials would be opaque to the same light when it falls on it from a different direction.
    - There are many known applications for **transparent conducting films** – the common example being touch **screens used in mobiles**.
- The material possesses interesting **thermoelectric properties**.
  - **Thermoelectricity** is a **clean** energy technology that uses waste heat to produce electricity typically in low power applications.
  - This technology is used in cars, where it is used to keep the lights on and to warm seats.

## New Subtype of HIV Discovered

### Why in News

Recently, the researchers have discovered a new subtype of the Human Immunodeficiency Virus (HIV) called **HIV-1 Group M, subtype L**. It is the **first time** a subtype of HIV has been found in almost two decades.

- There are **two** types of HIV: **HIV-1 and HIV-2**.
- HIV-1 is considered the **predominant type**, representing the vast **majority of infections** worldwide, while **HIV-2** is far **less common** and primarily concentrated in the west and central African regions.

Note:



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### Human Immunodeficiency Virus – Acquired Immunodeficiency Syndrome

- HIV is a type of retrovirus. The combination of drugs used to treat it is called **Antiretroviral Therapy (ART)**.
- HIV attacks **CD4-a type of White Blood Cell (T-cells)** in the body's immune system.
- It is transmitted from person to person through bodily fluids, including blood, semen, vaginal secretions, anal fluids, and breast milk.
- The **total number of people living with HIV** was estimated at 21.40 lakh in 2017. India saw a **decline of 85%** compared to 1995.
- **World AIDS Day** is observed on **1<sup>st</sup> December**.

### Key Points

- Researchers used a tailored method of the next-generation **genome sequencing** technology to identify the new subtype.
  - **Genome sequencing** is the process of **determining the complete DNA sequence of an organism's genome**.
  - The technology is helping scientists to detect mutating viruses and avoid a new pandemic.
- **Group M viruses** are responsible for the **global pandemic** – which can be traced back to the **Democratic Republic of Congo** in Sub-Saharan Africa.

## Devices to Control Air Pollution

### Why in News

The **air purifiers installed** on the roads and on top of the buses have **failed to combat air pollution** in Delhi NCR.

- The air purifying devices include **WAYU (Wind Augmentation Purifying Unit)** and **High-Efficiency Particulate Arrestance (HEPA) filters**.

### WAYU (Wind Augmentation Purifying Unit)

- It is developed to **address air pollution at traffic intersections** and dense traffic zones.
- It has been **indigenously developed by the Council of Scientific and Industrial Research - National Environmental Engineering Research Institute (CSIR-NEERI)**.
- The device has the capacity to purify the air in an area of the 500-meter square. It is energy efficient and has a low maintenance cost.

- The device works on **two principles**:
  - **Wind generation for dilution of air pollutants**: It comprises a fan that sucks in air and removes dust and particulate matter.
  - **Active Pollutant removal**: The carbon monoxide and hydrocarbons are oxidized into **less harmful carbon dioxide** using activated carbon coated with titanium dioxide.

### High-Efficiency Particulate Arrestance (HEPA) filters

- These filters are able to **trap 99.97% of particles that are 0.3 microns**.
- It traps air contaminants in a complex web of fibers.

## Geochemical Baseline Atlas

### Why in News

Recently, **CSIR-National Geophysical Research Institute (NGRI)** has released the **first 'Geochemical Baseline Atlas of India'** for **environmental management**.

- The atlas aims to document the **concentration and distribution of the chemical elements** in the soils of India.
- It consists of **44 maps of metals, oxides and elements** present in **top and bottom soils** across India.

### About CSIR-NGRI

- The National Geophysical Research Institute (NGRI) is a geoscientific research organization established in 1961 under the **Council of Scientific and Industrial Research (CSIR)**.

### International Union of Geological Sciences (IUGC)

- It is a non-governmental scientific organization founded in 1961 which promotes and encourages the study of geological problems, and facilitates international and interdisciplinary cooperation in the earth sciences.
- The Union consists of 121 member nations. India is the member.
- At present IUGS gives considers issues related to:
  - Geoscience education,
  - Geoscience information,
  - Environmental management and hazards.

Note:



### Significance

- Both **human activities and natural processes** are continuously **modifying** the chemical composition of our environment. Hence, it will help to assess the chemical compositional changes on the Earth's surface.
- It will help the country to **assess the presence of toxic chemicals** in soil and how it varies from place to place. It also helps in identifying how soil pollution is contributing to groundwater contamination.
- Further, the map will also support in **choosing the right soil that's rich** in certain **micronutrient elements** required for each plant growth.
- The geochemical data presented in these maps will be a part of the global map to be prepared by the **International Union of Geological Sciences (IUGC)**.

## NavIC

### Why in News

- The **Indian Space Research Organisation (ISRO)** and its commercial arm **Antrix Corporation Ltd.** are set to commercialize India's regional navigation satellite system - Navigation in Indian Constellation (NavIC).
- **Potential Uses:**
  - Terrestrial, aerial and marine navigation;
  - Disaster management;
  - Vehicle tracking and fleet management (especially for mining and transportation sector);
  - Integration with mobile phones;
  - Precise timing (as for ATMs and power grids);
  - Mapping and geodetic (the science of measurement of the earth) data capture.

### Navigation in Indian Constellation

- Navigation in Indian Constellation (NavIC) is an **Indian Regional Navigation Satellite System (IRNSS)**, developed by the Indian Space Research Organization (ISRO).
- IRNSS consists of **eight satellites**, **three** satellites in **geostationary orbit** and **five** satellites in **geosynchronous orbit**.
- The **main objective** is to provide **reliable position, navigation and timing services** over India and its neighbourhood.
  - It works just like the established and popular U.S. Global Positioning System (GPS) but within a 1,500 km radius over the sub-continent.

- It has been certified by the 3<sup>rd</sup> Generation Partnership Project (3GPP), a global body for coordinating mobile telephony standards.

## Length of a Day on Each Planet

### Why in News

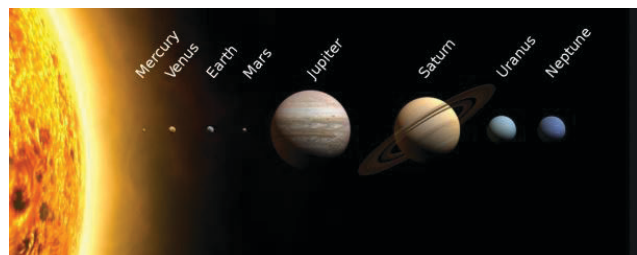
- Recently, the research was undertaken to **calculate the accurate length of a day on Venus and Saturn** which has been **changing since 1963**.
  - **Venus:**
    - The recent observation of the **Magellan spacecraft's observations (1991)** concluded that the **rotation period for Venus** has an **uncertainty of about 9 seconds**.
  - **Saturn:**
    - The recent, the **Cassini spacecraft** showed that there is an **uncertainty of 6 minutes** with a **rotation period of Saturn**.

### The Solar System

- The Solar System consists of the **Sun and eight planets**.
  - It also consists of **bodies** such as **comets, asteroids, and meteors**.

#### Planets vs Dwarf Planets

- The definition of a planet was adopted by the **International Astronomical Union** in **2006**. A planet must:
  - Orbit a star (in our system, it is the Sun).
  - Be big enough to have enough gravity to force it into a spherical shape.
  - Be big enough that its gravity cleared away any other objects of a similar size near its orbit around the Sun.
- On the other hand, **dwarf planet** is a celestial body orbiting a star that is **massive** enough to be rounded by its **own gravity** but has **no clear orbit** (Gravitationally not dominant in its orbit).



Note:

Planets	Facts
Mercury	<ul style="list-style-type: none"> <li>➤ It is the nearest to the Sun and also the smallest planet in our solar system.</li> <li>➤ It has no satellite of its own.</li> <li>➤ It takes 1408 hours to complete a rotation.</li> </ul>
Venus	<ul style="list-style-type: none"> <li>➤ It is called morning or an evening star, although it is not a star.</li> <li>➤ Sometimes it is called as Earth's twin.</li> <li>➤ Venus has no moon or satellite of its own.</li> <li>➤ It rotates from <b>east to west</b> while the Earth rotates from west to east.</li> <li>➤ It takes 5,832 hours to complete a rotation.</li> </ul>
Earth	<ul style="list-style-type: none"> <li>➤ The Earth is the only planet in the solar system on which life is known to exist.</li> <li>➤ The axis of rotation of the Earth is 23.5 degrees relative to the orbital plane – the plane of Earth's orbit around the sun. The tilt is responsible for the change of seasons on the Earth.</li> <li>➤ The Earth has only one moon.</li> <li>➤ The Earth takes 24 hours to complete a rotation.</li> </ul>
Mars	<ul style="list-style-type: none"> <li>➤ It appears slightly reddish and, therefore, it is also called the red planet.</li> <li>➤ Mars has two small natural satellites.</li> <li>➤ It takes 25 hours to complete a rotation.</li> </ul>
Jupiter	<ul style="list-style-type: none"> <li>➤ Jupiter is the largest planet of the solar system.</li> <li>➤ Jupiter has 53 named satellites and another 26 awaiting official names.</li> <li>➤ It also has faint rings around it.</li> <li>➤ It takes only 10 hours to complete a rotation.</li> </ul>
Saturn	<ul style="list-style-type: none"> <li>➤ The Saturn is yellowish in colour.</li> <li>➤ It has an icy ring around it.</li> <li>➤ It has 82 moons (<b>Planet with the highest number of moons</b>).</li> <li>➤ It takes 11 hours to complete a rotation (second-shortest day in the solar system).</li> </ul>
Uranus	<ul style="list-style-type: none"> <li>➤ Uranus also rotates <b>from east to west (like Venus)</b>.</li> <li>➤ It has a highly tilted rotational axis.</li> <li>➤ It takes 17 hours to complete a rotation.</li> </ul>

Neptune	<ul style="list-style-type: none"> <li>➤ It is the eighth and most distant planet in our solar system.</li> <li>➤ The Neptune is dark, cold and has a presence of supersonic winds.</li> <li>➤ It takes 16 hours to complete a rotation.</li> </ul>
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## Vigyan Samagam

### Why in News

India's **first-ever global mega-science exhibition 'Vigyan Samagam'** was inaugurated at the **Science City of Kolkata**.

- The Science City of Kolkata is the **largest science centre in the Indian subcontinent**. It is managed by the **National Council of Science Museums, Ministry of Culture**.

### Key Points

- The exhibition **showcases India's participation in the world's major Mega Science projects**, where several developed countries are participating collectively.
  - The Mega Science Projects in which India is participating are:
    - **Large Hadron Collider (LHC)** at the European Organization for Nuclear Research (CERN),
    - Facility for Antiproton and Ion Research (FAIR),
    - **India-based Neutrino Observatory (INO)**,
    - International Thermonuclear Experimental Reactor (ITER),
    - **Laser Interferometer Gravitational-Wave Observatory (LIGO)**,
    - **Thirty Meter Telescope (TMT)**, and
    - Square Kilometre Array (SKA).
  - From the discovery of the Higgs particle to that of **gravitational waves**, these projects throw light on crucial questions related to the origin of the Universe and its evolution through its various stages.
- The **primary goal** of such an exhibition is **to expose young minds to the deep mysteries of the Universe and various facets of its evolution**. The exhibition encourages them to take up science as a career option and contribute to the nation's intellectual growth.
- **'Connecting with School Children, Students'** is one of the key objectives of Vigyan Samagam. For this, in each city, a number of activities engaging the curiosity,

Note:

attention, and imagination of school children and students will be taken up.

- Vigyan Samagam is a **valuable addition to the India International Science Festival (IISF) programme-2019.**

#### CERN Large Hadron Collider

- **European Organisation for Nuclear Research (CERN)** is the **world's largest nuclear and particle physics laboratory** and best known as operator of the Large Hadron Collider, which found the elusive Higgs boson in 2012. **India** in 2016 became an **associate member of CERN.**
- **LHC** is a kind of **atom smasher machine.** It is the world's largest and most powerful particle accelerator.

#### Facility for Antiproton and Ion Research

- FAIR is an international accelerator facility for the research with antiprotons and ions which is being developed and built in **Darmstadt (Germany)** in cooperation with international partners.

#### India-based Neutrino Observatory (INO) Project

- It is a multi-institutional effort aimed at building a **world-class underground laboratory** with a rock cover of approx. 1200 m for **non-accelerator based high energy and nuclear physics research in India.** Located in **Theri, Tamil Nadu.**

#### International Thermonuclear Experimental Reactor

- ITER is an experimental fusion reactor facility under construction in Cadarache, South of France to prove the feasibility of nuclear fusion for future source of energy.

#### Laser Interferometer

##### Gravitational Wave Observatory

- The **LIGO project** operates **three gravitational-wave (GW) detectors.** Two are at **Hanford** in the State of Washington, north-western USA, and **one** is at **Livingston** in Louisiana, south-eastern USA.
- **LIGO India** is a planned advanced gravitational-wave observatory to be located in India as part of the worldwide network.

#### Thirty Meter Telescope

- Thirty Meter Telescope (TMT) is a **new class of extremely large telescopes** that will allow us to

see deeper into space and observe cosmic objects with unprecedented sensitivity. It is getting built at **Mauna Kea, Hawaii, USA.**

#### Square Kilometre Array

- The Square Kilometre Array (SKA) project is an international effort to build the **world's largest radio telescope**, with eventually over a square kilometre (one million square metres) of collecting area. It will be co-hosted by **South Africa and Australia.**

#### India International Science Festival

- IISF is the **largest science festival in the world.** It is an annual festival to celebrate the achievements of India's scientific and technological advancements with students, innovators, craftsmen, farmers, scientists and technocrats from India and abroad.
- It was **started** from the year **2015.**
- It is organized by the **Ministry of Science & Technology, Ministry of Earth Sciences and Vijnana Bharati (Vibha).**

## World's First Drug for Alzheimer's Disease

Recently, **China** has approved the **world's first multi-targeting and carbohydrate-based drug GV-971 for Alzheimer's disease.**

- Multi-target drugs hit several targets in the body, which is often necessary to do in order to yield a therapeutic effect in complex diseases like Parkinson's or Alzheimer's. This is different from most drugs which target only a single biological substance, like a protein or enzyme.

#### GV-971

- It has been **extracted from brown algae** and can treat mild to moderate forms of the disease and improve cognition.
- This is the only drug out of more than 320 developed by pharmaceutical companies around the globe to pass clinical trials for treating Alzheimer's.
- The medicine **can be taken orally** by the patients.

#### Alzheimer's Disease

- It is an **irreversible and progressive brain disorder.**

Note:



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- The disease slowly destroys memory, thinking ability and the capability to carry out simple tasks.
  - The possibility of Alzheimer's increases as the age of the population increases.
- **Nearly 50 million people are affected** by the disease and the number is expected to increase.
    - **China has the highest Alzheimer's affected population** in the world.

■ ■ ■

Note:



# Environment and Ecology

## Highlights

- BASIC Environment Ministers Meet
- Health Emergency in New Delhi
- New Species of Tree Frog
- Butterfly Survey
- Satpura Tiger Reserve
- Nagarjunasagar Srisailem Tiger Reserve
- Olive Ridley Turtles
- Punjab Water Law Responsible for Air Pollution in Delhi

## BASIC Environment Ministers Meet

### Why in News

- Recently, the **29<sup>th</sup> meeting** of environment ministers from the **BASIC nations (Brazil, South Africa, India and China)** was held in **Beijing, China**.
- A statement was issued calling for a comprehensive implementation of the **Paris Agreement (2015)**.

### Key Points

- The group of ministers also **called on the developed nations** to deliver on their **commitment to provide \$100 billion climate finance** to the developing countries.
  - The developed world under the **Copenhagen Accord** (established during the **2009 United Nations Climate Change Conference, COP-15**) had promised \$100 billion per year from 2012 to 2020.
  - This fund is known as the **Green Climate Fund** which aims to help the developing and least developing countries to mitigate climate change issues as the Paris agreement comes into effect.
  - However, only about \$10-20 billion has been contributed so far.
- The meeting is in **accordance with the principles of equity, common but differentiated responsibilities and respective capabilities (CBDR-RC)**.
  - Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC) is a **principle**

within the **United Nations Framework Convention on Climate Change (UNFCCC)** that acknowledges the different capabilities and differing responsibilities of individual countries in addressing climate change.

- The Group also underlined the importance of a full, effective and sustained implementation of the UNFCCC, its Kyoto Protocol (1997-2012) and its Paris Agreement.

## Health Emergency in New Delhi

### Why in News

- Recently, the **Environment Pollution (Prevention and Control) Authority - (EPCA)** declared a **public health emergency** in **New Delhi** as pollution levels entered the **'severe plus'** category.
- An **Air Quality Index (AQI)** above 500 falls in **'severe plus'** category. According to the **Central Pollution Control Board (CPCB)**, the overall AQI score of **New Delhi** crossed 500 mark.

## CHILDREN MOST VULNERABLE

They breathe faster than adults, taking in more pollutants



**99%**

of children under 5 are exposed to dangerous levels of PM2.5

### WHAT POLLUTION CAN CAUSE

#### FOR FETUSES

- Raised risk of preterm birth
- Underdeveloped lung, other organs
- Increased risk of infant mortality

#### FOR INFANTS

- Eye, lungs and skin allergies and infections
- Conditions like cough, pneumonia
- Chances of long-term cognitive impairment

#### FOR PRE-TEENS & TEENS

- Chronic coughs, bronchitis and/or asthma attacks
- Increased risk of cardiovascular disease and leukaemia

Note:

### Key Points

- Deterioration in air quality is due to a combination of several factors:
  - **Local pollution produced by vehicular and industrial pollution.**
  - **Stubble burning in states of Punjab and Haryana.**
  - **Extremely adverse weather conditions.**
- **Symptoms** associated with this pollution are irritation in the eyes and throat, dry skin, skin allergies, chronic cough and breathlessness.
- **Steps taken by the Government:**
  - **Odd-even scheme:** Vehicles with odd last digit in the registration number will ply on odd days and those with even last digit on even days
  - **Imposition of Environment Compensation Charge (ECC)** at toll plazas.
  - **Distribution of N95 mask:** It covers the nose and mouth and protects the wearer from breathing in hazardous pollutants like **PM 2.5**.
  - **Graded Response Action Plan (GRAP):** Schools are shut down until the air quality remains severe. It was prepared by the Ministry of Environment, Forests & Climate Change (MoEFCC) after the order of Supreme Court on December 2016.

### Environment Compensation Charge

- It is a **Supreme Court directed green tax.**
- Green Taxes are one of the policy measures formulated by the government to control activities that affect the environment.
- It is a type of 'cess' which has no legislative backup that usually accompanies the imposition of tax on public activities.

### Environment Pollution (Prevention and Control) Authority

- It was constituted under **section 3 of the Environment (Protection) Act, 1986** for the **National Capital Region** in compliance with the **Supreme Court order dated January 1998.**
- It has the power suo-moto or on the basis of complaints made by any individual, representative body or organization functioning in the field of environment.
- It takes all necessary steps to for controlling vehicular pollution, ensuring compliance of fuel quality standards, monitoring and coordinating action for traffic planning and management.

### Central Pollution Control Board

- It is a **statutory** organisation under the **Ministry of Environment, Forest and Climate Change.**
- It was established in **1974** under the **Water (Prevention and Control of pollution) Act, 1974.**
- It is also entrusted with the powers and functions under the **Air (Prevention and Control of Pollution) Act, 1981.**

## New Species of Tree Frog

A new species of tree frog is discovered in **West Bengal**. It has been named **Brown Blotched Bengal Tree Frog (Polypedates bengalensis)** due to a series of six to nine dark brown blotches present on its body.



- It is a **mid-sized tree frog** and is the **26<sup>th</sup> species** under the genus Polypedates.
  - Polypedates is a genus of tree frog found throughout South and Southeast Asia.

## Butterfly Survey

### Why in News

The **Kerala government** has carried out a **butterfly survey** in the **Wayanad Wildlife Sanctuary (WWS)** and **Chinnar Wildlife Sanctuary (CWS)** located in **Western Ghat region**.

- The survey aims at assessing the butterfly diversity in the forest areas of the western ghats region, which is vulnerable to climatic changes.
- The **survey coincides with the annual butterfly migration** in south India from the plains to the Western Ghats areas.
- The **butterfly is an indicator species** thus a survey will help to study the interrelation and effects of climate change on ecology.
  - An **indicator species** provides information on the overall condition of the ecosystem and of other species in that ecosystem. They reflect the quality and changes in environmental conditions as well as aspects of community composition.

Note:

### Wayanad Wildlife Sanctuary

- It is **part of the Nilgiri Biosphere Reserve** along with Mudumalai Wildlife Sanctuary, Bandipur National Park, Nagarhole National Park, Mukurthi National Park, and Silent Valley.
- Wayanad Wildlife sanctuary is significant because of ecological and geographic **continuity with other protected areas** such as Bandipur Tiger Reserve and Nagarhole National Park of Karnataka in the north-eastern portion and Mudumalai Tiger Reserve of Tamil Nadu in the south-east.
- It has the **world's largest recorded population of the Asiatic elephant**.
- Almost the entire Wayanad district is drained by **Kabini** and its three tributaries, the Panamaram, Mananthavady and Kalindy rivers.
  - The **Kabini River**, one of the three east flowing rivers of Kerala, is an important **tributary of the Kaveri River**.

### Chinnar Wildlife Sanctuary

- Chinnar Wildlife Sanctuary is one of the 13 sanctuaries in the protected areas of the state of **Kerala**.
- It is located in the Idduki district of Kerala near the Annamalai hills.
- It comes under the **jurisdiction of Eravikulam National Park**.

## Satpura Tiger Reserve

### Why in News

Recently, the **Satpura Tiger Reserve** located in the Hoshangabad district of **Madhya Pradesh** came into limelight because of the presence of **Mahuva tree** in its buffer zone. The people residing there have a superstitious belief that Mahuva tree can bring instant relief/cure to their ailments or misfortunes.

- The Reserve was established in **2000** and is located **south of Narmada River**.
- Satpura tiger reserve **comprises of three protected areas**:
  - Satpura National Park
  - Bori Sanctuary
  - Pachmarhi Sanctuary

- **Water Source:** **Denwa river** is the main water source of the park. It originates from south-eastern part of the Hoshangabad district in Madhya Pradesh and flows from east to west direction before **joining the Tawa river (a tributary of the Narmada river)** at the south of Ranipur.
- **Diversity:** These forest enclaves provide habitat for several endangered species, including tigers. Other prime species found here are Black Buck, Leopard, Dhole, Indian Gaur, Malabar Giant Squirrel and Sloth Bear.
- **Archaeological Significance:** Presence of more than 50 rock shelters with paintings, which are 1500 to 10,000 years old. Some of them are having very rare depictions of elephants, lions, tigers, porcupines, and pangolins.

### Note:

- **Mahuva Tree (Mahua Longifolia)** is an **Indian tropical tree** found largely in the central and north Indian plains and forests.
- **Buffer Zone** are areas created to enhance the protection of a specific conservation area. They are areas peripheral to a specific protected area, where restrictions on resource use and special development measures are undertaken in order to enhance the conservation value of the protected area.

## Nagarjunasagar Srisaillam Tiger Reserve

### Why in News

- The number of tigers in the Nagarjunasagar Srisaillam Tiger Reserve (NSTR) in Andhra Pradesh has **increased**, reversing the steady decline in their number over a period.
- NSTR is the **largest** tiger reserve in **India**.
- **Historical Background:** It was notified in **1978** and came under the protection of **Project Tiger** in **1983**. In **1992**, it was retitled as **Rajiv Gandhi Wildlife Sanctuary**.
- **Geographical Aspects:**
  - The Tiger reserve is spread over two states, namely, **Andhra Pradesh** and **Telangana**. The area consists mostly of the **Nallamala Hills**.
  - The multipurpose reservoirs – **Srisaillam** and **Nagarjunasagar** are located in the reserve.

Note:



drishti





- The Krishna river cuts the basin of this reserve.

### Project Tiger

- Project Tiger is a **Centrally Sponsored Scheme of the Ministry of Environment, Forests and Climate Change** launched in **1973**.
- It aims to provide central assistance to the tiger States for tiger conservation in designated tiger reserves in India. The project is administered by the **National Tiger Conservation Authority (NTCA)**.

## Olive Ridley Turtles

### Why in News

The Odisha government would compensate 8,000 fishermen families who would bear losses due to the **fishing ban imposed for the protection of the Olive Ridley sea turtles**.

- The ban is an annual fishing ban that would be in force from November, 2019 to May 31, 2020. During this period, lakhs of turtles would arrive at the Odisha coast for mass nesting.

### Olive Ridley Turtles

- The Olive ridley turtles are the **smallest and most abundant** of all sea turtles found in the world, **inhabiting warm waters of the Pacific, Atlantic and Indian oceans**.
- They are best known for their **unique mass nesting called Arribada**.
  - An arribada is a mass-nesting event when thousands of turtles come ashore at the same time to lay eggs on the same.
- The enormous number of Olive ridleys nest in **Odisha** (namely at three river mouths: **Dhamara, Devi and Rushikulya**) in India.
- The species is listed as **Vulnerable** in the **IUCN Red List, in Appendix 1 of CITES, and in Schedule 1 of Wildlife Protection Act, 1972**.
- Olive ridleys face serious threats across their migratory route, habitat and nesting beaches due to human activities such as unfriendly turtle fishing practices, development and exploitation of nesting beaches for ports, etc.

#### Dhamara River

- The Brahmani river (second largest river in Odisha) enters into the Bay of Bengal along with Mahanadi (longest rivers in Odisha) & forms a combined mouth known as Dhamara.

#### Devi River

- Devi river is one of the principal distributaries of Mahanadhi.
- It flows through Jagatsinghpur district and Puri district across Odisha state in India and joins the Bay of Bengal.

#### Rushikulya River

- It originates from Rushikulya hills of the Eastern Ghats in Phulbani district.
- It is 165 kms. long with 8900 sq.kms of catchment areas.
- It covers entire catchment area in the districts of Kandhamal and Ganjam district of Odisha.

Note:



## Punjab Water Law Responsible for Air Pollution in Delhi

### Why in News

The severe **air pollution crisis in NCR-Delhi region** is found to be **related to the timing of stubble burnings** in the neighbouring states of **Punjab, Haryana**.

- Farmers in these states have been setting fire to their fields after harvesting of paddy since the 1980s. But “the timing” of stubble burning has significantly changed after **Punjab Preservation of Subsoil Water Act, 2009 (PPSW)** came into effect.

### Practice Prior to the PPSW Act, 2009

- The farmers in Punjab were **sowing paddy nurseries** from mid-to-late April and transplanting the seedlings from mid-May to late-May.
  - For the first three weeks after transplanting, the plants have to be irrigated almost daily to ensure water-logged conditions to prevent weed growth.
  - But nursery sowing and transplanting, during peak summer, led to massive groundwater depletion.
- As a result, the paddy, including 155-day varieties such as Pusa-44, got harvested by early October — and the **burning of the stubble used to get over around mid-October**.
  - The stubble burning period and the onset of winter in Northern India had a **considerable time gap** which avoided the air pollution crisis in the area.

### Implementation of PPSW Act, 2009

- The act was brought in **to prevent the groundwater crisis during summer**.
- The Act barred any nursery sowing and transplanting of paddy before May 15 and June 15, respectively.

- This ensured that a significant part of the crop's water requirement is met from monsoon rains and also, lesser water loss due to evaporation after mid-June.
- **Late transplanting left farmers with little time between harvesting and preparing the field for the next crop** and hence farmers are resorting to the burning of stubble.

### Positives of PPSW Act, 2009

- The delayed paddy transplantation has been helping to **save 1,000 billion litres of water**.
  - It is equal to the total water consumption of Ludhiana, an industrial town, for two years.

### Impact of PPSW Act, 2009

- Implementation of the PPSW Act (2009) made the **time period of stubble burning coincident with the onset of winter in Northern India**.
- Also, wind movement remains very slow and moisture levels in the lower atmosphere remain high during this period.
- It **creates a layer**, due to which all the **particulate matter and gases** from the burnt stubble, vehicles and industries **get accumulated** instead of moving away.
- At this time of the year, **winds in Punjab generally blow from the northwest to the southeast**.
  - Haryana and Delhi are to the south and southeast of Punjab.
  - Also, these northwesterly winds are calm with a speed of less than 2 kmph which results in ‘**air locking**’ at many places.
- Thus, the PPSW Act (2009) may have helped in arresting the rapid decline in the groundwater table and aquifers but it has contributed to the **unprecedented deterioration in Air Quality Index (AQI) in the National Capital Region**.



Note:

# Art & Culture

## Highlights

- Gottiprolu – An Early Trade Centre of Andhra Pradesh
- 550th Birth Anniversary Celebrations of Sri Guru Nanak Dev
- Suranga Bawadi
- World Monuments Watch
- Thiruvalluvar
- Dhruvad
- Brahmaputra Pushkaram Festival

## Gottiprolu – An Early Trade Centre of Andhra Pradesh

### Why in News

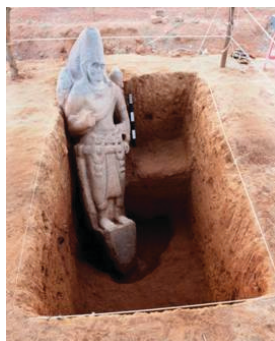
- Excavation by the **Archaeological Survey of India** at **Gottiprolu** near **Nellore** (now renamed as **Sri Potti Srimamulu**) district, **Andhra Pradesh** has **discovered the remains of a huge settlement**.

### Key Points

- The site lies on the **right bank of a distributary of river Swarnamukhi**.
- The proximity of the site (at southern coastal location) to the seacoast suggests that the site could have served as a **strategic settlement involved in maritime trade**.
- Detailed topographical studies have identified an early historic settlement surrounded by a fortification and the possibility of a moat encircling it.

### Discovered Items

- **Sculpture:** Life-size Vishnu sculpture with following specifications:
  - **Four-armed Vishnu** standing over a pedestal,
  - Carrying **chakra and conch** in his upper right and left hands respectively.
    - The lower right hand is in **bestowing boon** position and the left hand in '**Katihastha**' (resting on the hip) posture.



- Features like the elaborate headgear, thick holy thread, and decorative drapery dates it back to the **Pallava period (c. 8<sup>th</sup> cent. AD)**.
- **Pottery: Conical jars** that are considered to be imitated variety of **Roman Amphorae jars** (ancient Greek or Roman jar/jug used to **transport liquid commodities**).
  - These settlements could have been an important trade centre due to the presence of imitated amphorae wares.
- The conical pieces of broken terracotta pipes found fitted into one another revealed about the **civic amenities and drainage system pattern** maintained by the occupants at the site.
- The ceramic assemblage of the site consisted of fine quality **black and redwares** collected from the conical jars, russet coated ware, etc.
- **Brick-built structures** in different sizes and forms like elliptical, circular, rectangular and curvilinear pattern.
  - The size of bricks can be compared to those found in the **Satavahana/Ikshvaku** period structures in the **Krishna valley viz. Amaravati and Nagarjunakonda**.
  - This dates back to the site to the **2<sup>nd</sup> century to 1<sup>st</sup> century BC**.
- Molded female terracotta figurine with two hands lifted upwards.
- Varied **stone tools of Palaeolithic and Neolithic periods** were also found which suggest that prehistoric people also occupied this area.



Note:

- Other major retrieved antiquities unearthed are **copper and lead coins, iron spearhead, stone celts, terracotta beads, ear stud in semi-precious stone and hoppersches.**
- **Important Remnants of the Site:** Fortified early historic settlement at Puduru, Sunbrahmanya temple at Mallam, unique rock-cut laterite stepped well at Yakasiri, Vishnu temple at Tirumuru.

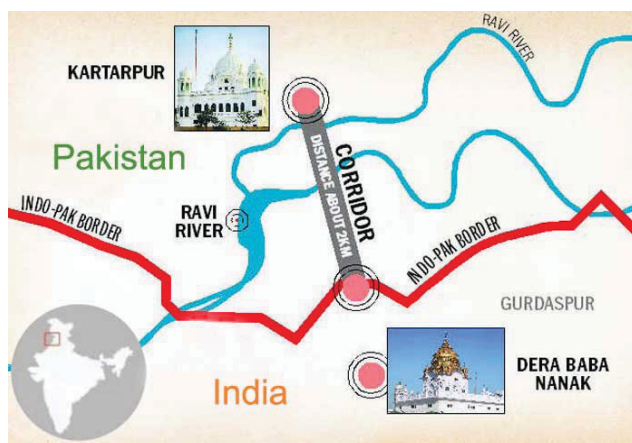
## 550<sup>th</sup> Birth Anniversary Celebrations of Sri Guru Nanak Dev

### Why in News

Recently, the Prime Minister of India participated in the special event organised at **Dera Baba Nanak** (Punjab) to inaugurate the **Kartarpur Corridor**. He also released a **commemorative coin** celebrating **550<sup>th</sup> Birth Anniversary of Guru Nanak Dev Ji** (12<sup>th</sup> November, 2019).

### Guru Nanak Dev Ji

- Guru Nanak Dev Jayanti is observed to **celebrate the birth of Guru Nanak Dev (1469-1539)**, who is the **first of the 10 Sikh Gurus** and the **founder of Sikhism**.
- He advocated the '**Nirguna**' (devotion to and worship of formless divine) form of bhakti.
- He rejected sacrifices, ritual baths, image worship, austerities and the scriptures of both Hindus and Muslims.
- He **organised his followers into a community**. He set up rules for congregational worship (**Sangat**) involving collective recitation.



- The fifth preceptor, Guru Arjan, compiled **Baba Guru Nanak's hymns** along with those of his four successors with other religious poets like Baba Farid, Ravidas (also known as Raidas) and Kabir in the **Adi Granth Sahib**.
- These hymns, called '**Gurbani**', are composed in many languages.
- In the late seventeenth century the **tenth preceptor, Guru Gobind Singh**, included the compositions of the ninth guru, Guru Tegh Bahadur, and this scripture was called the **Guru Granth Sahib**.

### Kartarpur Corridor

- The Kartarpur corridor **connects** the Darbar Sahib Gurdwara in Narowal district of Pakistan with the Dera Baba Nanak shrine in Gurdaspur district in Punjab, India.
- The corridor was built to commemorate 550th birth anniversary celebrations of Guru Nanak Dev on **12<sup>th</sup> November 2019**.

## Suranga Bawadi

**Suranga Bawadi**, situated in **Bijapur, Karnataka**, has been added to the **World Monuments Watch List**. The monument has been selected under the '**Ancient Water System of the Deccan Plateau**' by **World Monuments Fund**.



- Suranga Bawadi is an integral **part of the ancient Karez System** of supplying water through subterranean tunnels.
- It was **built by Adil Shah-I of Adilshahi dynasty of Bijapur in the 16<sup>th</sup> century** to supply water to the city of Bijapur in Karnataka

### Karez System

- Karez is a **water harnessing technology** in which groundwater is brought to the surface by a tunnel.
- In this system, no mechanical pump or lift is used. Gravity alone brings the water from the underground source.
- The technology **originated in Persia/Iran** and was widely used during the medieval period.

Note:

## World Monuments Watch

- The World Monuments Watch is a **biennial selection program** of 'at-risk cultural heritage sites' that combine great historical significance with contemporary social impact.
- It was **launched in 1995 on the occasion of the 30<sup>th</sup> anniversary of World Monuments Fund** to identify imperiled cultural heritage sites and provide direct financial and technical support for their preservation.
  - **World Monuments Fund** is a private nonprofit organization founded in 1965 by individuals concerned about the accelerating destruction of important artistic treasures throughout the world. It is located in New York (the United States).
- Anyone can nominate a site to the World Monuments Watch, including private individuals and representatives of civil society organizations, community groups, government agencies, educational institutions or other entities.

## Thiruvalluvar

- Thiruvalluvar, also called Valluvar, was a **Tamil poet-saint**.
- The period, when he lived, is debated as is his religious identity.
  - He is believed to have lived between 3<sup>rd</sup>-4<sup>th</sup> century or 8<sup>th</sup>-9<sup>th</sup> century.
  - He is thought to be linked to Jainism. However, Hindus have also claimed that Thiruvalluvar belonged to hinduism.
- Dravidian groups also count him as a saint, as he **dismissed the caste system**.
- He had contributed the **Tirukkural or 'Kural'** to the **Sangam literature**.
- Tirukkural is comprised of 133 sections of 10 couplets and each is divided into three books: **Aram (virtue), Porul (government and society) and Kamam (love)**.

### Sangam Literature

- The word 'Sangam' is the **Tamil form of the Sanskrit word Sangha** which means a group of persons or an association.
- The **Tamil Sangam was an academy of poets** which flourished in three different periods and

at different places under the patronage of the **Pandyan kings**.

- The Sangam literature which was largely consolidated from the **third Sangam**, throws information on conditions of life of people around the beginning of the Christian era.
  - It deals with the **secular matter** relating to the public and social activities like government, war, charity, trade, worship, agriculture, etc.
  - Sangam literature consists of the earliest Tamil works (such as the Tolkappiyam), the ten poems (Pattupattu), the eight anthologies (Ettutogai) and the eighteen minor works (Padinenkilkanakku) and the three epics.

## Dhrupad

### Why in news?

Padma Shri awardee and renowned **Dhrupad vocalist Ramakant Gundecha** passed away in Bhopal.

### Key Points

- The word Dhrupad is derived from **Dhruva**, the steadfast **evening star** that moves through the galaxy, and Pada meaning poetry.
- Traditionally, the dhrupad style of singing was performed with a **tanpura and pakhawaj**.
- The lyrics sung in Dhrupad are in a medieval form of **Hindi** and typically **heroic in theme** or **praise** of a particular deity.
- It is a form of **devotional music** that traces its **origin** to the ancient text of **Samveda**.
- One significant characteristic of Dhrupad is the emphasis on maintaining the **purity of the Raga**.
- Hindustani classical music is primarily **vocal-centric**. The primary vocal forms associated with Hindustani music are the Khayal, Ghazal, Dhrupad, Dhammar, Tarana and Thumri.

## Brahmaputra Pushkaram Festival

### Why in News

The **Assam government** is celebrating Brahmaputra Pushkaram, a 12-day mega river festival from 5-16<sup>th</sup>

Note:



November, 2019. Earlier, the **Brahmaputra Pushkaram festival** was held in **2007**.

- It will be the **second biggest river festival** ever to be celebrated in the state of Assam **after Namami Brahmaputra**.
- **Pushkaram** festival is a **festival of rivers** that pertains to the 12 important rivers in India. It occurs once in 12 years for each river.

- In 2018, the Pushkaram festival was celebrated on the banks of the Tamiraparani river in Tirunelveli district, Tamil Nadu.

#### **Namami Brahmaputra**

- Namami Brahmaputra is an **international festival** that celebrates the beauty of the Brahmaputra river.
- It is **organized by Assam Government**. The first edition was celebrated in 2017.



Note:

# Social Issues

## Highlights

- Mercy Petition
- Anaemia Among Men
- Acute Respiratory Infections
- Premature Deaths in India
- Declining Maternal Mortality Ratio in India
- Cancer Care Infrastructure
- World Diabetes Day 2019

## Mercy Petition

### Why in News

The Tihar Jail administration has asked the convicts in the **Nirbhaya case, 2012** to apply for mercy petition before the President.

- Even if one of the convicts applies for it, it becomes applicable to all.
- For seeking **mercy petition**, the death sentence by a sessions (trial) court must be confirmed by the High Court.
  - The death sentence convict has an option to appeal to the Supreme Court. If the Supreme Court refuses to hear the appeal or upholds the death sentence, then the convict or his relatives can submit a mercy petition to the **President of India (Articles 72)** or to the **Governor of a State (Article 161)**.

**Sessions Court:** District court is referred to as sessions court when it exercises its jurisdiction on criminal matters under the Code of Criminal procedure (CrPc).

### Grounds of Appeal

- In the mercy petition, the person concerned is required to state the grounds upon which the request for the grant of pardon is made.
- These grounds may not have any value in the eyes of law for exonerating the accused person from the offence, but they may play an important role in the release of the person by the President.
  - The grounds, such as the convicted person is the **only bread earner** of the family or the **physical fitness** of the convict, his **age** or even the **law** was

**quite harsh** or the **court by chance committed any mistake or error** inadvertently, may be taken into consideration at the time of disposal of the mercy petition.

- Supreme Court in **Kehar Singh v Union of India, 1988** case reiterated its stand and held that the grant of pardon by the President is an act of grace and, therefore, cannot be claimed as a matter of right.

### Need for Pardoning Power

- The philosophy underlying the pardon power is that “every civilized country recognizes and provides for the pardoning power as an **act of grace and humanity in course of law**”.
- The pardoning power is founded on the consideration of **public good** and is to be exercised on the grounds of **public welfare**, which is the legitimate objective of all punishments.

### Constitutional Provisions

- **Article 72** provides the pardoning power to the **President of India**, it says:
  - The President shall have the power to grant **pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute** the sentence of any person convicted of any offence-
    - in all cases where the punishment or sentence is by a Court-martial;
    - in all cases where the punishment or sentence for an offence against any law relating to a matter to which the executive power of the Union extends;
    - in all cases of death sentences.
- **Article 161** provides that the **Governor of a State** shall have the power to grant pardons, reprieves, respites

Note:

or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the State extends.

- In **Dhananjoy Chatterjee alias Dhana v State of West Bengal, 1994** case the Supreme Court has said that “The power under Articles 72 and 161 of the Constitution can be exercised by the Central and State Governments, not by the President or Governor on their own”.
  - The advice of the appropriate Government binds the Head of the State.

- **Pardon:** The president can totally absolve/acquit the person for the offence and let him go free like a normal citizen.
- **Commute:** To reduce the type of punishment into a less harsh one. For example rigorous imprisonment to simple imprisonment.
- **Remission:** To reduce the punishment without changing the nature of the punishment. For example 20 years rigorous imprisonment to 10 years rigorous imprisonment.
- **Reprieve:** A delay is allowed in the execution of a sentence, usually a death sentence for a guilty person to prove his innocence.
- **Respite:** To reduce the degree of punishment looking at specific grounds like pregnancy, old age etc.
- **Court-martial:** It is a trial in a military court, of a member of the armed forces who is charged with breaking military law.

### ***Difference between the pardoning power of President and Governor***

- **Death sentence:** President can pardon the death sentence but the Governor has no power to pardon the death sentence.
- **Court-martial:** The President can pardon in case of Court-martial but the Governor cannot pardon in the court-martial.
- **Jurisdiction:** President exercises his/her judicial powers for the punishment which is given under the law made by the Union. Whereas the Governor exercises his/her judicial powers for the punishment which is given under the law made by the State.

### ***Procedure Involved***

- A convict under the sentence of death is allowed to file a mercy petition within a period of seven days after the date on which the Superintendent of Jail informs him/her about the dismissal of the appeal or special leave to appeal by the Supreme Court.
- The petitions are to be presented to the President of India. The President office seeks the cabinet advice.
  - The appeal is examined by the **Ministry of Home Affairs** and the Ministry before giving recommendations to the President, takes the view of State concerned.
  - There is no written procedure to deal with mercy petition.
- **Judicial review:** President's pardon/rejection/delay is also subjected to judicial review.
  - However, if a court finds that the process of the decision taken is not arbitrary or unreasonable, the decision then cannot be interfered with.
  - A **curative petition** is the last judicial corrective measure which can be pleaded in any judgment or decision passed by the Supreme Court which is normally decided by Judges in-chamber.

**Curative petition:** The concept of the curative petition was first evolved by the Supreme Court of India in the matter of **Rupa Ashok Hurra vs. Ashok Hurra and Anr. (2002)** where the question was whether an aggrieved person is entitled to any relief against the final judgement/order of the Supreme Court, after the dismissal of a review petition.

**Article 137:** It provides that in the matter of laws and rules made under **Article 145**, the Supreme Court has the power to review any judgement pronounced (or order made) by it. Such a petition needs to be filed within 30 days from the date of judgement or order.

## ***Anaemia Among Men***

### ***Why in News***

A recent study published in 'The Lancet Global Health' has observed that **23.5% of men (15-54 years age group) in India are affected with anaemia.**

- It needs to be noted that **population-based studies on anaemia in India have mostly focused on women and children** whereas men with the anaemia have received much less attention.

Note:

### Anaemia

- The **World Health Organization (WHO)** defines anaemia as a condition in which the **number of red blood cells or their oxygen-carrying capacity is insufficient to meet physiological needs.**
- **Iron deficiency** is the **most common cause** of anaemia, although other conditions, such as folate, vitamin B12 and vitamin A deficiencies, chronic inflammation, parasitic infections, and inherited disorders can all cause anaemia.
- In its severe form, it is associated with fatigue, weakness, dizziness and drowsiness. **Pregnant women and children are particularly vulnerable.**
- In 2018, the government of India launched **Anaemia Mukh Bharat (AMB)** as part of the Intensified National Iron Plus Initiative (NIPI) Program for accelerating the annual rate of decline of anaemia from one to three percentage points.

- An estimated 1.9 billion people (27%) in the world had anaemia in 2013 and 93% of these cases occurred in low- and middle-income countries.

### Key Findings

- The prevalence of anaemia in men **varied widely between states**, ranging from 9% in Manipur (lowest) to 33% in Bihar (highest).
  - It was noted that men with less education, less household wealth and those living in rural areas are more likely to have anaemia.
- **Higher prevalence has been observed for younger age groups** while the lowest prevalence has been observed for the age group of 50-54 years.
  - Ideally, men in the group 20-34 years have the lowest probability of having anaemia.
  - But, factors such as consuming smokeless tobacco, being underweight, level of urbanisation and household wealth are associated with a higher probability of developing the disease.

#### ANAEMIA AMONG MEN IN THE STATES

##### HIGHEST 5

Bihar	32.86
West Bengal	30.46
Jharkhand	30.3
Meghalaya	29.13
Odisha	28.45

##### LOWEST 5

Manipur	9.19
Mizoram	9.78
Nagaland	10.23
Goa	10.68
Kerala	11.77

- Geographic and sociodemographic patterns of anaemia for men and **women** in India appear to be similar.

### Consequences of Anaemia Among Men

- Although male anaemia does not affect the intergenerational cycle of malnutrition but it may **reduce overall work performance and quality of life.**
- Anaemia can decrease productivity by causing fatigue, creating difficulty in concentrating, and lethargy.

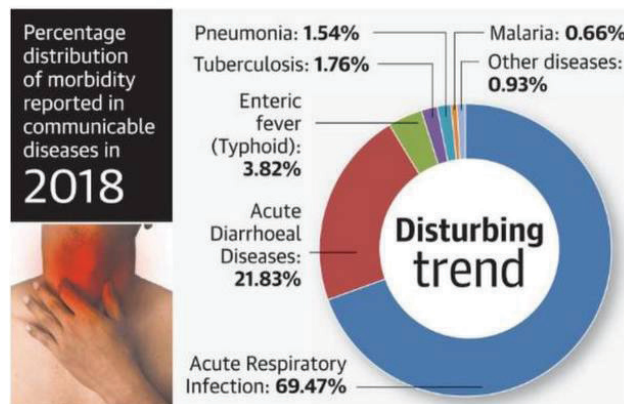
### Way Forward

- The existing anaemia control measures in the country are majorly focussed on women and children. The **inclusion of the males in the target population** will help to eliminate anaemia completely from the country.
- Steps that can be taken include distribution of iron tablets, food fortification with iron and spreading awareness about anaemia and various nutritional deficiencies.

## Acute Respiratory Infections

### Why in News

Recently, the data released by the **National Health Profile (NHP)-2019** showed a **higher** number of people affected by **Acute Respiratory Infections (ARI)** in the country.



### Key Points

- According to the **World Health Organisation (WHO)**, ARI is a **serious ailment** that **prevents normal breathing function.**
- ARI accounted for **69.47%** of morbidity in 2018.

Note:



- It was the **highest** in the communicable disease category leading to 27.21% mortality.
- Andhra Pradesh, Gujarat, Karnataka, Kerala, Tamil Nadu, Uttar Pradesh and West Bengal reported a large number of patients and fatalities as per NHP-2019.

#### What Happens When You Breathe Polluted Air?

- When you breathe in polluted air, particles and pollutants penetrate and inflame the linings of your bronchial tubes and lungs.
- This leads to respiratory illness such as chronic bronchitis, emphysema, heart disease, asthma, wheezing, coughing and difficulty in breathing.

#### Impact on Health

- **Children:** Indians face the **double burden of heavy air pollution** in addition to the high rate of ARI which hits children the hardest.
  - The mortality rate among children due to ARI is 2.6 million annually across the world.
- **Pregnant Women:** Prenatal exposure to pollutants increases the risk of pre-term delivery and low birth weight that can lead to developmental disabilities.
- **Senior Citizens:** The progressive declining of body functioning due to old age makes air pollution more fatal for them.
  - They face frequent breathing problems which may lead to respiratory illness such as chronic bronchitis, emphysema, heart disease, asthma, wheezing, coughing, etc.

The existing disease burden with increasing air pollution is deteriorating the human capital of the country and therefore needs to be checked regularly.

#### National Health Profile

- The 14<sup>th</sup> edition of the National Health Profile with digital version has been released by the **Central Bureau of Health Intelligence (CBHI)**.
- CBHI has been publishing the National Health Profile since 2005 and its **digital version since 2015**.
- The purpose is to provide relevant information for planning and decision making on an informed basis to the planners, policymakers, health administrators, research workers and others engaged in raising the health and socio-economic status of the community.

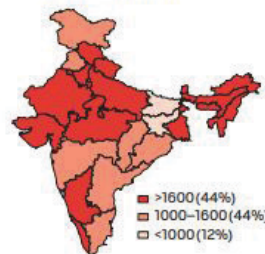
## Premature Deaths in India

### Why in News

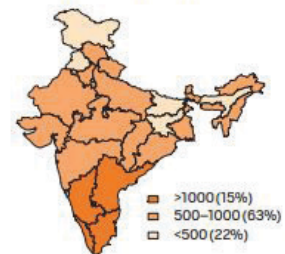
A recently released study by the Lancet Global Health shows that **different states in India have different causes for premature deaths** in the country.

- The study shows that **9.7 million people face premature deaths in India (2017)**.
  - Premature deaths are death that occurs before the average age of death in a certain population.
- **Premature deaths** due to various causes **expressed as Years of Life Lost (YLL)** are **unevenly distributed** in terms of the burden on the states.
  - **YLL** estimates the years of potential life lost due to premature deaths.

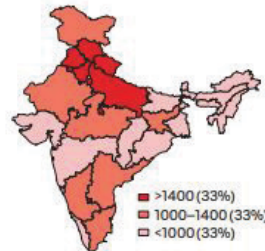
CANCERS (5.44 LAKH DEATHS)



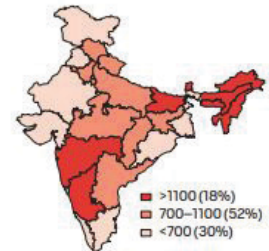
SUICIDE (1.99 LAKH DEATHS)



ROAD TRAFFIC INJURIES (2.75 LAKH DEATHS)



LIVER & ALCOHOL RELATED (2.73 LAKH DEATHS)



Source: The Lancet Global Health

### Key Findings

- The **different causes of premature deaths** in India include:
  - **Liver and alcohol related issues:**
    - These are high in the northeastern states, Bihar, Karnataka, and Maharashtra, accounting for 18% of national YLLs.
  - **Suicides:**
    - These are highest in the southern states, accounting for 15% of national YLLs.

Note:



drishti

### ○ Cancer:

- The Northeastern states, Uttar Pradesh, Rajasthan, West Bengal, Haryana, Gujarat, Kerala, Karnataka, and Madhya Pradesh account for 44% of India's cancer burden.

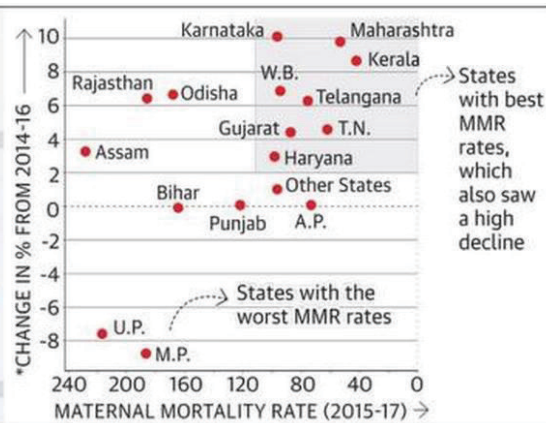
### ○ Road traffic injuries:

- These are high in the northern states of Uttar Pradesh, Punjab, Uttarakhand, Haryana, and Himachal Pradesh, accounting for 33% of national YLLs.

- More than **three-quarters of premature deaths and Disability-Adjusted Life Years (DALY)** occurred in rural areas, and males accounted for 54.3% of all DALYs.
- **DALYs** for a disease or health condition are calculated as the sum of the Years of Life Lost (YLL) due to premature mortality in the population and the Years Lost due to Disability (YLD) for people living with the health condition or its consequences. Simply, it can be written as **DALY = YLL + YLD**.
- India had 486 million DALYs in 2017.
- DALY rates in rural areas of India are at least twice those of urban areas.

### Between life & death

The Maternal Mortality Rate (MMR) of U.P. and M.P. increased by more than 7% in 2015-17 compared to 2014-16, while it declined in other States. Kerala, Maharashtra and Tamil Nadu have the lowest MMR



- Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy.

### Key Points

#### ➤ State Wise Progress:

- Kerala secures the **first position in MMR reduction (from 46 to 42)**, followed by Maharashtra (from 61 to 55) and Tamil Nadu (from 66 to 63).
- Karnataka has shown the **highest percentage decline** in MMR.
- The decline has been **most significant in EAG States from 188 to 175**. Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Odisha, Rajasthan, UP, Uttarakhand and Assam fall under EAG States group.
- The **independent MMR data of Jharkhand (76), Chhattisgarh (141) and Uttarakhand (89)** has been released for the **first time** in the SRS 2015-2017 bulletin.
- Uttar Pradesh and Madhya Pradesh have shown an **increase by 15 points** each in MMR.
- So far, **11 states** have achieved the **National Health Policy target of MMR** well ahead of 2020. The National Health Policy aims to **reduce Maternal Mortality Ratio (MMR) to 1/1000 live births**.

### Reasons for Declining MMR

- Focus on quality and coverage of health services through public health initiatives have contributed majorly to the decline. Some of these initiatives are:
  - LaQshya
  - Poshan Abhiyan
  - Janani Suraksha Yojana
  - Pradhan Mantri Surakshit Matritva Abhiyan
  - Pradhan Mantri Matru Vandana Yojana

## Declining Maternal Mortality Ratio in India

### Why in News

India's Maternal Mortality Rate (MMR) has **declined from 130 per 1 lakh live births in 2014-2016 to 122 per 1 lakh live births in 2015-2017** as per the recently released **Sample Registration System (SRS) 2015-2017** bulletin for MMR. A decline of 8 points (6.2%) has been observed.

- This indicates that a **loss of 2000 maternal deaths per year** has been **prevented**.
- The bulletin categorizes the country into **three groups: Empowered Action Group (EAG), Southern States and other states**.

### Maternal Mortality Ratio

- MMR is the **annual number of maternal deaths per 100,000 live births**.

Note:

- The implementation of the **Aspirational District Programme** and inter-sectoral action has helped to reach the most marginalized and vulnerable population.
- Recently launched **Surakshit Matritva Aashwasan Initiative (SUMAN)** especially focuses on zero preventable maternal and newborn deaths.

The continuous progress in reducing the MMR will help the country to achieve the **SDG 3** target of MMR below 70 by 2030.

## Cancer Care Infrastructure

### Why in News

Recently, the **Parliamentary Standing Committee on Science, Technology, and Environment** submitted its report to the Chairman of Rajya Sabha. The committee was **constituted to examine an expanded role of the Department of Atomic Energy to address India's rising cancer burden.**

### Key Highlights

- **Incidence Rate in India:** The number of newly diagnosed cases of cancer annually is about 16 lakh. Around 8 lakh people die annually due to cancer.
  - **Prevalence among women**
    - Breast cancer – 140,000 cases,
    - Cervical cancer – 100,000 cases, and
    - Oral cancer – 45,000 cases.
  - **Among men, the top three cancers with the highest incidence are:**
    - Oral cavity – 1,38,000 cases,
    - Cancer of the pharynx – 90,000 cases, and
    - The gastrointestinal tract – 2,00,000 cases.
  - The incidence of cancer is very **high in all North Eastern States** (higher than the national average) for several types of cancer, showing a consistently rising trend over the past few decades.
  - The **International Agency for Research on Cancer** expects cancer deaths in India to rise from 8.8 lakh in 2018 to 13 lakh in 2035.
- **Inadequate Infrastructure**
  - India's cancer care infrastructure is highly inadequate which forces a majority of patients to travel thousands of kilometres for treatment.

- This leads to a **20% higher mortality** among Indian cancer patients than those in countries with a high **Human Development Index (HDI)**.
- **Mortality to Incidence Ratio:**
  - In India, the rate stands at **0.68** which is higher than that in countries with very high HDI (at 0.38) and high HDI countries (0.57).
- The report highlights the significance of **India's National Cancer Grid** which is the prominent centre for cancer treatment in the country. It treats over 7,00,000 new cancer cases.
- **Recommendation**
  - **Hub and Spoke Model:** The committee recommended this model to enhance the accessibility and reach out to cancer patients nationally.
    - It has a **network of centres (or hubs)** - capable of treating complex forms of cancer. They would be connected to **other centres (spokes)** capable of treating less complex variants of cancers.
    - The underlying idea is to ease access and minimize travel time for patients- as one hub would cover about 4 crore patients and a spoke 50 lakh – 1 crore patients annually.
    - The model is already in **practice in Punjab**.

### National Cancer Grid

- National Cancer Grid (NCG) is a **network** of major cancer centers, research institutes, patient groups and charitable institutions across India with the mandate of establishing uniform standards of patient care for prevention, diagnosis, and treatment of cancer, providing specialized training and education in oncology and facilitating collaborative basic, translational and clinical research in cancer.
- It was formed in **August 2012**.

### International Agency for Research on Cancer

- The International Agency for Research on Cancer (IARC) was created in **1965** by a resolution of the World Health Assembly, as the **specialized cancer agency of the World Health Organization**.
- The objective of the IARC is to promote international collaboration in cancer research.
- It comprises of 27 member countries. **India is a member of it.**
- **Headquarters:** Lyon, France.

Note:

## World Diabetes Day 2019

### Why in News

The **World Health Organisation (WHO)** has launched an initiative to expand access to **affordable insulin** on the occasion of **World Diabetes Day (14<sup>th</sup> November)**.

- This year's **theme** for World Diabetes Day is "**Family and Diabetes**".
- 14<sup>th</sup> November marks the birthday of **Sir Frederick Banting**, who **co-discovered insulin** along with **Charles Best** in 1922.

### Key Points

- **The burden of disease**
  - More than **420 million people** worldwide are affected by **diabetes**.
  - **China** has the **highest number** of patients (11.43 cr.) **followed by India (7.29 cr.)** in 2017.
- **Issues related to treatment**
  - High costs of insulin
  - Insufficient essential medicines and **technologies**
- **Steps taken by Government of India**
  - India's **National Non-Communicable Disease (NCD) Target** is to prevent the rise in obesity and diabetes prevalence.
  - **National Programme for Prevention and Control of Cancers, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) in 2010** to provide support for diagnosis and cost-effective treatment at various levels of health care.

### Diabetes

Diabetes is a **Non-Communicable Disease (NCD)** that occurs either when the **pancreas does not produce enough insulin** (a hormone that regulates blood sugar, or glucose), or when the **body cannot effectively use the insulin** it produces.

#### ➤ Types

- **Type 1 diabetes:** It is also known as **juvenile diabetes** (as it mostly affects children of age 14-16 years), this type occurs when the body fails to produce sufficient insulin. People with type 1 diabetes are **insulin-dependent**, which means they must take artificial insulin daily to stay alive.
- **Type 2 diabetes:** It affects **the way the body uses insulin**. While the body still makes insulin, unlike in type 1, **the cells in the body do not respond** to it as effectively as they once did.
  - The **population with 45 and above age group** is the most affected with it.
  - This is the **most common type** of diabetes and it has strong **links with obesity**.
- **Gestational diabetes:** This type **occurs in women during pregnancy** when the body sometimes becomes less sensitive to insulin. Gestational diabetes does not occur in all women and usually resolves after giving birth.
- Diabetes **affects the five major organs** namely, Kidney, Heart, Blood vessels, Nervous System, and Eyes (retina).
- The **factors responsible** for the increase in diabetes are an unhealthy diet, lack of physical activity, harmful use of alcohol, overweight/obesity, tobacco use, etc.



Note:



# Security

## Highlights

- Special Protection Group
- INS Baaz
- Proposal for Merging Assam Rifles and Indo-Tibetan Border Police
- Def Connect 2019
- Tiger Triumph

## Special Protection Group

The central government has withdrawn the Special Protection Group (SPG) cover of the President of Congress.

- The SPG security cover provides **security** to the **Prime Minister of India, former Prime Minister (PM)** and their **immediate family members**.
- It was **raised in 1985**, a year after Indira Gandhi was assassinated by her bodyguards.
- Recently, **the Special Protection Group (Amendment) Bill, 2019** has been introduced in Lok Sabha to amend the **Special Protections Group Act, 1988**.

## INS Baaz

### Why in News

Recently, the Navy Chief Admiral Karambir Singh visited **INS Baaz**, the **southernmost air station of the Indian Armed Forces**.

- The Indian Naval Ship (INS) Baaz is **located at Campbell Bay on the Great Nicobar island**, the southernmost and largest island of the Nicobar islands, in the Union Territory of Andaman and Nicobar Islands.
- It was **commissioned in July 2012**.
- It is a **part of the Andaman and Nicobar Command**, the only tri-services formation of the Indian Armed Forces that was started in 2001.

### Functions of INS Baaz

- Helps in **building maritime domain awareness** by providing information via airborne surveillance using aircraft and Unmanned Aerial Vehicles (UAVs).
- **Ensures maritime security** in the Bay of Bengal and the Andaman Sea and substantially enhances the Indian Navy's maritime surveillance capability.
- **Assists the local populace in times of need** such as facilitating evacuation during medical emergencies.

### Significance of the Location

- INS Baaz is less than 250 km by sea from Banda Aceh in Indonesia, enhancing its strategic relevance. It is also **close to the Strait of Malacca**.
- The Andaman & Nicobar Islands are **strategically important for India's national security** as they provide a critical capability to monitor sea areas in the region.
- The location has been described as **India's "window into East and Southeast Asia"**, and is in **close vicinity**



Note:

of the Six Degree Channel, also called the Great Channel, one of the Indian Ocean's busiest shipping lines, carrying strategic cargo to East Asian countries.

## Proposal for Merging Assam Rifles and Indo-Tibetan Border Police

### Why in News?

Recently, the **Ministry of Home Affairs (MHA)** proposed the merger of Assam Rifles with the **Indo-Tibetan Border Police (ITBP)**.

### Key Points

- Currently, the **Assam Rifles** falls under the **administrative control** of the **Ministry of Home Affairs** and **operational control** under the **Ministry of Defence**.
- This duality of administrative control and operational control leads to problems of coordination.

Assam Rifles	Indo-Tibetan Border Police
<ul style="list-style-type: none"> <li>➤ The Assam Rifles came into being in 1835.</li> <li>➤ It plays an important role in internal security (counter insurgency and border security operation).</li> <li>➤ It also provides aid to civilians in times of emergency.</li> <li>➤ Since 2002 it has been guarding the Indo-Myanmar.</li> <li>➤ Headquarters of Assam Rifles is located at Shillong.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Indo-Tibetan Border Police (ITBP) was raised in 1962.</li> <li>➤ ITBP is deployed on border guarding duties from Karakoram Pass in Ladakh to Jachep La in Arunachal Pradesh covering 3488 km of Sino-India Border.</li> <li>➤ Being the first responder for natural disasters, ITBP has been carrying out numerous rescue and relief operations across the country.</li> <li>➤ Headquarters of ITBP is located at New Delhi.</li> </ul>

## Def Connect 2019

The **Ministry of Defence** organised the inaugural session of '**Def Connect 2019**' to showcase the

**accomplishments of the Innovation for Defence Excellence (iDEX) initiative** in New Delhi.

- **iDEX portal** and **Defence India Start-up Challenge (DISC)-III** was also launched.

### Innovation for Defence Ecosystem

- **iDEX, launched in 2018**, is an ecosystem to foster innovation & technology development in Defence and Aerospace by engaging innovators & entrepreneurs to deliver technologically advanced solutions for **modernizing Indian Military**.
- **Core Objectives:**
  - **Indigenization:** Rapid development of new, indigenized and innovative technologies.
  - **Innovation:** Creates a culture of engagement with innovative startups to encourage co-creation.
- It provides **funding/grants** to MSMEs, start-ups, individual innovator, R&D institutes and academia to carry out research and development.
- **iDEX is funded and managed by "Defence Innovation Organisation (DIO)".**
  - DIO is a **not for profit organisation** formed under section 8 of the Companies Act 2013.
  - It is funded by Hindustan Aeronautics Limited (HAL) and Bharat Electronics Limited (BEL).
  - It provides high level policy guidance to iDEX.
- **iDEX portal** was launched to provide **wider publicity and better visibility of iDEX activities**.

### Defence India Startup Challenge

- DISC is aimed at supporting Startups/MSMEs/Innovators to create prototypes and/or commercialize products/solutions in the area of National Defence and Security.
- It has been **launched by the Ministry of Defence in partnership with Atal Innovation Mission (AIM)**.
  - **AIM** is the **NITI Ayog's initiative** to promote a **culture of innovation** and entrepreneurship in the country.
- The vision of the DISC is two-fold:
  - **Prototyping:** Help create functional prototypes of products/technologies relevant for national security, and spur fast-moving innovation in Indian defence sector.
  - **Commercialization:** Help new tech products/technologies find a market and early customer in the form of the Indian Defence Establishment.

Note:

- Under **DISC-III**, three challenges from the Army, Navy and Air Force were thrown open to prospective start-ups.
- Under the program, the start-ups, Indian companies and individual innovators (includes research & academic institutions) can participate.

## **Tiger Triumph**

The **first-ever India-US joint tri services Humanitarian Assistance and Disaster Relief (HADR) exercise**,

named **'Tiger Triumph'**, was from **13<sup>th</sup> - 21<sup>st</sup> November, 2019**.

- The exercise was conducted off **Visakhapatnam** and **Kakinada coasts** in **Andhra Pradesh**.
- It aims to develop interoperability for conducting HADR operations.
- **Other joint exercises**
  - **Military training:** Yudh Abhyas and Vajra Prahar
  - **Air Forces:** Cope India
  - **Naval Exercise along with Japan:** Malabar

■ ■ ■

Note:

# Miscellaneous

## Highlights

- African Swine Fever
- UNESCO's Network of Creative Cities
- Iran's New Oil Field
- Pterosaurs
- Tort Law and Polluter Pays Principle
- Conference of Central and State Statistical Organizations
- NEERI-IndAIR
- Kyasanur Forest Disease
- Kalapani Territory
- Cyclone Bulbul
- Exercise Samudra Shakti
- Pamba-Achankovil-Vaippar River Project
- Fordow Nuclear Facility
- Shilpotsav – 2019
- Liberhan Commission
- National Waterway-2
- Tawang Festival
- Danakil Depression
- Glyphosate

## African Swine Fever

### Why in News

Recently, **China** has witnessed rise in pork prices because of the rampant spread of **African Swine Fever (ASF)**. The country is the **world's largest pork (meat from a pig) producer**.

### About ASF

- ASF is a **highly contagious** and **fatal** animal disease that infects **domestic and wild pigs**. It leads to an acute form of hemorrhagic fever. It was **first detected** in **Africa** in the 1920s.
- The **mortality is close to 100%** and since the fever has **no cure**, it can only be stopped from spreading by culling the animals.

- ASF is **not a threat to human beings** because it only spreads from animals to other animals.

### Key Points

- Historically, outbreaks have been reported in Africa and parts of Europe, South America and the Caribbean.
- However, more recently (since 2007), the disease has been reported in multiple countries across Africa, Asia and Europe, in both domestic and wild pigs.

## African swine fever (ASF)



The infographic provides a comprehensive overview of African Swine Fever (ASF). It features a central image of a pig and a biohazard symbol. Key information includes:

- Transmission:** ASF can be transmitted through direct contact between sick and healthy animals, indirectly through feed containing meat from infected animals, and via biological vectors like ticks and contaminated inanimate objects.
- Resistance:** The virus is highly resistant to low temperatures and can survive for extended periods in blood, feces, and tissue of infected animals.
- Contagiousness:** ASF is a highly contagious, transboundary viral disease (Asfarviridae family; Asfivirus genus).
- Global Impact:** According to the OIE, 24% of its member countries (48 out of 200) have reported the disease as present since 2016. Global alarms went off in August 2018 when an ASF outbreak was first reported in China, which then spread to Mongolia, Vietnam, Cambodia, and Hong Kong.
- Hosts:** It can affect both domestic and wild pigs (wild boars and peccaries). It is harmless to humans.
- Signs and Symptoms:** Typical clinical signs are similar to those of classical swine fever (which is endemic in several countries of the Americas); therefore, a laboratory test is required to distinguish them. Symptoms include fever, loss of appetite, low energy, abortion, internal hemorrhages, visible hemorrhages, and even death.
- Peracute Form:** The peracute form of the virus causes sudden death with few signs.
- Statistics:** According to official data for this period, more than 2.5 million domestic pigs have died or been killed—67.6% of them in Asia over the past 10 months. Between 2016 and May 2019, there were a total of 10,211 outbreaks in Africa, Europe and Asia.

Note:



- ASF is a disease listed in the World Organisation for Animal Health (OIE) Terrestrial Animal Health Code and thus, reported to the OIE.

### World Organisation for Animal Health

- It is an **intergovernmental organisation** responsible for improving animal health worldwide.
- In 2018, it had a **total of 182 member** countries. India is one of the member countries.
- OIE **develops normative documents** relating to rules that member countries can use to protect themselves from the introduction of diseases and pathogens. One of them is the Terrestrial Animal Health Code.
- OIE standards are recognised by the **World Trade Organization** as reference international sanitary rules.
- It is headquartered in **Paris, France**.

## UNESCO's Network of Creative Cities

### Why in News

- **United Nations Educational, Scientific and Cultural Organization (UNESCO)** has included **Mumbai and Hyderabad** in its network of 'Creative Cities' among the **66 cities** selected on the occasion of **World Cities Day 2019 (31<sup>st</sup> October)**.
  - With the addition of 66 new cities, the UNESCO Creative Cities Network has total 246 cities now.
- **Mumbai** has been designated as **Creative City of Films** and **Hyderabad** as a **Creative City of Gastronomy**.
  - Earlier, Indian cities like **Chennai and Varanasi** have been included in UNESCO **Cities of Music** while **Jaipur** has been included in the **City of Crafts and Folk Arts**.

### Significance

- By joining the UNESCO Creative Cities Network (UCCN), the cities pledge to **share** best practices and **develop** partnerships involving public and private sectors as well as civil society to **strengthen the creation, production and distribution of cultural activities**.

### UNESCO Creative Cities Network (UCCN)

- It was created in **2004**.

- **Currently (2019), 246 cities make up this network** which aims towards a common objective of placing creativity and cultural industries at the heart of their development plans at the local level and cooperating actively at the international level.
- The UNESCO Creative Cities aims to achieve **Sustainable Development Goals** through innovative thinking and action.
  - Also, cities are championing sustainable development actions that directly benefit communities at the urban level.
  - **Sustainable Development Goal 11** aims for Sustainable Cities and Communities.
- The network covers **seven creative fields**: crafts and folk arts, media arts, film, design, gastronomy, literature and music.

### World Cities Day 2019

- The **United Nations General Assembly** has designated the **31<sup>st</sup> of October** as World Cities Day.
- The **theme** for World Cities Day, 2019 is, **"Changing the world: innovations and a better life for future generations"**.

## Iran's New Oil Field

Iran has discovered a **new oil field** in its southwestern province of **Khuzestan**. The field covers 2,400 square kilometres and contains over 50 billion barrels of crude.

- The new oil field could become **Iran's second-largest field** after one containing 65 billion barrels in **Ahvaz (capital of Khuzestan Province)**.
- The discovery has come at a time **when Iran is facing American sanctions** against it after the US pulled out of the **2015 nuclear deal**.



Note:

### Iran's Oil Reserves

- Iran **already has proven oil reserves** of roughly **150 billion barrels**.
  - Oil reserves refer to crude that's economically feasible to extract.
  - **Khuzestan** is home to Iran's crucial oil industry.
- Iran currently has the **world's fourth-largest proven deposits of crude oil** after Venezuela, Saudi Arabia and Canada.
  - It also has the **world's second-largest deposits of natural gas** after Russia.
- It shares a **massive offshore field in the Persian Gulf** with Qatar.
  - "Offshore" refers to the development of oil fields and natural gas deposits under the ocean.

### Pliosaurus

Recently, the bones of pliosaurs were discovered in Poland.

- Pliosaurus are the **predatory reptiles** that lived in seas over 150 million years ago.
- They are one of the **largest aquatic carnivorous reptiles** that have ever lived and are often referred to as **sea monsters**.
- They had powerful large skulls and massive jaws with large sharp teeth.



### Tort Law and Polluter Pays Principle

#### Why in News

- The Supreme Court has directed the governments of Punjab, Haryana and Uttar Pradesh to prevent stubble burning. The failure to implement the Supreme Court's directive may force respective state governments to pay hefty penalties under **tort law**.
- The court has also directed that the **Polluter Pays Principle** applies to all states and local bodies.

#### Tort Law

- Tort law is the set of laws that enables people to seek **compensation for wrongs committed against them**.

- When someone's actions cause some type of harm to another, whether it be physical harm to another person or harm to someone's property or reputation, harmed or injured person or entity may seek damages through the court.
- Generally, the compensations are monetary awards ordered by the court to be paid to an injured party, by the party at fault.
- The **types of damages** that may be awarded by the court for civil wrongs, called "**tortious conduct**" of an individual or entity include:
  - Reimbursement for property loss or property damage
  - Medical expenses
  - Pain and suffering
  - Loss of earning capacity
  - Punitive damages

#### Polluter Pays Principle

- It is the commonly accepted practice that those who produce pollution should bear the cost of managing it to prevent damage to human health or the environment. For example, a factory that produces a potentially poisonous substance as a byproduct of its activities is usually held responsible for its safe disposal.
- It is **part** of the **Rio Declaration (1992)** which gives broader principles to guide sustainable development worldwide.

### Conference of Central and State Statistical Organizations

The 27<sup>th</sup> Conference of Central and State Statistical Organizations (COCSSO) was inaugurated at Kolkata, West Bengal on 11<sup>th</sup> November, 2019.

- The Conference is **organized by the Ministry of Statistics and Programme Implementation (MoSPI)** every year. It was first organized in the year 1971.
- It is a **major national forum** for coordination between the Central and State Statistical Agencies with the objectives of putting in coordinated efforts for making available reliable and timely statistics to planners and policy makers.
- The **theme** for 2019 is the "**Sustainable Development Goals (SDGs)**".

Note:

- In September 2016, MoSPI developed a **National Indicator Framework (NIF)** for monitoring of SDGs.
  - It needs to be noted that the **NITI Aayog** has also developed the **SDG India Index** that aims to measure India and its States' progress towards the SDGs for 2030.
- The discussion at the conference will be centred around the enabling of the State Governments to develop their State Indicator Frameworks in line with the NIF and to strengthen the statistical system of the country.

### Sustainable Development Goals

- The Sustainable Development Goals (SDGs) also known as the **Global Goals** were adopted by all United Nations Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030.
- The **17 SDGs** are integrated—that is, they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.
- The SDGs **replace the Millennium Development Goals (MDGs)**, which started a global effort in 2000 to tackle the indignity of poverty.

## NEERI-IndAIR

### Why in News

The **Council of Scientific Industrial Research-National Environmental Engineering Research Institute (CSIR-NEERI)** recently launched the **country's first interactive online repository** named as **IndAIR (Indian Air quality Studies Interactive Repository)**.

### Key Points

- The aim of the project is **to make air quality research available to everyone**. It presents these studies in an easily accessible web format for the media, researchers, and academics.

### TRACKING AIR POLLUTION STUDIES IN INDIA

➤ First air pollution study in India was done for Bengal Smoking Nuisance Act in 1905

➤ Studies by SC Roy from Meteorological Office examined cloud seeding for dealing with famine-ridden areas in 1954

➤ In 1970, Bhabha Atomic Research Centre, Central

Public Health Engineering Research Institute (now NEERI) and National Productivity Council were assigned task of fabricating air pollution monitoring equipment

➤ Prior to that, dust and Ringelmann's charts were used to study plume from stack and decide on pollution levels



➤ Seminars and events to discuss ills of air pollution began wholeheartedly in 1970s...

➤ ..But studies were done as early as 1950s by key researchers in India

➤ Delhi-NCR has most number of studies – **262** – on air pollution

- It is the **first** comprehensive effort to enlist existing Indian research and analysis on **air pollution, its causes and effects**.
- IndAIR has archived scanned documents from pre-Internet times (1950-1999), research articles, reports and case studies, and over 2,000 statutes to provide the history of air pollution research and legislation in the country.
  - It includes all major legislations in the country dating back to 1905.

### Council of Scientific & Industrial Research- National Environmental and Engineering Research Institute

- CSIR-NEERI is a research institute **created and funded by the Government of India**.
- It functions under the **Ministry of Science & Technology**.
- It was established in Nagpur in 1958 with a focus on water supply, sewage disposal, communicable diseases and to some extent on industrial pollution and occupational diseases found common in post-independent India.

## Kyasanur Forest Disease

### Why in News

Recently, the **Karnataka State Government** proposed to establish a **'monkey park'** in Malnad region to contain the problem of crop-raiding primates.

- Environmentalists fear that this may trigger infections like **Kyasanur Forest Disease (KFD)** and also upset the natural food chain.

### Kyasanur Forest Disease

- It is caused by **Kyasanur Forest Disease Virus (KFDV)**, a member of the virus family Flaviviridae.

Note:



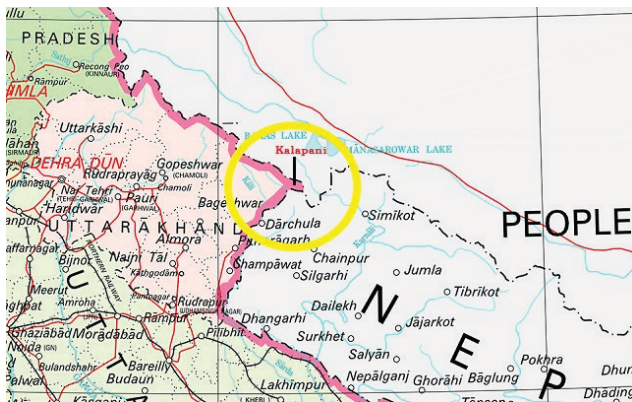
- It was **first identified in 1957** in a sick monkey from the **Kyasanur Forest in Karnataka**. Since then, **between 400-500 humans cases per year** have been reported.
- KFD is **endemic** to the **Indian state of Karnataka**.
- Rodents, Shrews and Monkey are common host for KFDV after being bitten by an infected tick.
- It **may infect humans** after a tick bite or contact with an infected animal (a sick or recently dead monkey).
- There is **no specific treatment** for KFD although a **vaccine is available**.

## Kalapani Territory

### Why in News

Recently, released political map of India has made the **Kalapani territory** as the bone of contention between **India and Nepal**.

- The political map has been released to mark the bifurcation of the state of Jammu and Kashmir (J&K) into the Union Territories of J&K and Ladakh.



### Key Points

- In the latest political map, India **reiterated its claims** on the Kalapani region which is the part of the Pithoragarh district of **Uttarakhand**.
- It is situated on the **Kailash Mansarovar route**.
  - The **Kali River** in the Kalapani region demarcates the **border between India and Nepal**.
  - The **Treaty of Sugauli** signed by the **Kingdom of Nepal and British India** (after Anglo-Nepalese War) in 1816 marked the Kali River as Nepal's western boundary with India.
  - The **discrepancy** in locating the **source of the river** led to **boundary disputes** between India

and Nepal, with each country producing maps supporting their own claims.

- **Susta area** is one of the **disputed territories** between **India (Uttar Pradesh) and Nepal**.
  - Susta is located on the bank of the **Gandak river** (called **Narayani river** in **Nepal**).
  - The **change of course by the Gandak river** is the main reason for disputes in the Susta area.
  - The area is **very fertile for agriculture** because of the alluvial soil brought by the river.

### Kali River

- It is also known as Sharda river or Kali Ganga in Uttarakhand.
- It joins Ghagra river in Uttar Pradesh, which is a tributary of Ganga.
- River Projects: Tanakpur hydro-electric project, Chameliya hydro-electric project, Sharda Barrage.

## Cyclone Bulbul

### Why in News

The **India Meteorological Department (IMD)** has issued an **orange alert** in Indian states of **West Bengal and Odisha** over **Cyclone Bulbul** in the **Bay of Bengal**.

- The depression over the **east-central and southeast Bay of Bengal and North Andaman Sea** has turned into a **severe cyclonic storm**.
- The landfall of the cyclone is expected between **Sagar Islands (West Bengal) and Khepupara (Bangladesh)**.
- The cyclone **has been named** by **Pakistan**.

Stage of Warning	Colour Code
Cyclone Alert	Yellow
Cyclone Warning	Orange
Post Landfall Out Look	Red

## Exercise Samudra Shakti

### Why in News

Recently, **India and Indonesia** have carried out the bilateral maritime exercise "**Samudra Shakti**" in the **Bay of Bengal**.

Note:





- The joint exercises focussed on surface warfare exercises, air defence exercises, weapon firing drills, helicopter operations, and boarding operations.
- **Garuda Shakti** is the **joint military exercise** between **India and Indonesia**.

## **Pamba-Achankovil-Vaippar River Project**

### **Why in News**

The Kerala government is preventing the implementation of the Pamba-Achankovil-Vaippar river link project as it will lead to diversion of water from Kerala to Tamil Nadu.

### **Project**

- The project was **envisaged in 1995** for producing 500 MW of **power for Kerala and irrigating the lands in Tamil Nadu**.
- The river link proposal envisages the diversion of water from the Pamba and Achankovil rivers in Kerala to the Vaippar basin in Tamil Nadu.

### **Pamba River**

- It rises at an altitude of 1650m in the Peermade Plateau in the **Idukki district of Kerala**.
- It joins the **Arabian Sea** branching into a number of channels. The entire catchment area of Pamba lies in Kerala state.

- The Pamba basin is bounded on the east by Western Ghats and on the west by Arabian Sea.

### **Achankovil River**

- The river **rises in the Western Ghats in Pathanamthitta district of Kerala** at an elevation of 700m.
- It **joins the Pamba River** at Veeyapuram.
- The river basin extends over an area of 1484 km<sup>2</sup> and lies entirely in Kerala State.

### **Vaippar River**

- The river rises from the eastern slopes of the **Varushanad hill range** of the Western Ghats at an elevation of about 1500m in **Tirunelveli district of Tamil Nadu**.
- It flows in an easterly and southeasterly direction before **joining the Gulf of Mannar**.
- The basin is bounded on the west by the Western Ghats, on the east by the Bay of Bengal.

## **Fordow Nuclear Facility**

### **Why in News?**

Recently, **Iran** has resumed uranium enrichment at its **underground Fordow plant** located near Tehran.

### **Key Points**

- The recent move of Iran is a **step away** from the agreement it signed in 2015 with a group of world powers to limit its nuclear activities in exchange for sanctions relief.
  - In 2015, Iran, with the P5+1 group of world powers



Note:

- the US, UK, France, China, Russia and Germany agreed on a long-term **Joint Comprehensive Plan of Action (JCPOA)**, also known as Iran Nuclear Deal.
- Under the JCPOA, Iran agreed to limit its nuclear activities by stopping uranium enrichment and allowing the international agencies to inspect its nuclear facilities in return for the lifting of economic sanctions.
- In May 2018, the US pulled out of Iran Nuclear Deal and it **imposed sanctions on Iran and nations** doing the significant amount of trade with Iran.

## Shilpotsav – 2019

- Recently, Shilpotsav – 2019 held in New Delhi.
- It is the **annual fair** of artisans from across the country, belonging to the **weaker sections of the society**.
- The artisans are assisted by the **apex corporations** of the **Ministry of Social Justice and Empowerment**.
- The range of products in this **fair** include - silk sarees, durries, readymade garments, terracotta products, jute products, marble artefacts and handloom etc.

## Liberhan Commission

### Why in News

The **Supreme Court** in its judgement in **Ayodhya land dispute case affirmed the conclusion of the Liberhan Commission (1992)** that demolition of the Babri Masjid was planned.

- However, the Supreme Court has cleared the way for the construction of a Ram Temple at the disputed site at Ayodhya, and directed the Centre to allot a 5-acre plot to the Sunni Waqf Board for building a mosque.

### Liberhan Commission

- Liberhan Commission of Inquiry was appointed on 16<sup>th</sup> December, 1992, 10 days after the demolition of the Babri Masjid.
- It was a **one man commission** headed by **Justice Manmohan Singh Liberhan**.
- It was assigned the task of probing the sequence of events that led to the occurrences at the Ram Janmabhoomi-Babri Masjid complex on 6<sup>th</sup> December, 1992.

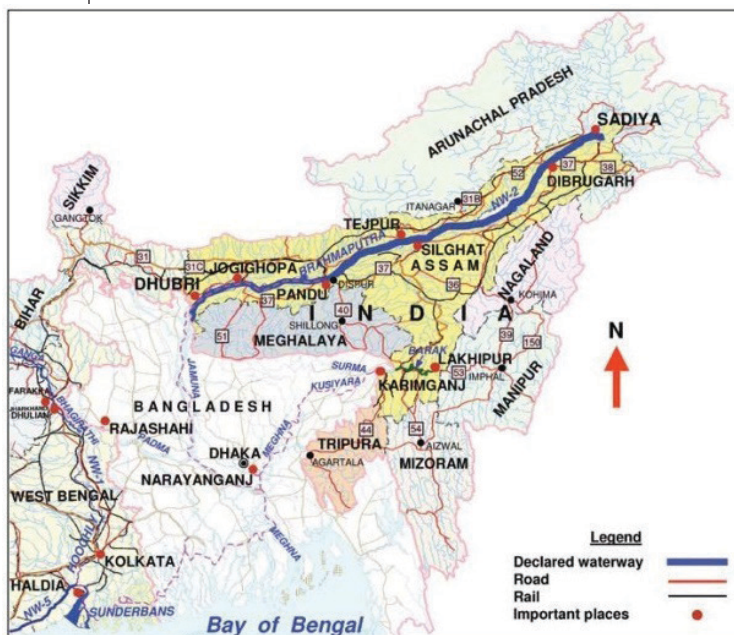
- Initially, the Commission had to submit the report within 3 months. However, with 48 extensions, it became the **longest Commission of Inquiry in the history of Independent India**.
- The report recommended a law providing for exemplary punishment for misusing religion to acquire political power.
  - It also said that the demolition of the Babri Masjid was planned, systematic, and was the intended outcome of a climate of communal intolerance deliberately created by religious extremists.

## National Waterway-2

- The first-ever container cargo movement on Brahmaputra (National Waterway-2) will sail via **National Waterway-1 (River Ganga)**, **Indo-Bangladesh Protocol (IBP) route** and **National Waterway-2 (River Brahmaputra)**.

### National Waterway-2

- The **Sadiya-Dhubri** stretch of the **Brahmaputra river** (891 Km) declared as **National Waterway-2** in 1988 is located in the state of **Assam**.
- As per the **National Waterways Act, 2016**, 111 waterways have been declared as NWs.
  - **National Waterway-1 (Prayagraj-Haldia)** with length 1620 km is the **longest** National waterway in India.



Note:

## Tawang Festival

### Why in News

Recently, Tawang Festival was concluded in **Arunachal Pradesh**.

- Tawang Festival is an annual festival which was **started in 2012** and celebrates Arunachal's rich cultural heritage, including Buddhist religious functions, traditional dances, indigenous sports, films and documentaries, food festivals and more.
- It starts with the religious tradition known as "**Sebang**" which is the process of monks of Tawang town moving to the festival spot in rallies from the **Tawang monastery**.
- Major attractions are the **Dance of Yak** and the **Aji-lhamu Dance**.
- Arunachal Pradesh also hosts **Orange Festival**, **Ziro** musical festival, **Bascon organic** festival and **Mechuka** Adventure festival.

#### Other festivals celebrated by the tribes of Arunachal Pradesh

Festivals	Tribes
Mopin and Solung	Adis
Lossar	Monpas
Boori-boot	Hill Miris and Sherdukpens
Dree	Apatanis
Si-Donyi	Tagins
Reh	Idu-Mishmis
Nyokum	Nishs

## Danakil Depression

### Why in News

A recent study stated that an **active and naturally occurring life cannot be sustained at Danakil, Ethiopia**.

- The **two barriers** to the survival of life in the Danakil region are:
  - **Magnesium-dominated brines** that cause cells to break down.
  - An environment having simultaneously **very low pH and high salt**, a combination that makes adaptation highly difficult.



### Danakil Depression

- It is located in **northeastern Ethiopia**.
  - At the northern end of the Great Rift Valley, and separated by live volcanoes from the Red Sea.
- Danakil is **one of the world's lowest places** at 100 metres below sea level.
- The plain was **formed by the evaporation of an inland water body**.
- All the water entering Danakil evaporates, and no stream flows out from its extreme environment.
- It is covered with more than 10 lakh tonnes of salt.

## Glyphosate

### Why in News

A German pharma company is facing thousands of lawsuits over its **herbicide** products which are based on a compound called **glyphosate**.

- Herbicide is an agent, usually chemical, for killing or inhibiting the growth of unwanted plants, such as residential or agricultural weeds and invasive species.

### Glyphosate

- **Scientific Name:** It was developed in **1970**, and its scientific name is N-(phosphonomethyl) glycine under the **International Union of Pure and Applied Chemistry (IUPAC)** system of nomenclature.
- **Application:** It is applied to the **leaves of plants to kill weeds**.
- **Usage in India**
  - It has a very good market size in the tea sector of West Bengal and Assam.

Note:



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- Presently, its consumption is **highest in Maharashtra** as it is becoming a key herbicide in sugarcane, maize and many fruit crops.

➤ **Concerns**

- In 2015, the World Health Organization published a

study that found glyphosate “probably carcinogenic to humans”. However, no advisory has been issued yet.

- **France, Italy, and Vietnam banned** its use after the finding.



Note:



**Key Points**

**Details**


**Summary**

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**Summary**



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# Current Affairs (CONSOLIDATION)

**NOVEMBER 2019**  
**(PART – II)**

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# Polity and Governance

## Highlights

- Contempt of Court
- Review Petition
- 250<sup>th</sup> Session of Rajya Sabha
- The Transgender Persons (Protection of Rights) Bill, 2019
- Bill to Change Stature of Official Languages
- Starred Questions In Parliamentary Proceedings
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- Maharashtra Bill to Protect Media persons
- Cases Under Unlawful Activities (Prevention) Act
- UNDP's Accelerator Lab

## Contempt of Court

### Why in News

Recently, the Supreme Court of India has held former Ranbaxy promoters guilty of **contempt for violating its order**.

- The expression '**contempt of court**' has **not** been defined by the **Constitution**.
- As per the **Contempt of Courts Act 1971**, contempt refers to the offence of showing disrespect to the dignity or authority of a court.
- The act divides contempt into **civil and criminal contempt**.
  - **Civil contempt**: It is **willful disobedience** to any judgment, decree, direction, order, writ or other processes of a court or wilful breach of an undertaking given to the court.
  - **Criminal contempt**: It is any publication which may result in:
    - **Scandalising the court** by lowering its authority.
    - **Interference** in the due course of a judicial proceeding.

- An **obstruction** in the administration of justice.

- However, innocent publication and distribution of some matter, fair and reasonable criticism of judicial acts and comment on the administrative side of the judiciary do not amount to contempt of court.

### Contempt of Court Act, 1971

- The act defines the power of courts to punish for their contempt and regulates their procedure.
- It was **amended** in **2006** to include the defence of truth under **Section 13** of the original legislation. Implying that the court must permit justification by truth as a **valid defence** if it is satisfied that it is in the public interest.

### Punishments for Contempt of Court

- The supreme court and high courts have the power to punish for contempt of court, either with simple imprisonment for a term up to **six months** or with **fine up to 2,000** or with both.
- In **1991**, the Supreme Court has ruled that it has the power to **punish for contempt not only of itself** but also of **high courts, subordinate courts and tribunals** functioning in the entire country.

Note:



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- On the other hand, High Courts have been given special powers to punish contempt of subordinate courts, as per **Section 10 of The Contempt of Courts Act of 1971**.

### Need for Contempt Law

- The purpose of contempt jurisdiction is to uphold the majesty and dignity of the judiciary.
- Contempt powers help judges to do their duties of deciding cases without fear, favour, affection or ill will.

### Constitutional Background

- **Article 129:** Grants Supreme Court the power to punish for contempt of itself.
- **Article 142(2):** Enables the Supreme Court to investigate and punish any person for its contempt.
- **Article 215:** Grants every High Court the power to punish for contempt of itself.

### Issues with Contempt Law

- **Article 19(1)(a)** of the Constitution gives the right to freedom of speech and expression to all citizens, while "**contempt provisions**" curb people's freedom to speak against the court's functioning.
- The law is **very subjective** which might be used by the judiciary **arbitrarily to suppress** their criticism by the public.

## Review Petition

### Why in News

The **Supreme Court** has agreed to **review its Sabarimala verdict**, in which it lifted the centuries-old entry ban on women of all ages in the shrine.

### Key Points

- **Constitutional Provision:** Under **Article 137** of the Constitution, the Supreme Court has the power to review any of its judgments or orders.
- **Scope of Review**
  - The Court has the power to review its rulings to **correct a "patent error" and not "minor mistakes of inconsequential import"**. A review is **by no means an appeal in disguise**.
  - That means the Court is allowed not to take fresh stock of the case but to correct grave errors that have resulted in the miscarriage of justice.

### Filing Review Petition

- As per the Civil Procedure Code and the Supreme Court Rules, **any person aggrieved by a ruling can seek a review**. This implies that it is not necessary that only parties to a case can seek a review of the judgment.
- A Review Petition has to be filed **within 30 days** of the date of judgment or order.
  - In certain circumstances, the court can condone the delay in filing the review petition if the petitioner can establish strong reasons that justify the delay.

#### Note:

- It needs to be noted that **judgment is a final decision** in a case whereas **order is an interim ruling** that is subject to its final judgement.

### Grounds for Considering Review Petition

- It needs to be noted that the Court does not entertain every review petition filed. It exercises its **discretion** to allow a review petition only when it shows the grounds for seeking the review.
- The Supreme Court has laid down **three grounds** for seeking a review of a verdict it has delivered:
  - The **discovery of new and important matter** or evidence which, after the exercise of due diligence, was not within the knowledge of the petitioner or could not be produced by him;
  - **Mistake or error apparent** on the face of the record; or
  - **Any other sufficient reason** that is analogous to the other two grounds.

### Procedure in the Court

- Review petitions are ordinarily be **entertained without oral arguments** by lawyers. Thus, it is heard "**through circulation**" by the judges in their chambers.
- However, in exceptional cases, the court allows an oral hearing. In a 2014 case, the Supreme Court held that review petitions in all death penalty cases will be heard in open court by a Bench of three judges.
- Review petitions are **heard by the same combination of judges who delivered the original order or judgment** that is sought to be reviewed.

### Option after Review Petition Fails

Note:



- In **Roopa Hurra v Ashok Hurra case (2002)**, the Court evolved the concept of a **curative petition**, which can be heard after a review petition is dismissed. Anyhow, the Supreme Court's verdict cannot result in a miscarriage of justice.
- A curative petition is also entertained on very narrow grounds like a review petition and is generally not granted an oral hearing.

## 250<sup>th</sup> Session of Rajya Sabha

### Why in News

The Rajya Sabha secretariat has released the first-ever analysis of its legislative work, "**Rajya Sabha: The Journey since 1952**" on the occasion of the **250<sup>th</sup> session of Rajya Sabha**.

### Key Points

- The Rajya Sabha has passed 3,817 Bills till the end of its **249<sup>th</sup> session** (Monsoon Session, 2019).
- The **recent monsoon session of Rajya Sabha (2019)** has been reported as the **most productive session (103%)**.
  - Productivity signifies the **number of hours** the House actually functioned compared to the **number of hours officially earmarked** for it to work.
- The **representation of women** in Rajya Sabha **increased** from 15 (6.94%) in 1952 to 31 (12.76%) in 2014 but decreased to 26 (10.83%) in 2019.

### Some Unique Events Related to Rajya Sabha

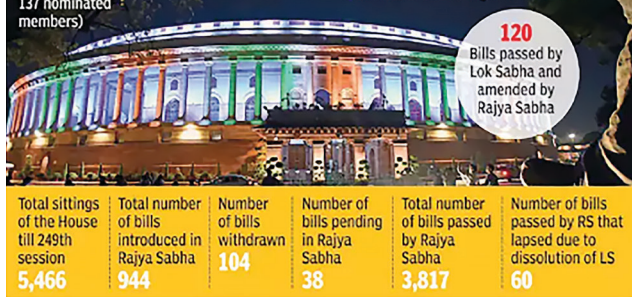
- **Casting vote by Chairman:** The first and the only time when a Presiding Officer of Rajya Sabha casted his vote was for the **Code of Criminal Procedure (Amendment) Ordinance, 1991**.
  - The Chairman cannot vote in the first instance; he **can only exercise a casting vote** in the case of a tie.
- **President Rule approved only by Rajya Sabha:** It has happened **only twice** for extension of **President Rule in Tamil Nadu (1977)** and in **Haryana (1991)** when Lok Sabha was dissolved.
- **Bills passed at the joint sitting of both the Houses of Parliament:**
  - The **joint sitting** has passed **only three bills**, namely
    - **The Dowry Prohibition Bill, 1959** passed at a joint sitting in **1961**.

## A JOURNEY SINCE 1952

Total members so far **2,282** (including 208 women and 137 nominated members)

Longest-serving members: **Mahendra Prasad**, serving the 7<sup>th</sup> term, followed by **Manmohan Singh** serving 6<sup>th</sup> term

Representation of women in Rajya Sabha increased from **15 (6.94%)** in 1952 to **31 (12.76%)** in 2014. It is currently **26**, or **10.83%**, of the strength of the House



### RAJYA SABHA FIRSTS

**First bill passed:** The Indian Tariff (2nd Amendment) Bill, 1952

**First constitution amendment bill:** The Constitution (Second Amendment) Bill, 1953 for readjustment of representation in Lok Sabha by increasing the size of population per constituency

**First bill on law and order:** The Preventive Detention (Second Amendment) Bill, 1952

**First security bill:** The Armed Forces (Assam & Manipur) Spl Powers Bill, 1958

**First bill on pollution:** The Prevention of Water Pollution Bill, 1959

**First money bill deemed to have been passed by Rajya Sabha:** The Appropriation (Railways) No.4 Bill, 1978

**First bill referring to terrorism:** The Terrorist Affected Areas (Special Courts) Bill, 1984

### LANDMARK EVENTS

**1 Casting vote by the chair:** The only time a presiding officer of RS cast his vote was on August 5, 1991 when voting was tied 39-39 on a statutory resolution moved by opposition seeking disapproval of the CrPC (amendment) ordinance, resulting in opposition victory

**2 Prez rule not just by RS:** President Rule extended in Tamil Nadu and Nagaland in 1977, and for Haryana in 1991, only by RS when LS was dissolved

**3 Removal of a judge:** RS adopted a motion for removal of

a judge in respect of Justice Soumitra Sen of Calcutta HC in 2011. He quit before the motion was taken up in LS

**4 Expulsion of members:** RS adopted a motion in 1976 to expel Subramanian Swamy after his activities were found to be derogatory to the dignity of the House. Chatrapal Singh was expelled in 2005 after the ethics panel found him guilty of accepting money for raising questions. Sakshi Maharaj was expelled in 2006 for irregularities in MPLAD projects

### Rajya Sabha

- The **maximum strength** of the Rajya Sabha is **fixed at 250**, out of which, 238 are to be the representatives of the states and union territories (elected indirectly) and 12 are nominated by the president.
  - The representatives of states are elected by the elected members of state legislative assemblies.
  - The representatives of each union territory are indirectly elected by members of an electoral college specially constituted for the purpose
  - The seats are allotted to the states in the Rajya Sabha on the basis of the population.
- The Rajya Sabha (**first constituted in 1952**) is a **permanent body** and **not subject to dissolution**.
  - However, **one-third** of its members **retire every second year**.
  - The retiring members are eligible for re-election and renomination any number of times.
- The Constitution has **not fixed the term of office of members of the Rajya Sabha** and left it to the Parliament.

Note:



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- Accordingly, the Parliament in the Representation of the People Act (1951) provided that the term of office of a member of the Rajya Sabha shall be **six years**.

➤ **Special Powers of Rajya Sabha** include:

- It can authorize the Parliament **to make a law** on a subject enumerated in the **State List (Article 249)**.
- It can **authorize** the Parliament **to create new All-India Services** common to both the Centre and states **(Article 312)**.

- The **Banking Service Commission (Repeal) Bill, 1978** passed at a joint sitting in **2018**.

- The **Prevention of Terrorism Bill, 2002** passed at a joint sitting in **2002**.

- Joint sitting is extraordinary machinery provided by the Constitution to resolve a deadlock between the two Houses over the passage of a bill.

## The Transgender Persons (Protection of Rights) Bill, 2019

### Why in News

The Parliament passed the Transgender Persons (Protection of Rights) Bill, 2019.

### Key Features

- **Definition of a transgender person:** The Bill defines a transgender person as one whose gender does not match the gender assigned at birth. It includes transmen and trans-women, persons with intersex variations, gender-queers, and persons with socio-cultural identities, such as kinnar and hijra.
- **Certificate of identity:** A transgender person may make an application to the District Magistrate for a certificate of identity, indicating the gender as 'transgender'.
- **Prohibition against discrimination:** The Bill prohibits discrimination against a transgender person, including denial of service or unfair treatment in relation to:
  - Education, employment, healthcare.
  - Access to or enjoyment of goods, facilities, opportunities available to the public.
  - Right to movement, right to reside, rent, or otherwise occupy property.

- Opportunity to hold public or private office.
- Access to a government or private establishment in whose care or custody a transgender person is.

➤ **Health care**

- The Bill also seeks to provide **rights of health facilities** to transgender persons including separate HIV surveillance centres, and sex reassignment surgeries.

- It also states that the government shall review medical curriculum to address health issues of transgender persons, and provide comprehensive medical insurance schemes for them.

➤ It calls for establishing a **National Council for Transgender persons (NCT)**.

- **Punishment:** It states that the offences against transgender persons will attract imprisonment between six months and two years, in addition to a fine.

### Concerns

- The Bill **does not have any provision for self-determination of gender**. The transgender community has questioned the certificate of identity.
- It **fails** to address the lack of an effective mechanism **to enforce the legal prohibition** against discrimination on the ground of gender identity.
- It **does not make provision for affirmative action in employment or education** despite the Supreme Court's mandate in National Legal Services Authority NALSA v. Union of India (UOI) case (2014).
- The Bill sets out **lighter sentences for several criminal offences**, such as "sexual abuse" and "physical abuse", when they are committed against transgender people.

### Pros and cons

SALIENT FEATURES	COMMUNITY'S RESPONSE
• Definitions do not differentiate between transgenders, transsexuals, intersex persons and genderqueer	• Community differentiates between transgender, transsexual and intersex persons and dismisses the 'one-solution fits all' idea
• Prohibition against discrimination in education, employment, healthcare, public facilities etc. Also prevents forced labour	• Lack of enforceability dilutes provision. Lived experiences riddled with discrimination
• Certificate of identity can be obtained at the DM's office and a revised certificate is to be obtained if sex is changed	• Shuns provision as impinging on their right to self-determination. Fear it'll lead to bureaucratic discrimination
• Government welfare measures and provisions of healthcare, including HIV surveillance centres, and sex reassignment surgeries	• Step forward but medical community lacks knowledge of transgender bodies
• Transgender persons may only change their first name	• Prefer to take Guru's name since many have severed ties with their birth family
• Setting up of a National Council for Transgender persons (NCT), including various Ministers and five transgender persons	• Desire greater representation in decision making that affects them directly

SOURCE: PIES INDIA

Note:

## Bill to Change Stature of Official Languages

### Why in News

Recently, a private member's bill was introduced in the ongoing Winter Session of the Parliament to **give all 22 languages** mentioned in the Eighth Schedule of the Constitution **the stature of national official languages**.

### What the Bill Proposes

This proposed (Constitutional Amendment) Bill seeks to amend:

- **Original Provision: Article 343** of the Constitution, which states that the official language of the Union shall be Hindi in Devanagari script.
  - **Proposal:** The bill proposes to substitute this with, "the official language of the Union in addition to Hindi in Devanagari script shall be the languages mentioned in the Eighth Schedule to this Constitution".
- **Original Provision: Subclause-3 of Article 343** which states that "Parliament may by law provide for the use of the English language".
  - **Proposal:** The bill seeks to add to this subclause, "Parliament may by law provide for the use of the English language or the languages mentioned in the Eighth Schedule to this Constitution".

### Purpose

- As India is known for unity in diversity, also enshrined in the Preamble to the Constitution, it is necessary that all the regional languages recognized in the **Eighth Schedule** be encouraged, developed and used as the official language of the Union. This will promote national integrity.

### Eighth Schedule and Related Constitutional Provisions

- **Part XVII** of the Indian constitution deals with the official languages in **Articles 343 to 351**.
- The Constitutional provisions related to the **Eighth Schedule** are:
  - **Article 344:** Article 344(1) provides for the constitution of a Commission by the President on expiration of five years from the commencement of the Constitution.

- **Article 351:** It provides for the spread of the Hindi language to develop it so that it may serve as a medium of expression for all the elements of the composite culture of India.

### 22 Official Languages

- The Eighth Schedule to the Constitution consists of the **following 22 languages**:
  - (1) Assamese, (2) Bengali, (3) Gujarati, (4) Hindi, (5) Kannada, (6) Kashmiri, (7) Konkani, (8) Malayalam, (9) Manipuri, (10) Marathi, (11) Nepali, (12) Oriya, (13) Punjabi, (14) Sanskrit, (15) Sindhi, (16) Tamil, (17) Telugu, (18) Urdu (19) Bodo, (20) Santhali, (21) Maithili and (22) Dogri.
- Out of all these languages, 14 were initially included in the Constitution.
- **Sindhi** language was added by the **21<sup>st</sup> Amendment Act of 1967**.
- **Konkani, Manipuri, and Nepali** were included by the **71<sup>st</sup> Amendment Act of 1992**.
- **Bodo, Dogri, Maithili and Santhali** were added by the **92<sup>nd</sup> Amendment Act of 2003**.

### Committee on Official Languages

- As the evolution of dialects and languages is dynamic, influenced by socio-political developments, it is difficult to fix any criterion for languages whether to distinguish them from dialects or for their inclusion in the Eighth Schedule to the Constitution of India.
  - Consequently two committees viz. the **Pahwa (1996)** and **Sitakant Mohapatra (2003)** Committees were formed by the government.
- A Committee was set up in September 2003 under the Chairmanship of Shri Sitakant Mohapatra to evolve a set of objective criteria for inclusion of more languages in the Eighth Schedule of the Constitution.
  - The Committee submitted its report in 2004, which is still under the government's consideration in consultation with the concerned Minorities/ Departments.

### Private Member Bill

- It refers to the **bills introduced by any member of Parliament who is not a minister**.
- Its introduction in the House requires **one month's prior notice**.

Note:



- Its **drafting is the responsibility of the member concerned**.
- Its rejection by the House has no implication on the parliamentary confidence in the government or its resignation.
- The last time a private member's bill was passed by both Houses was in 1970.
  - It was the Supreme Court (Enlargement of Criminal Appellate Jurisdiction) Bill, 1968.
- **14 private member's bills** — five of which were introduced in Rajya Sabha — have become law so far. Some other private member bills that have become laws include-
  - Proceedings of Legislature (Protection of Publication) Bill, 1956, in the Lok Sabha;
  - The Salaries and Allowances of Members of Parliament (Amendment) Bill, 1964, introduced by in the Lok Sabha and
  - The Indian Penal Code (Amendment) Bill, 1967 introduced in the Rajya Sabha.
- The government bills can be introduced and discussed on any day, private member's bills can be **introduced and discussed only on Fridays**.
- Recently, the members of parliament has demanded for consideration of private members' Bills on Wednesdays instead of Fridays.
- It has been observed that most of the members of the parliament as well as Prime Minister are found absent on Fridays which reduces significance and impact of presentation of private member's bill in the house.
- They have also demanded that time allotted for **private member's bill** consideration should not be cut short unless there is an issue of national significance to be discussed in the House.

## Starred Questions In Parliamentary Proceedings

### Why in News

The ongoing **Winter Session of 17<sup>th</sup> Lok Sabha** has **taken all the 20 starred questions** for the first time since 1972.

- The **previous record** was created during the **5<sup>th</sup> Lok Sabha (1972)** when **14 starred questions were answered**.

- Also, in the **5<sup>th</sup> Lok Sabha (1972)**, the number of **starred questions** was **fixed at 20** per Question Hour. Similarly, for the **Rajya Sabha**, the number is fixed at **15**.
- **Members of Parliament have a right to ask questions** which is one of the devices available to them to seek information on matters of public importance.
- The **Question Hour is one such mechanism** in which the members ask questions on varied aspects of administration and governmental activity.

### Question Hour

- The **first hour of every parliamentary sitting** is termed as **Question hour**.
- It is mentioned in the **Rules of Procedure of the House**.
- During this time, the members ask questions and the ministers usually give answers.
- The questions are of **three types**, namely,
  - **Starred questions**
    - It requires an **oral answer** and hence supplementary questions can follow.
    - The list of these questions is printed in green colour.
    - These are **distinguished by an asterisk**.
  - **Unstarred questions**
    - It requires a **written answer** and hence, supplementary questions cannot follow.
    - The list of these questions is printed in white colour.
  - **Short notice questions**
    - The **matters of public importance and of urgent character** are considered under this type of questions.
    - It is asked by giving a **notice of less than ten days**.
    - It is **answered orally**.
    - The list of these questions is printed in **light pink colour**.
- In addition to the ministers, the **questions can also be asked to the private members**.
  - **Question to private members**
    - These questions are **mentioned under Rule 40 of the Rules of Procedure and Conduct of Business in Lok Sabha**.
    - A question may be addressed to a private member if the subject matter of the question relates to

Note:



some bill, resolution for which that member is responsible.

- The list of these questions is printed in **yellow colour**.

## Legislative Council

### Why in News

There is a **resolution by Odisha Legislative Assembly** for the **formation of a second chamber** — the State Legislative Council. However, the resolution is pending with the Central Government.

### Legislative Council

#### ➤ Base For Formation

- India has a **bicameral system of legislature**. Just as Parliament has two Houses, the states can also have a Legislative Council in addition to the Legislative Assembly through Article 169 of the Constitution.

#### ➤ Six States having a Legislative Council: Andhra Pradesh, Telangana, Uttar Pradesh, Bihar, Maharashtra, Karnataka.

- Recently, the **Jammu & Kashmir Legislative Council has been abolished** through the J&K Reorganisation Bill, 2019, which reduced the State of J&K to the **Union Territories of J&K and Ladakh**.

#### ➤ Abolition or Creation - Article 169

- The Parliament can abolish a legislative council (where it already exists) or create it (where it does not exist) by a simple majority, that is, a majority of the members of each House present and voting, if the legislative assembly of the concerned state, by a special majority, passed a resolution to that effect.
- Special majority implies
  - A majority of the total membership of the assembly and
  - A majority of not less than two-thirds of the members of the assembly present and voting.

#### ➤ Composition

- Under **Article 171** of the Constitution, the Legislative Council of a state shall not have more than **one-third of the total strength** of the State Assembly, and **not less than 40 members**.
- Like the Rajya Sabha, the legislative council is a continuing chamber, that is, it is a permanent body and is not subject to dissolution.

- The tenure of a Member of the Legislative Council (MLC) is **six years**, with **one-third of the members** retiring every two years.

#### ➤ Manner of Election

- **One-third of the MLCs** are elected by the state's MLAs,
- Another 1/3<sup>rd</sup> by a special electorate comprising sitting members of local governments such as municipalities and district boards,
- **1/12<sup>th</sup>** by an electorate of teachers and **another 1/12<sup>th</sup>** by registered graduates.
- The remaining members are **appointed by the Governor** for distinguished services in various fields namely, literature, science, art, cooperative movement and social service.

#### ➤ LC vis-à-vis Rajya Sabha

- The legislative power of the Councils are limited. Unlike Rajya Sabha which has substantial powers to shape non-financial legislation, Legislative Councils lack a constitutional mandate to do so.
- Assemblies can override suggestions/amendments made to legislation by the Council.
- Again, unlike Rajya Sabha MPs, MLCs cannot vote in elections for the President and Vice President. The Vice President is the Rajya Sabha Chairperson while a member from the Council itself is chosen as the Council Chairperson.

#### ➤ Arguments in Favour

- A Legislative Council can help check hasty actions by the directly elected House.
- The Legislative Council also enables non-elected individuals to contribute to the legislative process.

#### ➤ Arguments Against

- Legislative Council can delay legislation.
- It can also be used to park leaders who have not been able to win an election.

## 70<sup>th</sup> Constitution Day

### Why in News

India marks the **70<sup>th</sup> anniversary** of the **adoption of the Indian Constitution** on **November 26, 2019**. The day is celebrated as **Constitution Day** (also known as 'Samvidhan Divas').

Note:



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### Key Points

- On 26 November 1949, the Constituent Assembly of India adopted the Constitution of India, and it **came into force on 26 January 1950**.
- Jammu and Kashmir will celebrate it for the first time since the **abrogation of Article 370**.
- It aims:
  - To publicize the glorious and rich composite culture and diversity of our nation.
  - To create awareness of Fundamental Duties as enshrined in the Indian Constitution.
  - To reiterate and reorient the citizens towards the values and principles expressed in the Indian Constitution.
  - To encourage all Indians to play their rightful role in strengthening Indian Democracy.

#### Abrogation of Article 370.

- On **5<sup>th</sup> of August 2019**, the President of India promulgated the Constitution (Application to Jammu and Kashmir) Order, 2019.
- The order effectively abrogates the special status accorded to Jammu and Kashmir under the provision of **Article 370** - whereby provisions of the Constitution which were applicable to other states were not applicable to **Jammu and Kashmir (J&K)**.

## Fundamental Duties

The Government is planning to assign its different Ministries with the task of spreading awareness about Fundamental duties among people.

- The idea of Fundamental Duties is inspired from the **Constitution of Russia**.
- These were incorporated in **Part IV-A of the Constitution by the 42<sup>nd</sup> Constitutional Amendment Act, 1976** on the recommendations of **Swaran Singh Committee**.
- **Originally 10 in number**, one more duty was added through the **86<sup>th</sup> Constitutional Amendment Act, 2002**. All the eleven duties are listed in **Article 51-A** of the Constitution (the **sole Article in Part-IV-A**).
- The fundamental duties serve as a reminder to citizens that while enjoying their rights, they have also to be quite conscious of duties they owe to their country, their society and to their fellow-citizens.
- However, **like the Directive Principles**, the duties are also **non-justiciable** in nature.

### List of Fundamental Duties

- To abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- To cherish and follow the noble ideals that inspired the national struggle for freedom;
- To uphold and protect the sovereignty, unity and integrity of India;
- To defend the country and render national service when called upon to do so;
- To promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities and to renounce practices derogatory to the dignity of women;
- To value and preserve the rich heritage of the country's composite culture;
- To protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures;
- To develop scientific temper, humanism and the spirit of inquiry and reform;
- To safeguard public property and to abjure violence;
- To strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement; and
- To provide opportunities for education to his child or ward between the age of six and fourteen years (added by the 86<sup>th</sup> Constitutional Amendment Act, 2002).

## Consultative Committees

### Why in News

Farooq Abdullah and Pragya Thakur have been nominated as members of the consultative committee of Parliament for the Ministry of Defence.

- The committee comprises **12 members from the Lok Sabha and 9 from the Rajya Sabha** and is chaired by the **Defence Minister**.

### Consultative Committees

- **Formation**
  - These committees are constituted by the **Ministry of Parliamentary Affairs**.

Note:



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- These are normally constituted after the new Lok Sabha is constituted and **stand dissolved upon dissolution of every Lok Sabha.**
- **Composition**
  - These consist of **members of both the Houses of Parliament.**
  - However, the membership of these committees is **voluntary** and is left to the choice of the members and the leaders of their parties.
  - The **maximum** membership of a committee is **30** and the **minimum is 10.**
- **Functions**
  - These committees are attached to various ministries/ departments of the Central Government.
  - The Minister/Minister of State in charge of the Ministry concerned acts as the chairman of the consultative committee of that ministry.
  - These provide a forum for informal discussions between the ministers and the members of Parliament on policies and programmes of the government and the manner of their implementation.
- The Consultative Committees are not **Parliamentary Committees.**
  - A **parliamentary committee** means a committee that:
    - Is appointed or elected by the House or nominated by the Speaker/Chairman.
    - Works under the direction of the Speaker/Chairman.
    - Presents its report to the House or to the Speaker/Chairman.
    - Has a secretariat provided by the Lok Sabha/ Rajya Sabha.

## Citizenship by Registration

### Why in News

The **Ministry of Home Affairs (MHA)** has **cancelled the citizenship** of Chennamaneni Ramesh who is a Member of the Legislative Assembly (MLA) from Vemulawada in Telangana.

- The MHA held that Ramesh obtained citizenship under **section 5(1)(f)** of the **Citizenship Act, 1955** in the year 2009 by means of fraud, false representation

and concealment of facts and thus, his action attracts provisions of **section 10(2)** of the Act.

- It is to be noted that a person who is not an Indian citizen is not eligible to contest or vote in any election.

### Section 5(1)(f)

- Section 5 of the Citizenship Act 1955 deals with **acquisition of citizenship by registration.**
- Section 5(1)(f) states **one of the categories eligible** for the case of registration. That is, a person of full age and capacity:
  - Who or either of his parents, was earlier citizen of independent India, and
  - Has been residing in India for one year immediately before making an application for registration.

### Section 10(2)

- Section 10 deals with **deprivation of citizenship.**
- Section 10(2) provides that the **Central Government** may, by order, deprive a citizen (who is such by registration) of Indian citizenship, if it is **satisfied that:**
  - The registration was obtained by means of fraud, false representation or concealment of any material fact; or
  - That citizen has shown himself by act or speech to be disloyal or disaffected towards the Constitution of India; or
  - That citizen has, during any war in which India may be engaged, unlawfully traded or communicated with an enemy or been engaged in, or associated with, any business that was to his knowledge carried on in such manner as to assist an enemy in that war; or
  - That citizen has, within five years after registration or naturalisation, been sentenced in any country to imprisonment for a term of not less than two years; or
  - That citizen has been ordinarily resident out of India for a continuous period of seven years.
- The law, however, also **provides for checks to ensure that citizenship is not cancelled arbitrarily.**
  - Section 10(3) of the Act says that the Central Government shall not deprive a person of citizenship under this section unless it is satisfied that it is not conducive to the public good that person should continue to be a citizen of India.

Note:

## Water Quality Report

### Why in News

Recently, the **Ministry of Consumer Affairs, Food & Public Distribution** has released **Water Quality Report for State capitals & Delhi** as analysed by the **Bureau of India Standards (BIS)**.

- The study focused on the quality of piped drinking water and also ranked the States, smart cities and districts accordingly.
- This study was in line with **Jal Jeevan Mission** which aims to **provide tap water to all households by 2024**.

### Key Points

- Tests were conducted on various parameters:
  - Organoleptic and Physical Tests
  - Chemical test
  - Toxic substances
  - Bacteriological tests
  - Total Dissolved Solids (TDS)
  - Turbidity
  - Total hardness
  - Total alkalinity
  - Minerals and metals
  - Presence of Coliform and E Coli
- A vast majority of the samples have failed to comply with the requirements in one or more parameters.
- Tap water in **Mumbai** is the **safest for drinking** while **Delhi's** water is one of the **worst**.

### Challenges

- Lack of initiatives in tap water systems due to the expanding packaged drinking water.
- High dependence on groundwater in fast-growing urban clusters where piped water systems do not exist.
- Lack of accountability of the official agencies.
- Absence of robust data in the public domain on quality testing.

### Way Forward

- It should be legally binding on agencies to achieve standards and empowering consumers.
- State governments should take an integrated view of housing, water supply, sanitation and waste management.

- A scientific approach for water management should be adopted.
- A separate agency in each state should be entrusted for regular testing rather than relying on the same agency.
- Data on water should be made public on the same lines as air quality which would put pressure on governments to act.

### Jal Jeevan Mission

- The Jal Jeevan Mission aims to bring piped water to households and resolved to spend more than ₹3.5 lakh crore in the coming years.
- India has 16% of the world population, but only 4% of freshwater resources.
  - Depleting groundwater level, overexploitation and deteriorating water quality, climate change, etc. are **major challenges** to provide potable drinking water.

## Lokpal and Lokayukta

### Why in News

Recently, a **new logo** and a **new moto** were launched for the **Lokpal**, apex anti-corruption ombudsman.



- “**Ma Gridhah Kasyasvidhanam (Do not be greedy for anyone's wealth)**” is the new motto.

### Lokpal

- The **Lokpal and Lokayukta Act, 2013** provided for the establishment of **Lokpal for the Union** and **Lokayukta for States**.
- These institutions are **statutory bodies** without any constitutional status.
- They **perform the function of an "ombudsman"** and **inquire into allegations of corruption against certain public functionaries** and for related matters.
- In India, the **concept of constitutional ombudsman was first proposed by the then law minister Ashok Kumar Sen** in Parliament in the early **1960s**.
- The **terms Lokpal and Lokayukta were coined by Dr. L. M. Singhvi**.

Note:



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## Dadra and Nagar Haveli and Daman and Diu (Merger of Union Territories) Bill, 2019

### Why in News

Recently, a Bill to merge the Union Territories (UTs) of Daman and Diu (D&D) and Dadra and Nagar Haveli (DNH) has been introduced in the Lok Sabha. It seeks to provide better delivery of services to the citizens of both Union Territories by improving efficiency and reducing paperwork.

### Key Points

- The merger will help in achieving the government's goal to have **"Minimum Government, Maximum Governance"**.
  - Both UTs have two separate constitutional and administrative bodies which lead to a lot of duplicacy, inefficiency and wasteful expenditure.
- Both of them have **small population and limited geographical area** so the merger will not be challenging and the services of officers will be used efficiently.

### Minimum Government, Maximum Governance

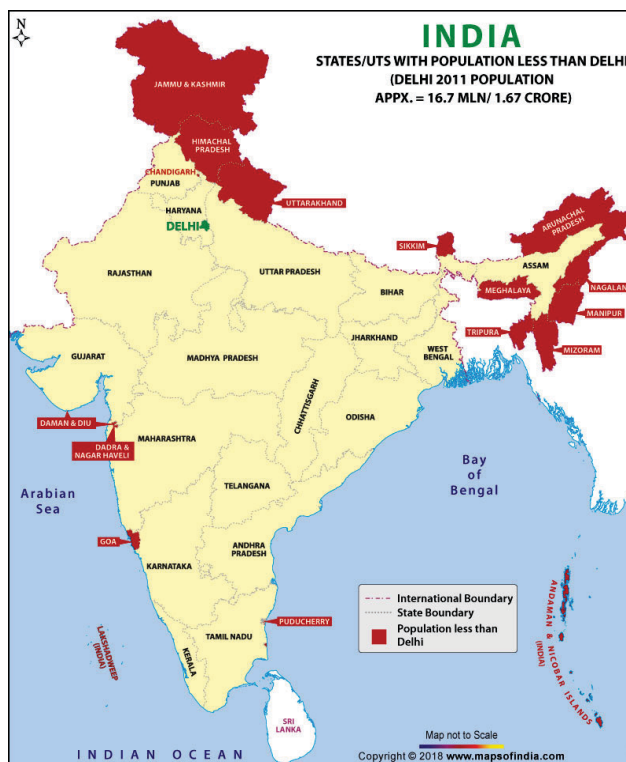
- It is the **motto of the central government** to achieve a citizen-friendly and accountable administration.
- It aims to **bring Government closer to citizens** so that they become active participants in the governance process and reduce their time and efforts.
- An important step for Good Governance is the **simplification of procedures and processes in the Government** so as to make the entire system transparent and faster.
- **Identification and repeal of obsolete laws and rules**, identification and shortening of various official forms, leveraging technology to bring in transparency in public interface and a robust public grievance redress system are other aspects of it.

### Daman and Diu and Dadra and Nagar Haveli

- These two UTs are located in the **western region of India**.
  - **Daman and Diu** are situated on the southern side of Gujarat. Daman is an enclave on Gujarat's southern coast and Diu encompasses an island off

the southern coast of Gujarat's Kathiawar Peninsula. It is in close proximity of the UT of DNH.

- **Dadra and Nagar Haveli** consists of two separate parts. Dadra is surrounded by the state of Gujarat and Nagar Haveli lies on the borders of Maharashtra and Gujarat.
- Both were **colonised by the Portuguese** and were liberated in December 1961.
- In **1987**, when Goa got statehood, Daman and Diu were made a separate Union Territory from the previous Union Territory of Goa, Daman and Diu.



## National Institute for Sowa Rigpa

### Why in News

The Union Cabinet has approved setting up of **National Institute of Sowa-Rigpa (NISR)** at Leh, **Union Territory of Ladakh**.

- It will be an **autonomous** national institute under the **Ministry of AYUSH** with the mandate to undertake **interdisciplinary education and research programmes** in Sowa-Rigpa in collaboration with national and international institutes.

Note:

- NISR will act as an **apex institute** for Sowa-Rigpa system. It will develop synergy among the existing Sowa Rigpa institutions namely, Central University of Tibetan Studies, Varanasi and Central Institute of Buddhist Studies, Leh.
  - The **existing Sowa-Rigpa institutions work under the Ministry of Culture**.
- It will also help to revive Sowa-Rigpa in the Indian sub-continent and also link the traditional wisdom of Sowa-Rigpa with modern science, tools, and technology.

### **Sowa-Rigpa**

- Sowa-Rigpa (the science of healing) is a **traditional system of medicine** practised in the Himalayan belt of India.
- It **originated in Tibet** and popularly practised in countries namely India, Nepal, Bhutan, Mongolia and Russia.
- **Yuthog Yonten Gonpo** from Tibet is believed to be the **father of Sowa Rigpa**.
- In India, it is widely practised in Sikkim, Arunachal Pradesh, Darjeeling (West Bengal), Himachal Pradesh and the Union Territory of Ladakh.
- The majority of theory and practice of Sowa-Rigpa is **similar to "Ayurveda"**.

## **Convention on Global Cybercrime**

### **Why in News**

India voted in favour of a cybercrime resolution led by Russia in a committee of the United Nations General Assembly. The resolution seeks to set up new cyber norms considered as counter alternative to the US backed Budapest Accord..

### **Budapest Convention**

- The **Council of Europe's (CoE) Cybercrime Convention** is also known as the **Budapest Convention**. It was open for signature in 2001 and came into **force in 2004**.
- The convention is the **sole legally binding international multilateral treaty on cybercrime**.
- It serves as a guideline for any country developing comprehensive national legislation against Cybercrime and as a framework for international cooperation between state parties to this treaty.

- The Budapest Convention is supplemented by a **Protocol on Xenophobia and Racism** committed through computer systems.
- **Significance:** Almost all stakeholders agree that the current form of cross-border data sharing for law enforcement through the **Mutual Legal Assistance Treaty (MLAT)** is insufficient for the digital age. However, there is an ongoing debate whether to revamp MLAT or form an entirely new system for cybercrimes in the form of this Convention.

### **Russia-led Resolution**

- The Russian proposal entitled "**Countering the use of information and communications technologies for criminal purposes**" was recently put forth in the **United Nations General Assembly (UNGA)**.
  - This recent UN proposal follows previous Russian initiatives, including the "**Draft United Nations Convention on Cooperation in Combating Cybercrime**" in 2017 to develop a UN convention on cybercrime.
- The Russian proposal calls for creation of a committee that will convene in August 2020 in New York in order to establish a new treaty through which nation-states can coordinate and share data to prevent cybercrime.
- If this resolution will be passed by the UNGA, it will become the second international convention on cybercrime.
- **Russia and China question the Budapest Convention** on the grounds of national sovereignty issues, thereby proposing their own treaty at the UN.

### **India's Stand**

- India maintained its status as a **non-member of the Europe-led Budapest Convention**. Although, India **voted in favour of a Russian-led UN resolution** to set up a separate convention.
- According to the Intelligence Bureau (IB), data sharing with foreign law enforcement agencies infringes on national sovereignty of India.
- India has also previously argued that it will not sign onto the Budapest treaty since it was drafted without its participation.

### **Data Laws in India**

- **Information Technology Act, 2000:** IT Act contains provisions regarding cyber and IT-related laws in India.

Note:

- **Section 43A:** Compensation for failure to protect data.
- **Section 72A:** Any disclosure of information, knowingly and intentionally, without the consent of the person concerned has been made punishable with imprisonment for a term extending to three years.
- However, these provisions neither protect any breach of information on the one hand nor enforce a right-based framework on privacy.
  - Supreme Court in **Justice K. S. Puttaswamy (Retd.) Vs Union of India (2017)** unanimously held that citizens have a constitutionally protected fundamental right to privacy that forms an intrinsic part of life and liberty under **Article 21**.
- Therefore, in order to establish a strong data protection regime, the government has proposed the **Draft Personal Data Protection Bill, 2018** (based on the recommendation of Justice BN Srikrishna Committee).

## Steps to Curb Abuse of Synthetic Drugs

### Why in News

To deal with the problem of **abuse of synthetic drugs and New Psychotropic Substances (NPS)**, the government is considering generic scheduling of drugs to replace the practice of substance-by-substance scheduling.

- Apart from this, the **Narco Coordination Centre (NCORD)** discussed the issue of large scale heroin trafficking from neighbouring countries, the diversion and abuse of pharmaceutical preparations, and poppy (Opium) cultivation in the country.

### New Psychoactive Substances

- NPS are **defined as** “substances of abuse either in a pure form or a preparation, that are not controlled by the United Nations drug conventions but which may pose a public health threat”.
- NPS are also known as “**legal highs**”, “**bath salts**” and “**research chemicals**”. For clarity, the **United Nations Office on Drugs and Crime (UNODC)** uses the term “New Psychoactive Substances”.
- NPS have similar effects as substances under international control such as **cannabis, cocaine, heroin, Lysergic Acid Diethylamide (LSD), ecstasy (methamphetamine or MDMA)**.

### United Nations Office on Drugs and Crime

- It was established in **1997**.
- It acts as the **Office for Drug Control and Crime Prevention** by combining the **United Nations International Drug Control Program (UNDCP)** and the **Crime Prevention and Criminal Justice Division of the United Nations Office at Vienna**.
- It was named the United Nations Office on Drugs and Crime in 2002.
- UNODC publishes **World Drug Report**.

- Since NPS are not controlled under the International Drug Control Conventions, their **legal status can differ** widely from country to country.

### India and the Issue of Drug Trafficking

- **National Security:** India is vulnerable to narcotic drug trafficking as it is located between **two largest Opium producing regions of the world, i.e., Golden Crescent in the west and Golden Triangle in the east**.
  - **Golden Crescent region of South Asia**—comprising of **Afghanistan, Iran, and Pakistan**—is a principal global site for opium production and distribution.
  - **Golden Triangle** represents the region coinciding with the rural mountains of **Myanmar, Laos, and Thailand**. It is Southeast Asia’s main opium-producing region and one of the oldest narcotics supply routes to Europe and North America.
- **Social Issue:** Drug abuse and misuse largely affects the youths who once get involved in it and later on find it difficult to overcome. It impacts drug abusers’ lives as well as their families and the community at large.
  - **Ministry of Social Justice and Empowerment is responsible for spreading awareness** regarding drug demand reduction and rehabilitation of drug addicts.
- **Constitutional Ethos:** **Article 47** of the Indian Constitution directs the State to endeavour to bring about prohibition of the consumption except for medicinal purposes of intoxicating drugs injurious to health.
- **Legislative Provisions:** The broad legislative policy is contained in the **three Central Acts**, viz., **Drugs and Cosmetics Act, 1940, The Narcotic Drugs and Psychotropic Substances Act, 1985, and The Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances Act, 1988**.

Note:



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- The **Narcotics Control Bureau** is the **apex coordinating agency** under the **Ministry of Home Affairs** constituted through the Narcotic Drugs and Psychotropic Substances Act, 1985.
- **Global Conventions:** India is a signatory to the Single Convention on Narcotic Drugs 1961, the Convention on Psychotropic Substances, 1971 and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.

## Road Accidents in India-2018

### Why in News

The Ministry of Road Transport and Highways has released the **annual report** on Road Accidents in India.

- The report shows **53 crashes and the loss of 17 lives every hour**.
- The **road traffic injuries** were the **eighth** leading cause of death in India in 2018.

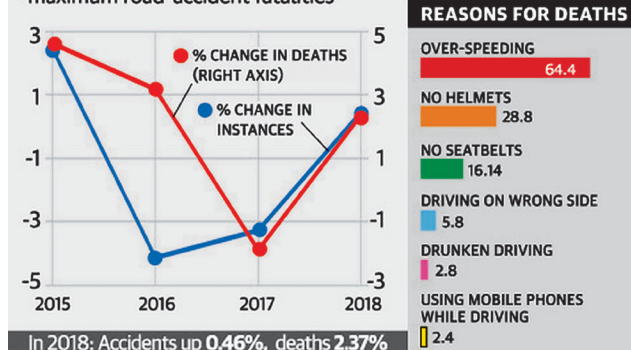
### Key Points

- **Global Analysis:**
  - According to **World Road Statistics (2018)**, India reports the **highest** number of road accident deaths followed by the US and China.
    - World Road Statistics is released by the World Road Federation.
  - As per the **WHO Global Report on Road Safety 2018**, India accounts for almost **11%** of the **accident-related deaths in the world**.
- **National Analysis:**
  - **The road accidents numerics:**

- It kills almost **1.5 lakh people annually** in India.
- The accidents, as well as accident-related deaths in the period 2010-2018, dropped drastically compared with the previous decades, despite the very high rate of growth of automobiles.
- The road accident severity (the number of persons killed per 100 accidents) has **increased** by 0.6% in 2018 compared to 2017.
- **Major Cause:**
  - **Over-speeding** is a major cause, accounting for 64.4% of the persons killed. As the maximum number of road accidents occurred on straight roads.
  - Two-wheelers accounted for the highest share (35.2%) in total accidents in 2018.
- **Age:**
  - The **young adults (18-45 years)** accounted for nearly **69.6%** of road accident victims.
  - **Minors** involved in road crash deaths were at 6.6% of the total deaths.
- **Gender:**
  - The share of males in the number of total accident deaths was 86% while the share of females was around 14% in 2018
- **State-wise Analysis:**
  - As in 2017, the State of **Tamil Nadu** recorded the **highest** number of road accidents in 2018.
  - Similarly, as in 2017, the **number of persons** killed in a road accident was the **highest** in **Uttar Pradesh** in 2018.
  - Delhi has been ranked first in the total number of road fatalities compared to other Indian cities.

### Speed hazards

Instances of road accidents and deaths increased in 2018 compared to 2017. Over-speeding was the reason for the maximum road-accident fatalities



### Steps Taken at Global Level

- **Brasilia Declaration on Road Safety (2015):**
  - The declaration was signed at the **second Global High-Level Conference** on Road Safety held in Brazil. The **first conference** was held in **Russia (2009)**.
  - Through the **Brasilia Declaration** countries plan to achieve the **Sustainable Development Goal 3.6** i.e. to half the number of global deaths and injuries from road traffic accidents by 2030.
  - United Nations has also declared **2010-2020** as the **decade of action for Road Safety**.

Note:



### ➤ UN Global Road Safety Week:

- It is celebrated every two years, the fifth edition of the **UN Global Road Safety Week** (6-12 May 2019) highlighted the need for strong leadership for road safety.

### ➤ The International Road Assessment Programme (iRAP):

- It is a registered charity dedicated to saving lives through safer roads.

### **Steps Taken by Indian Government**

- India has signed the **Brasilia declaration** and committed to reduce the number of deaths and injuries from road traffic accidents.
- **Motor Vehicles Amendment Act, 2019**
  - It hikes the penalties for traffic violations, defective vehicles, juvenile driving, etc.
  - It provides for a Motor Vehicle Accident Fund, which would provide compulsory insurance cover to all road users in India for certain types of accidents.
  - It also provides for a National Road Safety Board, to be created by the Central Government through a notification.
  - The act also provides for the protection of good samaritans.
- **Justice K.S. Radhakrishnan Committee**
  - Supreme Court had set up the three-member KS Radhakrishnan panel on **road safety** in 2014. The SC had termed the roads in India as “giant killers”.

## **National Skills Study**

### **Why in News**

According to a study conducted by the **National Skill Development Corporation (NSDC)**, 7 crore additional individuals in the working-age (15-59 years) are expected to enter the labour force by 2023. Of this **84.3%** will be in the **age group 15-30 years**.

- The NSDC has projected trends in the country's labour market potential during 2019-23 based on:
  - Periodic Labour Force Survey (PLFS) for 2017-18,
  - Crude Death Rates (CDR) at gender and region (rural/urban) level, and
  - Employment-Unemployment Survey (EUS), 2011-12 (68<sup>th</sup> round).

### **Key Findings**

- **Gender:** According to the study, **one out of five persons (15-30 years age)** entering the labour force is expected to be a **female** by **2023**.
  - **Female labour force participation rate for 15 years and above** is estimated at **23.3%**.
  - According to World Bank data, India's female labour force participation rate ranks much **lower than other Asian economies in 2019**.
- **Education:** Many female candidates in the age group of 15-19 years may not be actively present in the labour force. They would instead opt for higher education.
- **Age:** Of the total youth entrants (aged 15-30 years) during these four years (2019-23), half are expected to come from the 15-20 years age group.
- **State-wise:**
  - Only **six states** – Uttar Pradesh, Maharashtra, Madhya Pradesh, Bihar, Tamil Nadu, and Karnataka are expected to account for 50% of the new youth entrants (15-30 years) during 2019-23.
  - Among female youth (15-30 years), the highest numbers of new entrants are expected in the years 2021 and 2023 each, while among male youth, the highest number of new entrants are expected in 2023.

### **National Skill**

#### **Development Corporation (NSDC)**

- It is a public-private-partnership working under the aegis of the Ministry of Skill Development & Entrepreneurship.
- NSDC aims to promote skill development by catalyzing the creation of large, quality and for-profit vocational institutions. It acts as a catalyst in skill development by providing funding to enterprises, companies, and organizations that provide skill training.
- NSDC is the implementation agency for skills training in the country.

## **Supplementary Grants**

### **Why in News**

Finance Minister tabled the first batch of **Supplementary Demands for Grants** for the financial year **2019-20** in both the **Houses of Parliament**.

Note:

### Supplementary Grants

- When the authorised grants fall short of the required expenditure, an estimate is presented before the Parliament for **Supplementary or Additional grants**.
  - The Comptroller and Auditor General of India bring such excesses to the notice of the Parliament.
  - The Public Accounts Committee examines these excesses and gives recommendations to the Parliament.
  - These grants are presented and passed by the Parliament before the end of the financial year (1<sup>st</sup> April to 31<sup>st</sup> March).

### Other Grants

#### Additional Grant

- It is granted when a need has arisen during the current financial year for additional expenditure upon some new service not contemplated in the budget for that year.

#### Excess Grant

- It is granted when money has been spent on any service during a financial year in excess of the amount granted for that service in the budget for that year.
  - It is voted by the Lok Sabha after the financial year (since it is regulated by the same procedure which is applicable in the case of a regular budget, i.e. voted by the Lok Sabha).
  - Before the demands for excess grants are submitted to the Lok Sabha for voting, they must be approved by the Public Accounts Committee of Parliament.

#### Vote of Credit

- It is granted for meeting an unexpected demand upon resources of India, when on account of the magnitude or the indefinite character of the service, the demand cannot be stated with the details ordinarily given in a budget.
  - Hence, it is like a blank cheque given to the Executive by the Lok Sabha.

#### Exceptional Grant

- It is granted for a special purpose and forms no part of the current service of any financial year.

#### Token Grant

- It is granted when funds to meet the proposed expenditure on a new service can be made available by reappropriation.

- A demand for the grant of a token sum (of Re 1) is submitted to the vote of the Lok Sabha and if assented, funds are made available.
- Reappropriation involves transfer of funds from one head to another. It does not involve any additional expenditure.

#### Votes on Account

- The Constitution has authorised the Lok Sabha to make any grant in advance in respect to the estimated expenditure for a part of the financial year, pending the completion of the voting of the demands for grants and the enactment of the appropriation bill. This provision is known as the 'vote on account'.
  - It is passed (or granted) after the general discussion on budget is over. It is generally granted for two months for an amount equivalent to one-sixth of the total estimation.

#### Note:

Supplementary, additional, excess, exceptional grants and vote of credit are regulated by the same procedure which is applicable in the case of a regular budget.

#### Constitutional Provision

- Supplementary, additional or excess grants and Votes on account, votes of credit and exceptional grants are defined in the Constitution of India 1949.
- Provisions under these Articles are:
  - **Article 115:** Supplementary, additional or excess grants.
  - **Article 116:** Votes on account, votes of credit and exceptional grants.

## Quota for Disabled in Panchayats

### Why in News

The Chhattisgarh Cabinet has approved an amendment to the **State Panchayati Raj Act, 1993**, which makes the presence of a person with disabilities, mandatory in all panchayats across the state.

- This implies that if differently abled members are not elected through the electoral process, then one member, either male or female, would be nominated by the government.

Note:

- The Cabinet has also **decided to remove educational qualification as a requirement for the members of Panchayat.**

### Key Points

- Chhattisgarh will be the **only State** to have **Persons with Disabilities (PwD) as members in all panchayats.**
  - It needs to be noted that there is no such quota for the disabled community in the elections to the central, state legislative assemblies and Panchayats (in general).
- The State government would also **nominate two such members, one male and one female, to Janpads and Zilla Panchayats.**
- Only being literate would be enough to contest election. The cabinet has **decided to remove the educational stipulations** of Class V and Class VII for members of the Panch and those above Panch, respectively.
  - This in contrast to the **Supreme Court's judgement in 2015 (Rajbala v. the State of Haryana)** where it upheld the decision of the Haryana government which mandated **"minimum" educational qualifications as an eligibility** to contest panchayat elections in the State.

### Constitutional and

#### Legal Provisions Related to PwD

- **Article 41** of the **Directive Principles of State Policy (DPSP)** states that State shall make effective provision for securing right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, within the limits of its economic capacity and development.
- The subject of **'relief of the disabled and unemployable'** is specified in the State List of the **Seventh Schedule** of the constitution.
- The **Right of Persons with Disabilities Act 2016** provides reservation of 4% in government jobs and 5% in higher education institutes.

### Panchayati Raj Institution in India

- **Formation**
  - The term **Panchayati Raj in India** signifies the system of **rural local self government.**
  - It has been established in all the states of India by the Acts of the state legislatures to build democracy at the grass root level.

- It was constitutionalised through the **73<sup>rd</sup> Constitutional Amendment Act of 1992.**

### ➤ Constitutional Provisions

- The **Part-IX** to the Constitution of India has been entitled as **'The Panchayats'.**
- It consists of provisions from **Articles 243 to 243 O.**
- The **Eleventh Schedule** to the Constitution contains **29 functional items** of the Panchayats.

### ➤ Three - Tier System

- **Gram Panchayat** at the **village level.**
- **Janpad Panchayat** at the **intermediate/ block level.**
- **Zilla Panchayat** at the **district level.**

### ➤ Election of Members

- All the members of panchayats at the village, intermediate and district levels are **elected directly** by the people.
- The **State Election Commission conducts** elections to the panchayats.
- There is a **five-year term** of office to the panchayat at every level.

### ➤ Reservation of Seats

- Reservation of seats (both members and chairpersons) for Scheduled Castes (SCs) and Scheduled Tribes (STs) in panchayats **at all three levels.**
- Reservation of **one-third seats** (both members and chairpersons) **for women** in panchayats at all the three levels.
- It is to be noted that providing **reservation** of seats (both members and chairpersons) **for backward classes** in panchayats at any level is a voluntary provision.

### ➤ Powers and Functions

- The State Legislature may endow the Panchayats with such powers and authority as may be necessary to enable them to function as institutions of self-government.

## Maharashtra Bill to Protect Mediapersons

### Why in News

The **President of India** has given assent to the **Maharashtra Media Persons and Media Institutions (Prevention of Violence and Damage or Loss to Property) Bill, 2017.**

Note:



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- Maharashtra is the **first state** to pass legislation which ensures **protection for journalists**.

### Key Provisions

- The bill considers violent **attacks on media persons** a **non-bailable offence**.
  - The offence shall be **cognizable** (police officer has the authority to make an arrest without a warrant and to start an investigation with or without the permission of a court) and **triable by a first-class judicial magistrate**.
- Anyone who **commits or attempts to commit any act of violence** against journalists or media houses, shall be punished **with a jail term up to three years** or with a **fine up to Rs 50,000** or with **both**.
  - A **media institution** has been defined as any registered newspaper, news channel, news-based electronic outlet or news station establishment.
  - A **media person** means a person whose principal vocation is that of a journalist, who is employed as a journalist whether on a regular or contract basis.
- Any offence against a media person will be investigated by a police officer above the rank of a Deputy Superintendent of Police.
- The assailant would also be **liable to reimburse** the medical expenditure incurred by the media persons in the attack.
- The offender is also **liable to pay compensation** for damage or loss caused to the property of the media person or the media house as determined by the court.

### Significance

- The act will ensure the safety of journalists in exercising freedom of speech and expression.
- It ensures the implementation of the **"Safety and Security of Journalists" advisory (2017)** by the Ministry of Home Affairs.
  - The advisory was issued days after Bengaluru-based journalist Gauri Lankesh was shot dead in 2017.
- It will help to improve ranking under the **World Press Freedom Index**.
  - India ranked 140<sup>th</sup> out of 180 countries in this index released by 'Reporters Without Borders'.
  - According to the report, violence against journalists including police violence, attacks by Maoist fighters and reprisals by criminal groups or corrupt politicians is one of the most striking characteristics of the current state of press freedom in India.

## Cases Under Unlawful Activities (Prevention) Act

### Why in News

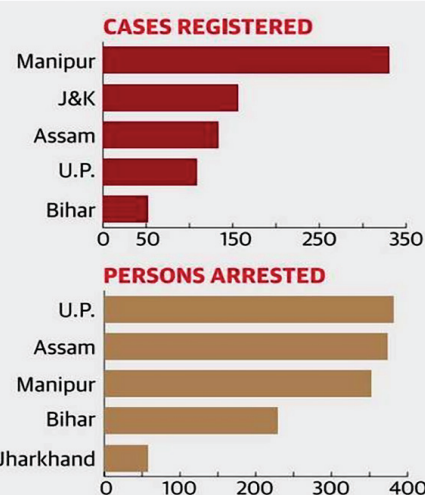
As per the **National Crime Records Data (NCRB)**, more than 35% cases registered under the **Unlawful Activities (Prevention) Act (UAPA)** were recorded in **Manipur**.

### Key Points

- Of all cases registered under UAPA in 2017, Jammu and Kashmir (J&K) recorded 17%, Assam recorded 14%, Uttar Pradesh recorded 12% and Bihar accounted for 5% of total cases.
- **Uttar Pradesh** topped the States in the number of **arrests made** with 382 arrests (nearly one-fourth) of the 1,554 persons.
- It is followed by Assam-374, Manipur-352, J&K-35 and Jharkhand-57.

### Stringent Act

While Manipur registered the highest number of cases under the Unlawful Activities (Prevention) Act (UAPA), Uttar Pradesh recorded the most arrests as of 2017



### Unlawful Activities (Prevention) Act

- It was passed in **1967** and aims at effective prevention of unlawful activities associations in India.
- The **2004 amendments**, added **"terrorist act"** to the list of offences to ban organisations for terrorist activities, under which 34 outfits were banned.
  - Till 2004, **"unlawful"** activities referred to actions related to secession and cession of territory.
- Under the UAPA, the investigating agency can file a charge sheet in maximum 180 days after the arrests and the duration can be extended further after intimating the court.

Note:



- The Act assigns absolute power to the central government, by way of which if the Centre deems an activity as unlawful then it may, by way of an Official Gazette, declare it so.
- It has death penalty and life imprisonment as highest punishments.
- In August, Parliament cleared the Unlawful Activities (Prevention) Amendment Bill, 2019 to designate individuals as terrorists on certain grounds provided in the Act.

## UNDP's Accelerator Lab

### Why in News

The United Nations Development Programme (UNDP) has launched its Accelerator Lab in India. The project has been launched in collaboration with the government's Atal Innovation Mission and will look to solve issues through innovative solutions.

- This lab will seek to address some of the most pressing issues facing India, such as air pollution, sustainable water management and client-resilient livelihoods through innovation.
- The vision is to make faster progress in meeting the ambitious Sustainable Development Goals (SDGs) of the U.N. by 2030.

### Accelerator Lab

- The Accelerator Lab is a new innovative initiative by the UNDP, State of Qatar and the Federal Republic of Germany to find 21<sup>st</sup> century solutions to today's complex new challenges.
- India's Accelerator Lab will be part of a network of 60 global labs covering 78 nations, that will test and scale new solutions to global challenges like climate change and inequality.

### Atal Innovation Mission

- It is a flagship national innovation initiative of the Government of India under the NITI Aayog. It aims to promote a culture of innovation and entrepreneurship.

### UNDP

- The United Nations Development Programme (UNDP) is the UN's global development network. It provides expert advice, training and grants support to developing countries, with increasing emphasis on assistance to the least developed.
- UNDP India's country programme for 2018-2022 has three major focus areas:
  - Inclusive growth
  - Environment and energy
  - Strengthening systems and institutions countries.



Note:

# Economic Scenario

## Highlights

- GDP Growth
- Essar Insolvency Case
- Currency Swap Arrangement for SAARC
- Hong Kong Convention for Ship Recycling
- Industrial Corridors
- Automotive Mission Plan (2016-26)
- Deposit Insurance
- Chit Funds (Amendment) Bill, 2019
- Organic Food Regulatory System in India
- Shadow Banking

## GDP Growth

### Why in News

As per the data released by the National Statistical Office, India's **Gross Domestic Product (GDP)** growth slipped to a 26-quarter low of 4.5% in the second quarter (Q2 i.e. July-September) of the financial year 2019-20.

- The growth is the lowest in six years and three months with the previous low recorded at 4.3% during the January - March 2013.
- In terms of quarterly growth, India has lost the tag of the fastest growing economy to China which posted a growth of 6% in the September quarter.
- Reasons for fall in growth include contraction in manufacturing, weak investment, and lower consumption demand.
- The global economy is also facing a slowdown and this has hurt demand for India's exports, which have slumped in recent months.

### Key Points

- Growth in Gross Value Added (GVA) dipped to 4.3% in Q2 of 2019-20 from 6.9% in Q2 of 2018-2019.
- Manufacturing Sector Growth contracted 1% as against 6.9% growth last year during the same quarter.
- Agriculture, forestry and fishing sector recorded a growth rate of 2.1% as against 4.9% last year.

(in % / July-September)

As quarterly growth drops...		
	2019-20	2018-19
Agriculture	2.1	4.9
Industry	0.5	6.7
Services	6.8	7.3
<b>GDP</b>	<b>4.5</b>	<b>7.0</b>

... will annual projections be realised?	
Agency	% growth rate
Fitch	5.5
Moody's	5.8
OECD	5.9
World Bank	6.0
RBI	6.1
IMF	6.1
S&P	6.3

- The 'Financial, Real Estate & Professional Services' category saw growth slow to 5.8% in Q2 of 2019-20, compared with 7% in Q2 of the previous year.
- Private final consumption expenditure, the closest proxy in the data to a measure of consumption demand, grew 5.06% in Q2 of 2019-20 as against the growth of 9.79% in Q2 of the previous year.
- Gross fixed capital formation, which is a measure of the level of investment in the country by both the government and the private sector, grew only 1.02% in Q2 of 2019-20 as against the growth of 11.8% in Q2 of last year.

### Recent Signs of Economic Slowdown

- The collapse of IL&FS in September 2018.
- The financial sector is on the brink as indicated by huge number of **Non-Performing Assets (NPAs)**.
- Though the **Reserve Bank of India has cut the key policy rates (like Repo rate)**, the banks have not transferred the same to the final consumers. Thus, the two critical needs of the industry i.e. cost of credit and availability of credit, have not been met fully.
  - The cumulative cut of 135 basis points by the RBI over the last nine months has translated into a meager 29 basis points (just over a fifth), with banks still retaining a huge spread.
  - Cost of credit continues to remain high for most companies and the worst affected are small and medium enterprises.

### Way Forward

- The government should give a high priority to implementing measures to bolster manufacturing output and kick-start an upturn in the investment cycle.

Note:

**Note:**

- **Gross Value Added (GVA)** provides for value of the amount of goods and services that have been produced in a country, minus the cost of all inputs and raw materials that are directly attributable to that production. It is used to measure the output or contribution of a particular sector.
- **Gross Domestic Product (GDP)** is the single standard indicator used across the globe to indicate the health of a nation's economy. It is the sum of private consumption, gross investment in the economy, government investment, government spending and net foreign trade (difference between exports and imports).
- Accelerated spending by the government is another way out but this action would be opposite to the government's fiscal deficit target of 3.3% of GDP.

## Essar Insolvency Case

### Why in News

The Supreme Court has recently given its judgement in the **Essar Insolvency case**. The Judgement has paved the way for ArcelorMittal and Nippon Steel to take over debt-laden Essar Steel.

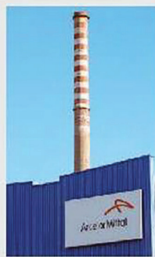
### Takeover troubles

The SC on Friday paved the way for ArcelorMittal's takeover of Essar Steel. A brief timeline of how the bid unfolded:

**October 4, 2018:** SC uses extraordinary powers under Article 142 to give ArcelorMittal and Numetal a chance to pay off the NPAs of corporate debtors as a pre-condition to buy Essar Steel

**Oct. 18:** Arcelor informs resolution professional it has paid off the debts

**Oct. 19:** Arcelor



re-submits resolution plan for Essar

**Oct. 25:** Essar's committee of creditors' (CoC) approves Arcelor's final negotiated resolution plan

**March 8, 2019:** NCLT says financial and operational creditors should get equal treatment

**July 4:** NCLAT holds that in a resolution plan, there can be no difference between a financial creditor and an operational creditor in the payment of dues. CoC moves SC in appeal

### Background

- In March 2019, **National Company Law Tribunal (NCLT)** approved global steel-giant ArcelorMittal's bid for Essar Steel.

- The **Committee of Creditors (CoC)** approved the resolution plan offered by the ArcelorMittal. Under the resolution plan, ArcelorMittal offered an advance cash payment of about ₹42,000 crores to the financial creditors and capital infusion of ₹8,000 crores in the next few years. However, the **offer did not have much for operational creditors** to Essar Steel.
- In 2019, the **National Company Law Appellate Tribunal (NCLAT)** cleared the CoC's plan but **changed the financial distribution plan** by ordering an **equal recovery plan** for all creditors, including **financial and operational creditors**.

### Highlights of the Judgement

- **Wisdom of CoC:** It is the **commercial wisdom** of the **requisite majority (66%)** of the CoC under the **Insolvency and Bankruptcy Code (IBC)** to negotiate and accept a resolution plan, which may involve differential payment to different classes of creditors.
- **Principle of Equality:** The Court held that the equality principle **cannot be stretched** to treating unequals equally. Equitable treatment is to be accorded to each creditor depending upon the class to which it belongs: secured or unsecured, financial or operational.
- **Restriction on Tribunals:** Tribunals have **no "residual equity jurisdiction"** to interfere in the merits of a business decision taken by the CoC. This implies that the **NCLT and NCLAT cannot interfere** with the commercial decisions taken by the CoC.
- **Financial vs Operational Creditors:** The Court upheld the primacy of **financial creditors over operational creditors** in the distribution of funds received under the corporate insolvency scheme.
  - The Court explained that **financial creditors** are **capital-providers for companies**, i.e. help companies to purchase assets and run business operations.
  - **Operational creditors**, in a way, are **beneficiaries of amounts lent by financial creditors**.
- **Relaxation of Resolution Deadline:** The Supreme Court has done away with the **330-day mandatory** deadline for the resolution of insolvency and bankruptcy cases after which liquidation is invoked. The bench allowed a bit of flexibility by allowing exceptions where the resolution plan is on the verge of being finalised.
  - The 330-day mark is a **violation of Article 14** (right to equal treatment) of the Constitution and **Article 19(1)(g) (Right to carry any business)** of the Constitution.

Note:



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### Likely Impact of the Judgement

- **Impact on Banks:** Banks will recover Rs. 42,000 crore against admitted debts of Rs. 49,473 crore- a recovery of about **85%** compared to the **average recovery of 53%** in other resolution cases. This would help banks in boosting their **capital adequacy**.
- **Speedy Resolution:** The verdict is likely to **reduce legal wrangling** between **financial and operational creditors** and accelerate resolution process.
- **Foreign Investment:** It will attract investors who were getting **wary of the nation's bankruptcy process**.
  - India is trying to attract foreign capital to its bad loan cleanup, as it battles the **worst nonperforming loan ratio** among the world's major economies.
- **Upheld the Spirit of IBC:** The removal of a **mandatory 330-day** deadline will facilitate resolution, the ultimate objective of the IBC.

### Insolvency Resolution Process in India

- **Eligibility:** Under IBC, companies (both **private and public** limited company) and **Limited Liability Partnerships (LLP)** can be considered as defaulting corporate debtors.
  - **A corporate debtor** is any corporate organization which owes a debt to any person.
- **Default Amount:** The Insolvency and Bankruptcy Code can be triggered if there is a **minimum default of Rs 1 lakh**. This process can be triggered by way of filing an application before the **National Company Law Tribunal (NCLT)**.
- **Resolution Initiation:** The process can be initiated by two classes of creditors which would include financial creditors and operational creditors.
  - **Creditors:** A Creditor means any person to whom a debt is owed and includes a financial creditor, an operational creditor, etc.
  - **Financial Creditors:** The financial creditor in simple terms is the institution that provided money to the corporate entity in the form of loans, bonds etc. E.g. banks.
  - **Operational Creditors:** An operational creditor is an entity who has a claim for providing any of the four categories to the defaulted corporate- goods, services, employment and Government dues (central govt, state or local bodies).
- **Appointment of Interim Resolution Professional:** As soon as the matter is admitted by the NCLT, the NCLT proceeds with the appointment of an Interim Resolution

Professional (IRP) who takes over the management of the defaulting debtor.

- **Committee of Creditors (CoC):** A committee consisting only of the financial creditors i.e. the CoC is formed by the IRP.
  - Only operational creditors having aggregate dues of at least **10%** of the total debt are invited into the meeting of CoC (Operational creditors are not a member of CoC). The operational creditors don't have any voting power.
- **Corporate Insolvency Resolution Process (CIRP):** It includes necessary steps to revive the company such as raising fresh funds for operation, looking for a new buyer to sell the company as going concern, etc.
  - The CoC takes a decision regarding the future of the outstanding debt owed to it. The resolution plan can be implemented only if it has been approved by **66% of the creditors** in the CoC
- **Liquidation Proceedings:** In the event, a resolution plan is not submitted or not approved by the committee of creditors (COC), the CIRP process is deemed to have failed. In such a situation the liquidation proceedings commence subject to the order of the tribunal.

## Currency Swap Arrangement for SAARC

### Why in News

The **Reserve Bank of India (RBI)** has revised the framework on **currency swap arrangement** for the **South Asian Association for Regional Cooperation (SAARC)** countries for **2019-2022**.

- This has been done to further financial stability and economic cooperation within the SAARC region.

### Key Points

- The **SAARC currency swap facility** came into operation on **15<sup>th</sup> November, 2012**.
- Under the revised framework,
  - The RBI will continue to offer a swap arrangement within the overall corpus of **USD 2 billion**.
  - The swap drawals can be made in US dollar, euro or Indian rupee. The framework provides certain concessions for swap drawals in Indian rupee.
  - The facility will be **available to all SAARC member countries**, subject to their signing the bilateral swap agreements.

Note:



- The framework is **valid from 14<sup>th</sup> November, 2019 to 13<sup>th</sup> November, 2022.**

### Currency Swap Arrangement

- The word **swap means exchange**. A currency swap between the two countries is an **agreement or contract to exchange currencies** with predetermined terms and conditions.
- Central banks and Governments engage in currency swaps with foreign counterparts **to meet short term foreign exchange liquidity requirements** or to ensure adequate foreign currency **to avoid Balance of Payments (BOP) crisis** till longer arrangements can be made.
- **Example**
  - India and Japan in the year 2018 signed a bilateral currency swap agreement.
  - RBI will get a certain amount of yen and the Bank of Japan will get an equivalent amount in Indian rupees on a decided swap rate.
  - After a specified period, both the countries will repay the amount at the same swap rate.

### South Asian Association for Regional Cooperation

- SAARC was established with the signing of the **SAARC Charter in Dhaka (Bangladesh)** on 8<sup>th</sup> Dec. **1985**.
- **Eight Member States:** Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.
- **Secretariat:** Kathmandu (Nepal)
- **Objective:** To promote the welfare of the people of South Asia and to improve their quality of life, and to accelerate economic growth, among other things.

## Hong Kong Convention for Ship Recycling

### Why in News

The Union Cabinet has approved accession to the **Hong Kong International Convention for Safe and Environmentally Sound Recycling of Ships, 2009**.

- The Convention was **adopted** at a diplomatic conference held in Hong Kong, China, from 11<sup>th</sup>-15<sup>th</sup> May **2009**.
- **Aim**
  - To ensure that ships, when being recycled after reaching the end of their operational lives, do not pose any unnecessary risks to human health and safety and the environment.

### Objectives

- To address all the issues around ship recycling, including the probable presence of environmentally hazardous substances such as asbestos, heavy metals, hydrocarbons, ozone-depleting substances and others.
- To address concerns about working and environmental conditions in many of the world's ship recycling facilities.

### Scope

- It covers the design, construction, operation and preparation of ships so as to facilitate safe and environmentally sound recycling, without compromising the safety and operational efficiency of ships.
- The operation of ship recycling facilities in a safe and environmentally sound manner.
- The establishment of an appropriate enforcement mechanism for ship recycling, incorporating certification and reporting requirements.

### India and Ship Recycling

- India has a **share of over 30%** of the market in the global ship recycling industry.
- The Union Cabinet has recently approved the proposal for enactment of **Recycling of Ships Bill, 2019**.
  - The Bill restricts and prohibits the use or installation of hazardous material, which applies irrespective of whether a ship is meant for recycling or not.
  - However, restriction or prohibition on the use of hazardous material would not be applied to warships and non-commercial ships operated by the Government.
  - The Provisions of the Hong Kong Convention will be implemented under the provisions of the Recycling of Ships Bill, 2019 and rules and regulations framed there under.

## Industrial Corridors

### Why in News

Government has approved the development of the **five industrial corridor projects** which will be implemented through **National Industrial Corridor Development and Implementation Trust (NICDIT)**.

Note:

- NICDIT is an apex body under the administrative control of the **Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry** for coordinated and unified development of the 5 Industrial Corridors in India.
- In 2017, the **Delhi Mumbai Industrial Corridor-Project Implementation Trust Fund (DMIC-PITF)** was re-designated as NICDIT.
- NICDIT supports project development activities and appraisal, approval and sanction of projects. It also coordinates and monitors all central efforts for the development of Industrial Corridor projects.

The Five Industrial Corridors		
S.No.	Industrial Corridor	States
1.	Delhi Mumbai Industrial Corridor (DMIC)	Uttar Pradesh, Haryana, Rajasthan, Madhya Pradesh, Gujarat, Maharashtra
2.	Amritsar Kolkata Industrial Corridor (AKIC)	Punjab, Haryana, Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, West Bengal
3.	Chennai Bengaluru Industrial Corridor (CBIC)	Andhra Pradesh, Karnataka, Tamil Nadu, Kerala
4.	East Coast Economic Corridor (ECEC) with Vizag Chennai Industrial Corridor (VCIC) as Phase-1	West Bengal, Odisha, Andhra Pradesh, Tamil Nadu
5.	Bengaluru Mumbai Industrial Corridor (BMIC)	Karnataka, Maharashtra

### Industrial Corridors

- Industrial corridors offer **effective integration between industry and infrastructure**, leading to overall **economic and social development**. Industrial corridors constitute:
  - High-speed transportation network – rail and road
  - Ports with state-of-the-art cargo handling equipment
  - Modern airports
  - Special economic regions/industrial areas
  - Logistic parks/transshipment hubs
  - Knowledge parks focused on catering to industrial needs

- Complementary infrastructure such as townships/real estate
- Other urban infrastructure along with enabling policy framework
- These are spread across India with a strategic focus on inclusive development to boost industrialization and planned urbanization.
- Industrial Corridors are expected to play a critical role in raising the share of contribution of the manufacturing sector from approximately 16% to 25% by 2025.
- Smart cities are being developed along these corridors which will house the new workforce that is required to power manufacturing, in turn leading to planned urbanization.

## Automotive Mission Plan (2016-26)

### Why in News

The Automotive Mission Plan (AMP) 2016-26 is a **collective vision by the Government of India and the India Automotive Industry** to lay down the roadmap for the development of the industry.

- It provides vision on where vehicles, auto components and tractor industry should reach over the next 10 years in terms of size, contribution to India's GDP and global footprint in technology, competitiveness and capabilities.
- **AMP(2006-16) has been successful** which made India not only an automobile producing hub but also a designing and development hub.

### Vision 3/12/65

- The Indian automotive industry aims to be **among the top 3 of the world** in engineering, manufacture and export of vehicles and auto components, growing in **value to over 12% of India's GDP**, and generating an **additional 65 million jobs**.

### Objectives

- **Boost to manufacturing:** AMP(2016-26) aims to propel the Indian automotive industry to be the **engine of the "Make in India" programme**; as it is amongst the foremost drivers of the manufacturing sector.
  - The Indian automotive sector comprises more than 40% of the manufacturing sector.

Note:

- **Employment:** It intends to make the Indian automotive industry a significant contributor to the “Skill India” programme and make it one of the largest job creating engines in the Indian economy.
  - The industry has numerous backward and forward linkages across manufacturing and service sectors.
- **Mobility:** It seeks to enhance universal mobility to promote safe, efficient and comfortable mobility for every person in the country.
- **Export:** It also aims to increase net exports of the Indian automotive industry and to become one of the major automotive export hubs of the world.
- **Electric Vehicles:** It also includes vision on new technologies like electric vehicles and associated infrastructure with new fuel-efficiency regulations.

Considering the **recent slowdown in the automobile sector**, rigorous implementation of the above automotive plan is expected to improve the overall scenario in the industry.

## Deposit Insurance

### Why in News

Recently, the failure of the Punjab and Maharashtra Co-operative (PMC) Bank reignited the debate on the **low level of insurance** against the deposits held by customers in Indian banks.

- Currently, in case of a bank collapse, a depositor can claim an amount up to a **maximum of ₹ 1 lakh per account** as the insurance cover (**even if the deposit in their account is greater than ₹ 1 lakh**). This amount is termed ‘**deposit insurance**’- the insurance cover against the deposits of an individual in banks.
- The insurance cover is provided by the **Deposit Insurance and Credit Guarantee Corporation (DICGC)**.
- Recently, the issue of depositor protection was also in the news when the **Financial Resolution and Deposit Insurance (FRDI) Bill** was introduced in Parliament in 2017. The FRDI bill became controversial because of its suggestion that bank depositors be asked to share part of the cost of resolution of a failed bank.
  - The Bill was brought in to create a single agency for resolution of financial firms such as banks, insurance companies, non-banking financial companies (NBFCs) and stock exchanges in case of insolvency.

### Deposit Insurance and Credit Guarantee Corporation

- DICGC came into existence in 1978 after the merger of **Deposit Insurance Corporation (DIC)** and **Credit Guarantee Corporation of India Ltd. (CGCI)** after passing of the **Deposit Insurance and Credit Guarantee Corporation Act, 1961** by the Parliament.
  - It serves as a deposit insurance and credit guarantee for banks in India.
  - It is a **fully owned subsidiary** of and is **governed by the Reserve Bank of India**.
- DICGC charges 10 paise per ₹ 100 of deposits held by a bank. The premium paid by the insured banks to the Corporation is paid by the banks and is not to be passed on to depositors.
- DICGC last revised the deposit insurance cover to ₹ 1 lakh on May 1, 1993, raising it from ₹ 30,000 since 1980. The protection cover of deposits in Indian banks through insurance is among the lowest in the world.
  - The **Damodaran Committee on ‘Customer Services in Banks’ (2011)** had recommended a **five-time increase** in the **cap to ₹5 lakh** due to rising income levels and increasing the size of individual bank deposits.
- Banks, including regional rural banks, local area banks, foreign banks with branches in India, and cooperative banks, are **mandated** to take deposit insurance cover with the DICGC.

## Chit Funds (Amendment) Bill, 2019

### Why in news

The Parliament has passed the **Chit Funds (Amendment) Bill, 2019**. It will streamline operations of collective investment schemes or chit funds, with the aim to protect investors that primarily comprises economically weaker sections of the society.

### Chit Funds

- In this, the people agree to pay a certain amount from time to time into a fund. Periodically, one of the subscribers is chosen by drawing a chit to receive the prize amount from the fund.

Note:

- Chit funds are **legal and registered** and are different from ponzi schemes as well as unregulated deposits.
- It is used by the poor as it acts as **both a source of finance and an avenue for savings**.

#### Ponzi Scheme

- It is an investment fraud that pays existing **investors with funds** collected from **new investors**. Ponzi scheme organizers often promise high returns with little or no risk.
- It leads victims to believe that profits are coming from product sales or other means, and they remain unaware that other investors are the source of funds.

#### Need of Amendment

- **To Protect Investor Interest:** It highlights the crucial role chit funds play in India's rural economy, providing people with access to funds and investment opportunities, especially in regions where banks and financial institutions do not have a presence.
- **To Check Fraud:** The Chit Funds Act of 1982 was amended to incorporate stringent measures to stop alleged fraud.

#### Key Features of the Bill

- **Names for a Chit Fund:** The Act specifies various names which may be used to refer to a chit fund.
  - These include **chit, chit fund, and kuri**.
  - It additionally inserts 'fraternity fund' and 'rotating savings and credit institution' to this list.
- **Presence of Subscribers through Video-Conferencing:** The Act specifies that a chit will be drawn in the presence of at least two subscribers.
  - The Bill seeks to allow these subscribers to join via video-conferencing.
- **Foreman's Commission:** The 'foreman' is responsible for managing the chit fund. He is entitled to a maximum commission of 5% of the chit amount.
  - The Bill seeks to increase the commission to 7%.
  - Further, the Bill allows the foreman a right to a lien against the credit balance from subscribers.
    - Lien is the right of an individual to retain goods and securities in his possession that belongs to another until certain legal debts due to the person retaining the goods are satisfied.

- **Aggregate Amount of Chits:** Under the Act, chits may be conducted by firms, associations or individuals.
  - The Act specifies the maximum amount of chit funds which may be collected. These limits are:
    - Currently, one lakh rupees for chits conducted by individuals, and for every individual in a firm or association with less than four partners, and Six lakh rupees for firms with four or more partners. The Bill increases these limits to three lakh rupees and 18 lakh rupees, respectively.
- **Application of the Act:** Currently, the Act does not apply to: (i) any chit started before it was enacted, and (ii) any chit (or multiple chits being managed by the same foreman) where the amount is less than Rs 100.
  - The Bill removes the limit of Rs 100, and allows the state governments to specify the base amount over which the provisions of the Act will apply.

## Organic Food Regulatory System in India

#### Why in News

The Union Minister for Commerce and Industry informed about the existent organic food regulatory system in the country during the winter parliamentary session (2019).

- **Food Safety and Standards Authority of India (FSSAI)** is the food regulator in the country and is also responsible for regulating organic food in the domestic market and imports.
- FSSAI had notified the existing certification system through **Food Safety and Standards (Organic Foods) Regulations in 2017**.

#### Organic Food

- **Organic farm produce** means the produce obtained from organic agriculture, while **organic food** means food products that have been produced in accordance with specified standards for organic production.
  - According to FSSAI, 'organic agriculture' is a system of farm design and management to create an ecosystem of agriculture production without the use of synthetic external inputs such as chemical fertilisers, pesticides and synthetic hormones or genetically modified organisms.

Note:



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### Existing Certification Systems

- **National Programme for Organic Production (NPOP)**
  - NPOP grants organic farming certification through a process of third party certification.
  - It involves the accreditation programme for Certification Bodies, standards for organic production, promotion of organic farming etc.
  - It is implemented by **Agricultural and Processed Food Products Export Development Authority (APEDA)**, Ministry of Commerce and Industry.
  - The NPOP standards are recognized by the European Commission, Switzerland and USA as equivalent to their respective accreditation systems.
- **Participatory Guarantee System for India (PGS)**
  - PGS is another process of **certifying organic products**.
  - The certification is in the form of a **documented logo or a statement**.
  - It is implemented by the **Ministry of Agriculture and Farmers' Welfare**.
  - The organic farmers have full control over the certification process.
    - PGS certification is only for farmers or communities that can organise and perform as a group. **Individual farmers or groups of farmers smaller than five members are not covered under PGS.**
  - PGS is **applicable on on-farm activities** comprising of crop production, processing and livestock rearing, etc.
- Organic foods are also required to comply with the requirements of labelling of **FSSAI in addition to that of NPOP or PGS-India**.

### Shadow Banking

Shadow banking is a **term used to describe bank-like activities (mainly lending)** that take place outside the traditional banking sector.

- It is **also referred as non-bank financial intermediation** or market-based finance.
- Generally, it is not regulated in the same way as traditional bank lending.
- The term 'shadow bank' was **coined by Paul McCulley in 2007**.
- **Examples** of shadow lenders include Special Purpose Entities, Non Banking Financial Companies (NBFCs), Hedge Funds etc.
- These institutions function as **intermediaries between the investors and the borrowers**, providing credit, thus, leading to financial inclusion and hence generate liquidity in the system.
  - However, the **2008 financial crisis** has shown that **shadow banking can be a source of systemic risk** to the banking system.
  - After the financial crisis, central banks including that of USA, Britain and the European Union (EU) have introduced many strong measures to control shadow banking.
- In **India**, the crisis of the NBFCs that was triggered by the **liquidity problems of IL&FS** in 2018, has brought back the attention to shadow banking sector.



Note:

# International Relations

## Highlights

- OPEC +
- Viability of BRI and CPEC
- Indian Diaspora Largest in the World: UN Report
- New START Treaty
- World Anti-Doping Agency
- Kimberley Process
- ASEAN Defence Ministers' Meeting-Plus
- West Bank Settlements
- Bougainville
- U.S. Minimises its Share in NATO Budget

## OPEC +

### Why in News

According to the **International Energy Agency (IEA)**, the **Organisation of the Petroleum Exporting Countries (OPEC+)** plus might face sharp **demand fall** due to a **recent surge in crude oil production** from the countries like **USA, Norway, and Guyana**.

- The **non-OPEC countries** which **export crude oil** are termed as OPEC plus countries.
- **OPEC plus countries** include **Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan**.

### Organization of the Petroleum Exporting Countries (OPEC)

- The **Organization of the Petroleum Exporting Countries (OPEC)** is a **permanent, intergovernmental organization**, created at the **Baghdad Conference in 1960**, by **Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela**.
- It aims **to manage the supply of oil in an effort to set the price of oil in the world market**, in order to avoid fluctuations that might affect the economies of both producing and purchasing countries.
- It is **headquartered in Vienna, Austria**.
- OPEC membership is open to any country that is a substantial exporter of oil and which shares the ideals of the organization.
- Gabon terminated its membership in January 1995. However, it rejoined the Organization in July 2016.
- As of 2019, OPEC has a total of 14 Member Countries viz. Iran, Iraq, Kuwait, United Arab Emirates(UAE), Saudi

Arabia, Algeria, Libya, Nigeria, Gabon, Equatorial Guinea, Republic of Congo, Angola, Ecuador and Venezuela are members of OPEC.

### International Energy Agency

- The International Energy Agency (IEA) is an autonomous organisation which works to ensure reliable, affordable and clean energy.
- It was established in the wake of **1973 (set up in 1974) oil crisis** after the OPEC cartel had shocked the world with a steep increase in oil prices.
- It is **headquartered in Paris, France**.
- The IEA has four main areas of focus, i.e. **4Es**:
  - Energy security,
  - Economic development,
  - Environmental awareness and
  - Engagement worldwide.
- India became an associate member of the **International Energy Agency** in **2017**.
- **Mexico** officially became the International Energy Agency's **30<sup>th</sup> member country** in February **2018**, and its **first member in Latin America**.

OPEC Membership, 2019



Note:

## Viability of BRI and CPEC

### Why in News

Recently, U.S. criticised China's international development projects and lending practices under its **Belt and Road Initiative (BRI)** and has questioned the **China Pakistan Economic Corridor (CPEC)**, on its commercial viability.

- **Belt & Road Initiative (BRI)** is an ambitious project that focuses on connectivity and cooperation among multiple countries spread across the continents of Asia, Africa, and Europe. BRI spans about 150 countries (China's Claim).
- Initially announced in the year 2013, the project involves building networks of roadways, railways, maritime ports, power grids, oil and gas pipelines, and associated infrastructure projects.
- The project covers **two parts**.
  - **Silk Road Economic Belt:** It is land-based and is expected to connect South East Asia, South Asia. China with Central Asia, Eastern Europe, and Western Europe.
  - **21<sup>st</sup> Century Maritime Silk Road:** It is sea-based and is expected to connect China's southern coast to the Mediterranean, Africa, South-East Asia, and Central Asia.
- **China Pakistan Economic Corridor (CPEC)** is one of the flagship projects of BRI which is seen by India as infringing its sovereignty.

### Key Points

- **Opacity on Lending:** China does not provide any report on the lending despite being the largest lender globally which makes it difficult for the Paris Club or IMF to monitor the financial transactions.
  - Lack of transparency works as a means to hide risks from the countries that borrow from China.
  - Failure to repay the loans stops further development and leads to the surrender of strategic assets diminishing the sovereignty of such countries.
  - Hambantota Port in Sri Lanka and a runway in the Maldives are examples of China financing projects of questionable commercial viability, resulting in unsustainable debt. In 2017, Sri Lanka handed over a majority stake and a 99-year operating lease to Chinese state-owned enterprises as it could not service the debt owed to China.

- China benefited after its **Open Door Policy** when U.S., European and Japanese companies opened their stores/centres in China, but it has not done the same in Pakistan under CPEC.
- Even though **China is not a member of the Paris Club**, it offers finances and loans to other countries.
- Such issues have raised doubts on the ulterior motive of China in the garb of BRI.

### Open Door Policy

- It was a **trade agreement** between the United States, China, Japan and several European countries.
- It was issued in **1899-1900** and intended to protect the rights of all countries to trade equally with China and confirming multi-national acknowledgement of China's administrative and territorial sovereignty.

### Paris Club

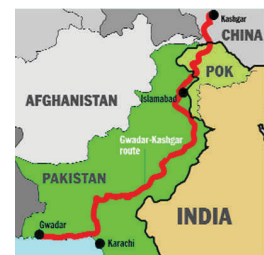
- It is an **informal group of official creditors** whose role is to find coordinated and sustainable solutions to the payment difficulties experienced by debtor countries.
  - It provides debt treatments to debtor countries in the form of rescheduling (postponement) or by concessional rescheduling (reduction in debt service obligations during a defined period).
- It was **founded in 1956** and has **22 members** currently.

### China Pakistan Economic Corridor

- It is a **bilateral project** between Pakistan and China, intended to promote connectivity across Pakistan with a network of highways, railways, and pipelines accompanied by energy, industrial and other infrastructure development projects.
- CPEC links the Western part of China to the Gwadar Port in Balochistan, Pakistan running some 3000 km from Xinjiang to Balochistan via Khunjerab Pass in the Northern parts of Pakistan.

### India's Stand

- India has objected to part of the corridor that runs through **Pakistan Occupied Kashmir (PoK)** because it infringes Indian sovereignty.
- India is a **member of the Quad** (India, the U.S., Australia and Japan) which can provide real-



Note:

istic alternatives for countries looking for infrastructure and be an alternative to China.

## Indian Diaspora Largest in the World: UN Report

### Why in News

As per International Organisation for Migration's (IOM) latest report, 'Global Migration Report 2020', India continues to be the largest country of origin of international migrants with a **17.5 million-strong diaspora** across the world.

- India also received the highest remittance of \$78.6 billion from Indians living abroad.

### Key Points

- **Migrants**
  - The total number of international migrants in 2019 is now estimated at 270 million.
  - This is a very small percentage of the world's population (at 3.5%), that is, the vast majority of people globally (96.5%) are estimated to be residing in the country in which they were born.
  - The top destination country remained the United States (50.7 million international migrants).
  - More than half of all international migrants (141 million) live in Europe and North America.
  - The top three countries of origin of international migrants – **India (17.5 million)** > Mexico (11.8 million) > China (10.7 million).
- **Remittances**
  - The international remittances increased to \$689 billion in 2018.
  - The top three remittance recipients were India (\$78.6 billion) > China (\$67.4 billion) > Mexico (\$35.7 billion).
  - The United States remained the top remittance-sending country (\$68 billion) followed by the United Arab Emirates (\$44.4 billion) and Saudi Arabia (\$36.1 billion).
- **Reasons for migration**
  - **Economic:** Apart from U.S., other important migration corridors from poorer countries to richer nations were France, Russia, the United Arab Emirates and Saudi Arabia.

- The Gulf countries have some of the largest numbers of temporary labour migrants in the world, including the United Arab Emirates, where they make up almost 90% of the population.
- **Conflicts and Violence:** Ongoing conflicts and violence in Central African Republic, the Democratic Republic of the Congo (DRC), Myanmar, South Sudan, Syria and Yemen have led to massive internal displacement in the last two years. A total of 41.3 million people were forced to flee their homes at the end of 2018 — a record since monitoring began in 1998.
- Syria has the highest internal population of displaced people, at 6.1 million, followed by Colombia (5.8 million) and the Congo (3.1 million).
- **Climate and Weather:** Impact of climate and weather disasters, such as Typhoon Mangkhut in the Philippines contributed to 3.8 million displaced people, the largest number globally.

### International Organisation for Migration

- IOM, or as it was first known, the Provisional Intergovernmental Committee for the Movement of Migrants from Europe (PICMME), was born in 1951 out of the chaos and displacement of Western Europe following the Second World War.
- It is the leading inter-governmental organization, working under the mandate of the **United Nations**, in the field of migration and works closely with governmental, intergovernmental and non-governmental partners.
- With 173 member states, and further 8 states holding observer status, IOM is dedicated to promoting humane and orderly migration for the benefit of all. It does so by providing services and advice to governments and migrants.

### Way Forward

- These data are critical for understanding the important role of migrants and migration in the development of both countries of origin and destination. Facilitating orderly, safe, regular and responsible migration and mobility of people will contribute much to achieving **Sustainable Development Goals**.

## New START Treaty

The New START Treaty is a **treaty between the United States of America and the Russian Federation**

Note:



on measures for the further reduction and limitation of strategic offensive arms.

- It entered into force on 5th February, 2011.
- It is a **successor to the START framework of 1991** (at the end of the Cold War) that limited both sides to 1,600 strategic delivery vehicles and 6,000 warheads.
- It continues the bipartisan process of verifiably reducing U.S. and Russian strategic nuclear arsenals by limiting both sides to 700 strategic launchers and 1,550 operational warheads.
- It will **lapse in February 2021** unless extended for a five-year period.

### **Intermediate-Range Nuclear Forces Treaty**

- INF Treaty is **another treaty that was signed during the Cold War**.
- It was a **nuclear arms-control accord** reached by the United States and the Soviet Union in 1987 in which the two nations agreed to eliminate their stocks of intermediate-range and shorter-range (or “medium-range”) land-based missiles (which could carry nuclear warheads).
- The **United States withdrew from the Treaty** on 2<sup>nd</sup> August 2019.

#### **Note:**

- The term ‘**strategic offensive arms**’ applies to nuclear warheads deployed by **Strategic Nuclear Delivery Vehicles (SNDVs)**.
- SNDVs are **Inter-Continental Ballistic Missiles (ICBMs)** with a range exceeding 5,500 kilometres, strategic bombers, warships (including strategic submarines) and cruise missiles, including air and sea-launched cruise missiles.

## **World Anti-Doping Agency**

### **Why in News**

Recently, one of the **World Anti-Doping Agency’s (WADA)** panels has suggested banning Russia for four years from competing in international events, including the **Tokyo (2020 Summer) Olympics**.

### **World Anti-Doping Agency**

- It was established in 1999 as an international independent agency composed and funded equally by the sport movement and governments of the world.

- Its foundation was initiated by the IOC to promote, coordinate and monitor the fight against drugs in sports.
- It is headquartered in Montreal, Canada.
- Its key activities include scientific research, education, development of anti-doping capacities, and monitoring of the World Anti-Doping Code (Code) – the document harmonizing anti-doping policies in all sports and all countries.
- Integrity, Accountability and Excellence are the core values of the agency.

### **International Olympic Committee**

- It is a not-for-profit independent international organisation that is committed to building a better world through sport.
- It was created on 23<sup>rd</sup> June 1894 and is the supreme authority of the Olympic Movement.
- It ensures the regular celebration of the Olympic Games, supports all affiliated member organisations and strongly encourages, by appropriate means, the promotion of the Olympic values.

## **Kimberley Process**

### **Why in News**

The plenary meeting of the **Kimberley Process Certification Scheme (KPCS)** is being hosted by India from 18<sup>th</sup> to 22<sup>nd</sup> November 2019 in New Delhi.

### **Significance of KPCS**

- India has been actively involved in the development of the **Kimberley Process (KP)** as an important protocol in trade of diamonds which has ensured that **99.8% of the diamonds in the world are conflict-free**.
  - The Kimberley Process (KP) is a **commitment to remove conflict diamonds** from the global supply chain.
  - Conflict Diamonds means **rough diamonds** used by rebel movements or their allies to finance conflict aimed at undermining legitimate governments.
- The importance of KPCS is immense to India as more **than one million people are directly employed** by the diamond industry.

Note:



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### Kimberley Process Certification Scheme

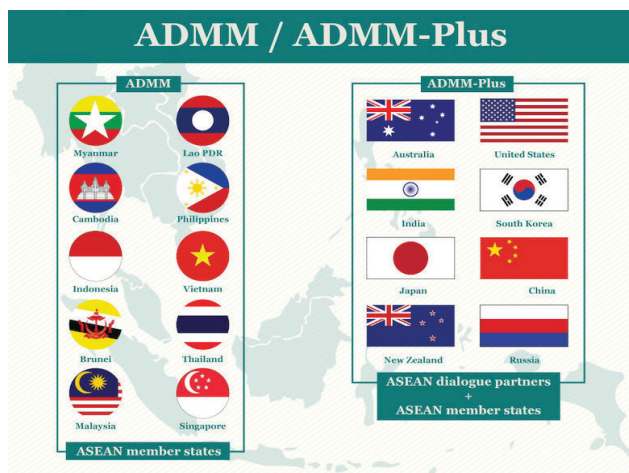
- The KPCS came into effect from **1<sup>st</sup> January 2003** and evolved into an effective mechanism for stopping the **trade in conflict diamonds**.
- India is one of the founder members of the KPCS. India had earlier chaired KPCS in the year **2008**.
- The Kimberley Process is a **joint initiative** involving Government, International Diamond Industry and Civil Society to stem the flow of Conflict Diamonds.
- It is also described in **United Nations Security Council (UNSC)** resolutions.
- At present, KPCS has **56 members** representing 82 countries including **EU with 28 members**.
- It is chaired on a **rotating basis** by participating countries.
- Since 2003, India has been actively participating in the KPCS process and is a member of almost all Working Groups of KP (except the Working Group on Artisanal and Alluvial Production (WGAAP)).
  - **Department of Commerce** is the **nodal Department**, and
  - Gem & Jewellery Export Promotion Council (GJEPC) is designated as the KPCS Importing and Exporting Authority in India. GJEPC is responsible for issuing KP Certificates and is also the custodian of KP Certificates received in the country.

## ASEAN Defence Ministers' Meeting-Plus

### Why in News

The 6<sup>th</sup> ASEAN Defence Ministers' Meeting-Plus (ADMM-Plus) is to be held in Bangkok on 20<sup>th</sup> Nov. 2019.

- The ADMM-Plus is a platform for **ASEAN (The Association of Southeast Asian Nations)** and it's **eight Dialogue Partners** to strengthen security and defence cooperation for peace, stability, and development in the region.
  - The ADMM-Plus countries include ten ASEAN Member State and eight Plus countries, namely Australia, China, India, Japan, New Zealand, ROK, Russian Federation, and the United States.
- It aims to promote mutual trust and confidence between defence establishments through greater dialogue and transparency.



- The first ADMM-Plus was convened at Ha Noi, Vietnam in **2010**.
  - **2<sup>nd</sup> ASEAN Defence Ministers' Meeting (ADMM)** in **2007 at Singapore** adopted a resolution to establish the ADMM-Plus
- The chairmanship of the ADMM-Plus **follows** the chairmanship of the ADMM.
  - **Currently**, the ADMM and ADMM Plus is **chaired by Thailand**.
- It has **five areas** of practical cooperation, namely maritime security, counter-terrorism, humanitarian assistance and disaster relief, peacekeeping operations and military medicine.

## West Bank Settlements

### Why in News

The **United States** has declared that it **does not** consider **Israeli settlements on the West Bank a violation of international law**.

- The U.S.A.'s stand is different from that of most countries on the issue.
  - Even the USA considered the West Bank settlements as illegitimate since 1978. However in 2016, the US did not veto a resolution that called for an end to Israeli settlements.
- The current stand of the USA reverses four decades of U.S. policy.

### West Bank Settlements

- West Bank (about one and a half times the size of Goa) is a landlocked territory in West Asia. It also contains a significant section of the western dead sea.

Note:

- It was captured by Jordan after the **Arab-Israeli War (1948)** but Israel snatched it back during the Six-Day War of 1967 and has occupied it ever since.
- At present, there are around 130 formal Israeli settlements along with 26 lakh Palestinians at West Bank.



### Global Stand over West Bank Settlements

- Majority of the countries' consider West Bank settlements illegal and an occupied territory.
- The **United Nations General Assembly**, the **UN Security Council**, and the **International Court of Justice** have declared that the West Bank settlements are violative of the Fourth Geneva Convention.
- Under the Fourth Geneva Convention (1949), an occupying power "shall not deport or transfer parts of its own civilian population into the territory it occupies".

### Way Forward

- Under the Oslo Accords of the 1990s, both Israel and the Palestinians agreed that the status of settlements would be decided by negotiations. But the negotiations process has been all but dead for several years now. Thus the world at large needs to come together for a peaceful solution to the Israel-Palestine conflict.

## Bougainville

### Why in News

The people of **Bougainville** (a small South Pacific island) voted for a referendum to gain **independence from Papua New Guinea**. If the referendum is passed,

Bougainville would become the **world's newest and possibly the smallest independent country**.



### Background

- Bougainville is currently a province of Papua New Guinea, one of the most populous Pacific island states. It forms the **part of the Solomon Islands archipelago**.
- In the late 1970s, a decentralized system of provincial government was introduced in Bougainville. The current autonomy arrangements were implemented following the constitutional enactment of the **Bougainville Peace Agreement**.
  - The Bougainville Peace Agreement, signed in **2001**, brought autonomy and an end to the violent conflict between the people of Bougainville and the government of Papua New Guinea.

### Issues Leading to Referendum

- The dissatisfaction among Bougainvilleans over implementation of the agreed arrangements for Bougainville autonomy (2001) was the major bone of contention.
  - The **Autonomy Bougainville Government (ABG)** was legally entitled to the financial grants but the Papua New Guinea National Government did not provide them.
- Also, the **historic plunder of the resource-rich island** and the **unequal distribution of wealth** that followed was the major issue.
  - Bougainville has large deposits of **copper**.
  - The **Panguna mine** (also known as the **Bougainville Copper Mine**) holds some of the world's largest reserves of copper. It is the **world's largest open-cut copper mine**.
    - The export of copper extracted from the Panguna mine contributed significantly to Papua New Guinea's economy.
    - The mine also created job opportunities for people from Papua New Guinea and Australia,

Note:



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leading to conflicts with Bougainvilleans who reported cases of discrimination and racism at the hands of foreigner mine workers.

- Mining activities over the years also caused environmental degradation of Bougainville's lands and water.

## **U.S. Minimises its Share in NATO Budget**

### **Why in News**

The U.S. contribution to the North Atlantic Treaty Organisation's (NATO) operating budget has been cut down at the cost of an increase in Germany's payments to the alliance. This move comes after repeated criticism of European members of the organisation by the U.S.

- This will come into effect from 2021, wherein the U.S. and Germany will contribute equally to NATO budget.

### **North Atlantic Treaty Organization**

- It is a **military alliance established by the North Atlantic Treaty** (also called the Washington Treaty) of April 4, 1949, by the United States, Canada, and several Western European nations to provide collective security against the Soviet Union.
- It is **headquartered at Brussels, Belgium**.
- A key provision of the treaty, the so-called **Article 5**, states that if one member of the alliance is attacked in Europe or North America, it is to be considered an attack on all members. That effectively put Western Europe under the "nuclear umbrella" of the US.
  - NATO has **only once invoked Article 5**, on September 12, 2001, following the 9/11 attacks on the World Trade Center in the US.
- **NATO's protection does not extend to members' civil wars or internal coups.**
- As of 2019, there are 29 member states, with Montenegro becoming the latest member to join the alliance in 2017.



Note:



# Science and Technology

## Highlights

- Seismometers Defunct in Earthquake-Prone Zones
- Smog Tower Planned For Delhi
- Cartosat-3
- Space Internet
- Solar Eclipse

## Seismometers Defunct in Earthquake-Prone Zones

### Why in News

20 out of 35 seismometers and accelerographs in earthquake prone zones (Seismic zone III and IV) of **Maharashtra were found defuncting**.

- The seismometer is an instrument used to measure and record earthquakes, whereas accelerographs prints the intensity of earthquakes.
- The seismic zone III and zone IV fall under moderate and strong earthquake categories under Earthquake prone zones in India.

### Seismic Waves

- Vibrations from an earthquake are categorised as P or S waves. They travel through the Earth in different ways and at different speeds. They can be detected and analysed.
  - **P-waves (P stands for primary)**
    - These are the first waves detected by seismograph.
    - These are longitudinal waves i.e. they vibrate along the same direction as it travels.
    - Other examples of longitudinal waves include sound waves and waves in a stretched spring.
  - **S-waves (S stands for secondary)**
    - These waves arrive at the detector after primary waves.
    - These are transverse waves i.e. they vibrate at a right angle to the direction in which they travel.
    - Other examples of transverse waves include light waves and water waves.

- Both types of seismic waves can be detected near the earthquake centre but only P-waves can be detected on the other side of the Earth.
  - P-waves can travel through solids and liquids (since they are longitudinal waves) whereas S-waves can only travel through solids (as they are transverse waves). This means the liquid part of the core blocks the passage of S-waves.
- The earthquake events are scaled either according to the magnitude or intensity of the shock.
  - The magnitude scale is known as the Richter scale. The magnitude relates to the energy released during the earthquake which is expressed in absolute numbers, 0-10.
  - The intensity scale or Mercalli scale takes into account the visible damage caused by the event. The range of intensity scale is from 1-12.

### Earthquake Prone Zones in India

- **Earthquake** is the violent shaking of the ground due to the release of accumulated stress of the moving lithospheric or crustal plates.
- Over 59 % of India's land area is under threat of moderate to severe earthquakes.
- **Bureau of Indian Standards**, based on the past seismic history, divided the country into **four seismic zones, viz. Zone II, III, IV and V**.
  - The regions away from the Himalayas and other inter-plate boundaries were considered to be relatively safe from damaging earthquakes.
  - However, occurrence of the Killari earthquake in Maharashtra (1993) resulted in revision of the seismic zoning map in which the low hazard zone or **Seismic Zone I was merged with Seismic Zone II**. Thus Zone I does not appear in mapping.

Note:

- Zone V is the most seismically active region, while zone II is the least active region.

- The zones are divided on the basis of Modified Mercalli (MM) intensity, which measures the impact of earthquakes.
- The area covered under different seismic zones include,

- **Zone II:**

- It falls under low intensity zone.
- It covers 40.93% area of the country.
- It comprises of major parts of peninsular region and Karnataka Plateau.

- **Zone III:**

- It falls under moderate intensity zone.
- It covers 30.79% area of the country.
- It comprises of Kerala, Goa, Lakshadweep islands, remaining parts of Uttar Pradesh, Gujarat and West Bengal, Parts of Punjab, Rajasthan, Madhya Pradesh, Bihar, Jharkhand, Chhattisgarh, Maharashtra, Odisha, Andhra Pradesh, Tamil Nadu and Karnataka.

- **Zone IV:**

- It falls under severe intensity zone.
- It covers 17.49% area of the country.
- It comprises of remaining parts of Jammu and Kashmir, Himachal Pradesh, National Capital Territory (NCT) of Delhi, Sikkim, Northern Parts of Uttar Pradesh, Bihar, West Bengal, parts of Gujarat, small portions of Maharashtra near the west coast and Rajasthan.

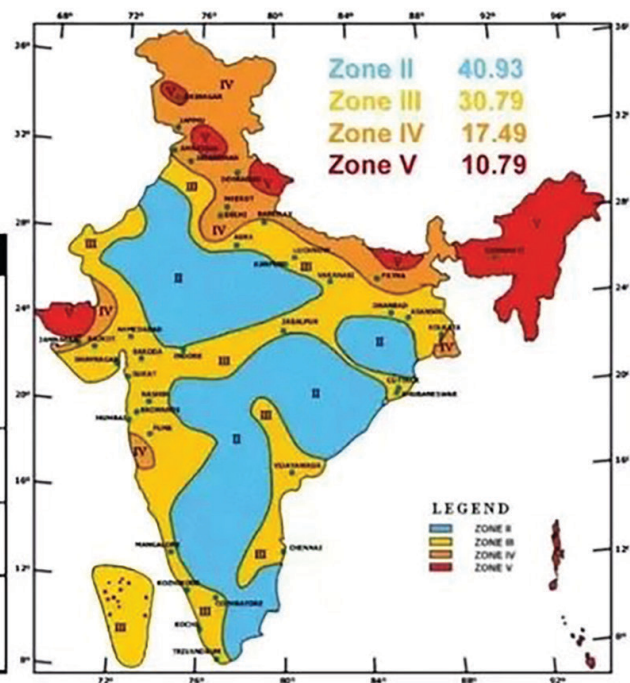
- **Zone V:**

- It falls under very severe intensity zone.
- It covers 10.79% area of the country.
- It comprises of the entire northeastern India, parts of Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Rann of Kutch in Gujarat, part of North Bihar and Andaman & Nicobar Islands.

## Seismic Zone Map of India: -2002

About **59 percent** of the land area of India is liable to seismic hazard damage

Zone	Intensity
Zone V	<b>Very High Risk Zone</b> Area liable to shaking Intensity IX (and above)
Zone IV	<b>High Risk Zone</b> Intensity VIII
Zone III	<b>Moderate Risk Zone</b> Intensity VII
Zone II	<b>Low Risk Zone</b> VI (and lower)



## Smog Tower Planned For Delhi

### Why in News

A **smog tower** is being planned for the **National Capital Region (NCR)-Delhi** to create a clean air zone in the region.

- The smog tower is **one of the devices to control air pollution** in NCR-Delhi.
  - The other air purifying devices include **Wind Augmentation Purifying Unit (WAYU)** and **High-Efficiency Particulate Arrestance (HEPA)** filters.
- It is expected to **reduce Particulate Matter (PM) by 50%** in the area. It will majorly help to **reduce the severity of air pollution in NCR-Delhi**.
- The filters being installed would use carbon nanofibres as a major component.

### Smog Tower

- Smog towers are structures designed to work as **large-scale air purifiers**.
- They are usually fitted with multiple layers of air filters, which clean the air pollutants as it passes through them.
- **China has the world's largest smog tower** and has reduced PM 2.5 by 19% in an area of around 6 sq km in the tower's vicinity.

Note:



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- The term **Particulate Matter 2.5 (PM<sub>2.5</sub>)**, refers to tiny particles or droplets in the air that are two and one half microns or less in width. Particles in the PM<sub>2.5</sub> size range are able to travel deeply into the respiratory tract, reaching the lungs. This can cause health effects such as throat and lung irritation, shortness of breath, etc.

### Monitoring Aerosol Optical Depth

The imager payload onboard ISRO's weather satellites INSAT-3D & 3DR, is being used to monitor **Aerosol Optical Depth (AOD)**.

- AOD is an indicator of particles and smoke from biomass burning affecting visibility and increase of PM<sub>2.5</sub> and PM<sub>10</sub> concentration in the atmosphere.
- It has been found that AOD, PM<sub>2.5</sub> and PM<sub>10</sub> concentrations are higher over Indo-Gangetic Plain covering parts of Delhi, Uttar Pradesh and Bihar during October and November.
  - A high concentration of these pollutants originates from parts of Punjab and Haryana during stubble burning.

#### Note:

- Aerosol Optical Depth is a measure of the extinction of the solar beam by dust and haze.
- Particles in the atmosphere (dust, smoke, pollution) can block sunlight by absorbing or by scattering light. AOD tells us how much direct sunlight is prevented from reaching the ground by these aerosol particles.

### INSAT-3D & 3DR satellites

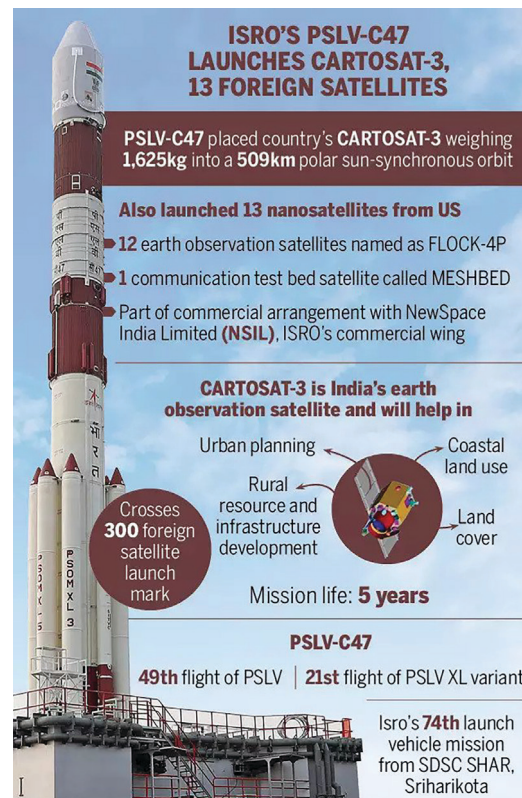
- India gets **weather updates every 15 minutes** through INSAT-3D & 3DR weather satellites.
- INSAT 3DR was launched in 2016 as a follow up on INSAT-3D which was launched in 2013.

## Cartosat-3

### Why in News

The **Indian Space Research Organisation (ISRO)** has launched **Cartosat-3** and **13 commercial nanosatellites** into **Sun Synchronous orbit** from **Satish Dhawan Space Centre (SDSC), Sriharikota**.

- **Cartosat-3** is an **earth-observation remote sensing satellite** which **will replace Indian Remote Sensing (IRS) series**. So far, ISRO has orbited 8 Cartosats since 2005.



- **Remote sensing** is the science of obtaining information about objects or areas from a distance, typically from aircraft or satellites.
- The **13 commercial nanosatellites** are from the USA, which is the **first commercial order for New Space India Limited**, the commercial arm of ISRO which was formed in March 2019.
- **Sun Synchronous orbit** is a **special case of the polar orbit**. Like a polar orbit, the satellite travels from the north to the south poles as the Earth turns below it. In a sun-synchronous orbit, though, the satellite passes over the same part of the Earth at roughly the same local time each day.

### Key Points

- Cartosat-3 was **carried by a Polar Satellite Launch Vehicle, PSLV-C47**. PSLV is an indigenously-developed expendable launch system of the ISRO.
- **Resolution**
  - It has the '**sharpest eye**' of **civil remote sensing satellites in the world**. One of Cartosat-3's cameras offers a **ground resolution of 25 cm** - it can pick up an object of a minimum of 25 cm size from a height of around 500 km.

Note:



- **Weight:** At 1,625 kg, Cartosat-3 is unusually heavy and more than double the mass of the previous eight in its class.
- **Placement:** It has been placed at **97.5 degrees to the equator of the earth**.
- It has many new technologies such as a highly agile or flexible camera; high-speed data transmission, advanced computer system, etc.

### Applications

- Data from most of the **Cartosat satellites** are **exclusively used by the armed forces**.
- However, an existing policy allows only government and government authorised agencies to access ISRO's high-resolution imageries below a resolution of 1 metre.
- Cartosat-3's optical imaging will also help to detect precise cartographic or mapping activities.
- The imageries are **also used for** urban and rural infrastructure planning, coastal land use and regulation, utility management such as monitoring road networks, water grids or distribution, creation of land use maps, disaster management, etc.

#### Cartosat Satellites

- The Cartosat satellites are **earth observation satellites**, used mainly for large-scale mapping of the Earth through high-resolution cameras.
- It also helps to detect changes in natural geographical or man-made features. As their cameras can 'look back and forth' in an angle to generate continuous spot images.
- The **Earth-observation satellites also include the Resourcesat and RISAT series, the Oceansat series.**

## Space Internet

### Why in News

Recently, the **world's leading private company** in space technology **SpaceX** has launched the **Starlink Network** in **Lower Earth Orbit (LEO)** aimed at providing **low-cost and reliable space-based internet services** to the world.

- Currently, fibre optic cables or wireless networks through mobile towers provide internet services.
- It can be noted that the **idea of space internet system is not new**. It is being used through Geostationary Satellite for selective users.

### Starlinks

- **Starlink** is a SpaceX project **to build a broadband network** with a cluster of orbiting spacecraft that could eventually number thousands.
- The Starlink satellites carry Hall thrusters, which **use electricity and krypton gas to generate an impulse**, to manoeuvre in orbit, **maintain altitude** and guide the spacecraft back into the atmosphere at the end of their mission.
- The **Starlink network** is one of several ongoing efforts to start beaming **data signals** from space.

### Space Internet with Geostationary Satellite

- Most of the existing **space-based Internet systems** use satellites in **geostationary orbit**.
  - Geostationary orbit is located at a **height of 35,786 km** over the Earth's surface, **directly above the Equator**.
  - Satellites in this orbit move at **speeds of about 11,000 km per hour**, and **complete one revolution of the Earth** at the same time that the earth **rotates once on its axis**.
  - To the observer on the ground, therefore, a satellite in a **geostationary orbit** appears stationary.
- **Advantages:**
  - **Coverage:** The signals from one geostationary satellite can cover roughly a third of the planet — and **three to four satellites** would be enough to cover the entire Earth.
  - **Easier Connectivity:** As satellites appear to be stationary, it is **easier to link** to them.
- **Disadvantages:**
  - **Latency Issues:** The transmission from a satellite in geostationary orbit has a latency of about 600 milliseconds. The geostationary satellites are located at higher altitudes compared to LEO, thus the longer the distance that needs to be covered results into greater latency.
    - The latency is the time lag between a user seeking data, and the server sending that data.

### Space Internet with Low Earth Orbit

- The LEO extends **up to 2,000 km above the Earth's surface**.
- **Advantages:**

Note:



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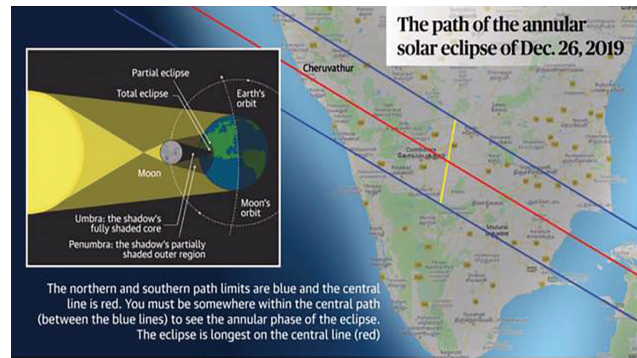
- **Reduced Latency:** The presence of satellite at a lower height from the Earth's surface, will help to bring the **lag down to 20-30 milliseconds**, roughly the time it takes for terrestrial systems to transfer data.
- **More Viable:** The signals from satellites in space can overcome obstacles faced by fibre-optic cables or wireless networks easily.
  - The traditional ways to deliver the internet – fibre-optic cables or wireless networks are not feasible in remote areas or places with difficult terrain.
  - Setting up cables or mobile towers in these areas is not viable.
- **Disadvantages:**
  - **Coverage:** Due to its **lower height**, its signals cover a **relatively small area**. As a result, many more satellites are needed in order to reach signals to every part of the planet.
    - The satellites in these orbits travel at more than double the speed of satellites in geostationary orbit to balance the effects of gravity. Thus, many more satellites are needed in the network to eliminate breaks in transmission of data.
  - **Space Debris:** It will generate more **space debris**.
  - **Difficulty in Space Studies:** The constellations of space internet satellites will make it difficult to observe other space objects, and to detect their signals.
  - **Light Pollution:** There will be an increased risk of light pollution.
    - Light reflected from the man-made satellites can interfere with — and be mistaken for — light coming from other space bodies.

## Solar Eclipse

### Why in News

**Cheruvathur in Kasaragod district, Kerala** is one of the three places in the world where the solar eclipse will be most clearly seen on December 26, 2019.

- It will be an **annular solar eclipse** in which the '**ring of fire**' — a characteristic of this kind of solar eclipse could be clearly observed.



### Solar Eclipse

- A **solar eclipse** is a phenomenon that happens when the moon comes in the way of the sun's light. The moon's shadow casts itself on Earth, blocking out the sun's light (as seen from Earth).
- The moon's shadow has two parts: a central region (umbra) and an outer region (penumbra). Depending upon which part of the shadow passes over the Earth, one of three types of solar eclipses could be observed:
  - **Total Solar Eclipse** – The entire central portion of the sun is blocked out by the moon.
  - **Partial Solar Eclipse** – Only part of the sun's surface is blocked out.
  - **Annular Solar Eclipse** – The sun is covered in such a way that only a small ring-like sliver of light is seen from the sun's disc. This ring is known as the **ring of fire**.
    - An annular eclipse happens when the moon is farthest from Earth. As the moon is farther away from Earth, it seems smaller and is unable to block the entire view of the sun, because of which the **ring-like structure** could be observed.
- The total eclipse happens about every year and a half somewhere on Earth, while the partial eclipse happens at least twice a year somewhere on Earth.



Note:

# Environment and Ecology

## Highlights

- International Conference on "Landslides Risk Reduction and Resilience"
- Avian Botulism at Sambhar Lake
- Panna Tiger Reserve
- Atapaka Bird Sanctuary
- Dudhwa National Park
- Etalin Hydroelectric Project
- Living Root Bridges
- SAMEER App
- Assam Roofed Turtle
- Sumatran Rhino

## International Conference on "Landslides Risk Reduction and Resilience"

### Why in News

The National Institute of Disaster Management (NIDM) organized the 1<sup>st</sup> International Conference on "Landslides Risk Reduction and Resilience" on 28<sup>th</sup> November, 2019 in New Delhi.

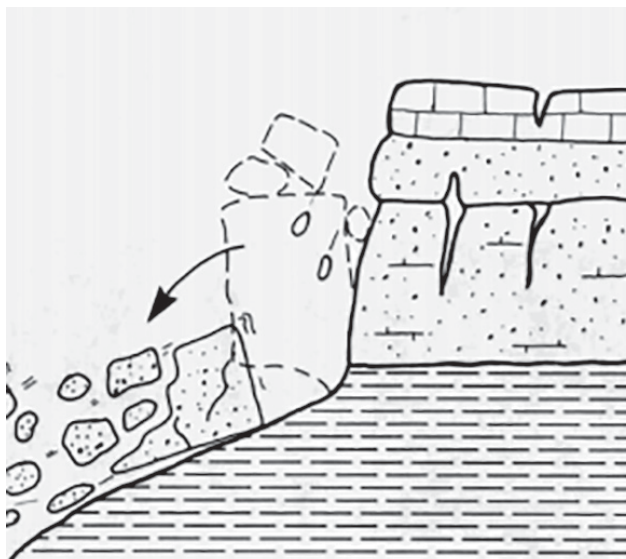
- The aim was to bring together all stakeholders including relevant ministries, universities, as well as experts to discuss/debate/disseminate practically useful knowledge, experiences, information and innovations for landslides risk reduction and resilience at national and international levels.

### National Institute of Disaster Management

- NIDM comes under the Ministry of Home Affairs and is located in New Delhi.
- Under the Disaster Management Act 2005, NIDM has been assigned nodal responsibilities for human resource development, capacity building, training, research, documentation and policy advocacy in the field of disaster management.

### Landslides

- A landslide is defined as the movement of a mass of rock, debris, or earth down a slope. Landslides are a type of "mass wasting (a geomorphic process)," which denotes any down-slope movement of soil and rock under the direct influence of gravity.



- Several things can trigger landslides, including the slow weathering of rocks as well as soil erosion, earthquakes and volcanic activity.
- **Loss Due To Landslides**
  - Based on Global Fatal Landslide database 2004-2016, globally in 4,862 distinct landslide events 55,997 fatalities were recorded (earthquake triggered landslide events were not taken in account in this study).
  - Continent-wise, Asia suffers the maximum damages / losses due to landslides.
    - Among the Asian countries, South Asian nations are the worst sufferers and India is one of the worst affected by landslides.
  - As landslides are frequent and widespread, the annual cumulative losses worldwide amount to

Note:

tens of billions of USD in terms of lost property, environmental damage, repair works, and the maintenance of defence measures.

- As per Geological Survey of India, the window of economic loss due to landslides may reach between 1-2% of the gross national product in many developing countries.

## Avian Botulism at Sambhar Lake

### Why in News

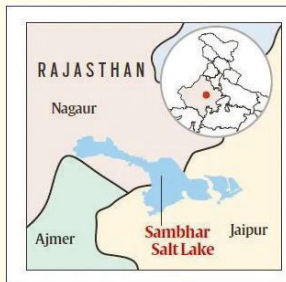
The Indian Veterinary Research Institute (IVRI), Uttar Pradesh has confirmed avian botulism as the reason for mass mortality of birds, at **Sambhar Lake, Rajasthan**.

### Avian Botulism

- It is a **neuro-muscular illness** caused by **Botulinum (natural toxin)** that is produced by a **bacteria** called **Clostridium botulinum**.
- The bacteria is commonly found in the **soil, rivers, and seawater**. It **affects both humans and animals**.
- It affects the nervous system of birds, leading to paralysis in their legs and wings.
- The outbreaks of avian botulism tend to occur when average temperatures are above 21 degrees celsius and during droughts.
- The botulism outbreaks are likely to become more frequent as climate change alters wetland conditions to favour bacteria and pathogens.

### Sambhar Lake

- It is **India's largest inland saltwater body** located near **Jaipur, Rajasthan**.
- The lake is surrounded on all sides by the Aravali hills.
- It is the source of most of Rajasthan's salt production.
- Sambhar has been designated as a **Ramsar site** because the wetland is a key wintering area for tens of thousands of **flamingos** and other **migratory birds** from northern Asia.



## Mass Mortality at Sambhar Lake

- The **possible causes** for avian botulism at Sambhar lake are:
  - **Reduced water levels:** This might have increased salinity levels leading to the death of living organisms.
  - **A bird-to-bird cycle:** Since only insectivorous and omnivorous birds were affected and not herbivores, the birds feeding on dead birds could have been a possible cause of such mortality.

### Steps Need to be Taken

- The establishment of rescue and medical centres along with the mitigation of climate change need to be considered by the government as a precautionary measure for the future.

## Panna Tiger Reserve

### Why in News

The tiger reintroduction project in Panna tiger reserve has completed a decade making it one of the best models of conservation in the world.

- The **Panna tiger reserve** is situated in the **Vindhya mountain range** in the northern part of **Madhya Pradesh**.
  - Madhya Pradesh has the highest number of tigers in the country.



Note:

- **Ken river** (a tributary of the Yamuna River) flows through the reserve.
- The region is also famous for Panna diamond mining.
- **Ken-Betwa river interlinking project** will be located within the tiger reserve.
  - The Ken-Betwa Link Project (KBLP) is a river interlinking project that aims to transfer surplus water from the Ken river in Madhya Pradesh (MP) to Betwa in Uttar Pradesh (UP) to irrigate the drought-prone Bundelkhand region spread across the districts of two states mainly Jhansi, Banda, Lalitpur and Mahoba districts of UP and Tikamgarh, Panna and Chhatarpur districts of MP.

## Atapaka Bird Sanctuary

### Why in News

The **Atapaka Bird Sanctuary at Kolleru Lake** has become a safe breeding ground for two migratory species namely, Grey Pelicans and Painted Storks.

- **Grey Pelican** and **Painted Stork** both are **near threatened species** under **IUCN Red List of Threatened Species**.

### Kolleru Lake

- Kolleru lake is **located between the deltas of the Krishna and Godavari rivers** in **Andhra Pradesh**.
  - The lake serves as a **natural flood-balancing reservoir** for the two rivers.
- It is an important habitat for an estimated 20 million residents and migratory birds like Grey or Spot-billed pelicans.



- It was **notified as a Wildlife Sanctuary in 1999** under **India's Wild Life Protection Act, 1972**.
- It was declared a **wetland of international importance in 2002** under **Ramsar convention**.
  - The **Convention on Wetlands, called the Ramsar Convention**, is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources.
  - **India has 27 Ramsar Sites** which are Wetlands of International importance.

## Dudhwa National Park

### Why in News

Recently, the elephant safari at Dudhwa National Park was banned, as most of the trained elephants have been deployed in patrolling duties.

### Dudhwa Tiger Reserve

- The **Dudhwa Tiger Reserve** is a protected area in **Uttar Pradesh** located on the **India-Nepal border**.
  - It stretches mainly across the **Lakhimpur Kheri** and **Bahraich** districts.
- It comprises of:
  - Dudhwa National Park through which **Suheli and Mohana** streams flow,
  - **Kishanpur Wildlife Sanctuary** through which **Sharda River** flows, and
  - **Katarniaghat Wildlife Sanctuary** through which **Geruwa River** flows.
  - All of these rivers are tributaries of the Ghagra River.
- The Dudhwa National Park has a number of species of birds, reptiles, wild elephants, aquatic animals, one-horned rhinos, wild elephants besides its enriched flora and fauna. Its undisturbed natural forest cover, vast spans of grasslands and wetlands.
  - It is the only place in U.P. where both **Tigers and Rhinos** can be spotted together.

## Etalin Hydroelectric Project

### Why in News

The Central Government has recommended a biodiversity study of the proposed **3,097 MW Etalin**

Note:



**Hydroelectric Project in Arunachal Pradesh** by a credible international institute since the current environmental impact assessment was found to be “completely inadequate”.

➤ **Location**

- The Project is based on the **river Dibang**. It is proposed to be completed in 7 years.
  - Dibang is a **tributary of the Brahmaputra river** which flows through the states of Arunachal Pradesh and Assam.
- It envisages construction of two dams over the **tributaries of Dibang: Dir and Tagon**.
- The Project **falls under the “richest bio-geographical province of the Himalayan zone”** and would be located at the junction of the Palaeartic, Indo-Chinese and Indo-Malayan bio-geographic regions.

➤ **Significance**

- The Project is in **accordance with the Government’s push to establish prior user rights on rivers** that originate in China and an effort to fast-track projects in the north-east.
- It is expected to be one of the biggest hydropower projects in India in terms of installed capacity.

➤ **Concerns**

- A total of 18 villages consisting of 285 families are expected to be affected by the proposed project.
- It would entail felling 2,80,677 trees and threatens the existence of globally-endangered mammal species.

**Note:**

- The **Biogeographic Zones** are the large distinctive units of similar ecology, biome representation, community and species, e.g., The Himalaya, The Western Ghats.
- **Palaeartic Zone** includes arctic and temperate Eurasia, and all islands surrounding the continent in the Arctic, in the sea of Japan, and the eastern half of the North Atlantic. It thus also includes the Macaronesian islands, Mediterranean North Africa and Arabia.
- **The Indo-Malayan Zone’s** natural boundaries contain tropical Asia from the Balochistan mountains of Pakistan eastward to the Indian subcontinent south of the Himalayan crest, including the tropical southern fringe of China with Taiwan, the whole of SouthEast Asia, and the Philippines.

## Living Root Bridges

Living root bridges (also known as **Jing Kieng Jri**) are the **aerial bridges** that are **built by weaving and manipulating the roots** of the **Indian rubber tree**.

- A root bridge uses traditional tribal knowledge to train the roots of the Indian rubber tree to grow laterally across a stream bed resulting in a living bridge of roots.
- It spans between **15 and 250** feet and is built over centuries.
- They have been serving as connectors for generations in the Indian state of **Meghalaya**.
  - The bridges are primarily a **means to cross streams and rivers**. They have also become **world-famous tourist attractions**. The two most popular tourist spots are - **Riwai Root Bridge** and **Umshiang Double Decker Bridge**.
- They have **three main properties**:
  - They are elastic
  - The roots easily combine
  - The plants grow in rough and rocky soils

## SAMEER App

It is one of the **air pollution mitigation measures** which provides hourly updates on the **National Air Quality Index (AQI)**.

- The app is developed by the **Central Pollution Control Bureau (CPCB)** which provides information on air quality for more than 100 cities across the country.
- The app represents the listed cities in a **colour-coded format** based on their AQI levels.
- The app can also be used to **file or track complaints** related to garbage dumping, road dust, vehicular emissions or other pollution issues in a particular area.

### National Air Quality Index

- It is an **index for reporting daily air quality**.
- It focuses on health effects one might experience within a few hours or days after breathing polluted air.
- AQI is calculated for **eight major air pollutants**:
  - Ground-level ozone
  - PM10
  - PM2.5
  - Carbon monoxide

Note:



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- Sulfur dioxide
- Nitrogen dioxide
- Ammonia
- Lead

- **Ground-level ozone and airborne particles** are the two pollutants that pose the greatest threat to human health in India.

## Assam Roofed Turtle

The **Assam Roofed Turtle (Pangshura sylhetensis)** is a small freshwater turtle.

- **Habitat:** Primarily in running waters in the hills of northeastern India and northeastern and southeastern Bangladesh.
- **Threatened by**
  - Logging of primary forests that causes siltation,
  - Capture for food and the pet trade, and
  - Incidental capture in fishing gear.
- **Protection Status**
  - IUCN: Endangered
  - CITES: Appendix II.
  - India's Wildlife Protection Act, 1972 : Protected under Schedule I.



## Sumatran Rhino

### Why in News

The **Sumatran rhinoceros** has become extinct in **Malaysia**, after the death of the last rhino in the country.

- Its scientific name is **Dicerorhinus sumatrensis** and is the **smallest of all rhino species**. These are the only Asian Rhino with two horns. Other species with two horns are Black Rhinos & White Rhinos both found in Africa.
- **IUCN Red List – Critically Endangered.**
- The **World Wildlife Forum (WWF)** estimates that there are only about 80 of them and are left mainly in Sumatra and Borneo in Indonesia.
- Black Rhino, White Rhino, Greater One-Horned Rhino, Javan Rhino and Sumatran Rhino are the **five different species of Rhino**.
  - The three species of Rhino in Asia — **Greater one-horned, Javan and Sumatran**. **Javan and Sumatran Rhino** are **critically endangered** and the **Greater one-horned (or Indian) rhino** is **vulnerable** in the IUCN Red List.
  - They are spread across India, Nepal, Bhutan, Indonesia and Malaysia. These countries are also known as **Asian Rhino Range Countries**.
  - Only the Great one-horned rhino is found in India.



Note:

# Art & Culture

## Highlights

- Maha Bodhi Temple Complex
- Ain-i-Akbari
- Rani Lakshmibai

## Maha Bodhi Temple Complex

Bhutan's Foreign Minister recently visited **Maha Bodhi Temple in Bodh Gaya, Bihar**.



- The Maha Bodhi Temple Complex is **one of the four holy sites** related to the **life of the Lord Buddha**, and particularly to the **attainment of Enlightenment (Bodhi)**.
  - The other **three** are: **Lumbini (Birth)** in **Nepal**, **Sarnath (Dharma-Chakra-Pravartana - 1st Sermon)** and **Kushinagar (Mahaparinirvana- death)** in **Uttar Pradesh**.
- The **original structure** was built by the **Mauryan emperor Ashoka**. However, it was **reconstructed** entirely in brick in late **Gupta period**. The present temple dates from the **5<sup>th</sup> or 6<sup>th</sup> centuries**.
- The site of the Mahabodhi Temple provides exceptional records of the events associated with the **life of Buddha** and subsequent worship.
- A descendant of the Bodhi tree under which the Buddha is said to have sat until he attained enlightenment stands adjacent to the temple.
  - Ashoka's stone slab purporting to mark the exact position where the Buddha sat is traditionally called the Buddha's vajrasana (literally "diamond throne" or "thunder seat").
- It was recognized as a **UNESCO World Heritage site** in 2002.

## World Heritage Site

- World Heritage site, any of various areas or objects inscribed on the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage List.
- The sites are designated as having "**outstanding universal value**" under the Convention Concerning the Protection of the **World Cultural and Natural Heritage 1972**.
- It provides a framework for international cooperation in preserving and protecting cultural treasures and natural areas throughout the world.

## Ain-i-Akbari

- Ain-i-Akbari is a **16<sup>th</sup> century** document.
- **Written by:** Akbar's court historian **Abu'l Fazl** in **Persian language**.
- Deals with: the **administration of Mughal Emperor Akbar**.
- Background: Beginning in **1589**, **Abu'l Fazl** worked on the '**Akbar Nama**' for **thirteen years**. The **Akbar Nama** is divided into **three** books:
  - The **first** book dealt with **Akbar's ancestors**.
  - The **second** recorded the **events of Akbar's reign**.
  - The **third** is the **Ain-i Akbari**. It deals with Akbar's administration, household, army, the revenues and geography of his empire. It provides rich details about the traditions and culture of the people living in India. It also got statistical details about crops, yields, prices, wages, and revenues.
- In the early twentieth century, the Akbar Nama was translated into **English by Henry Beveridge**.
- Other Literary Work during Akbar's Reign:

Note:

Sr. No.	Book	Author
1	Muntakhab ul-Tawarikh (also known as Tarikh-i-Bidauni)	Abdul Qadir Badaoni
2	Tabakat-i-Akbari	Nizamuddin
3	Takmila-i-Akbarnama	Inayatulla
4	Sursagar (written in Brij Bhasha)	Sur Das
5	Ramcharitmanas (written in Awadhi- eastern hindi dialect)	Sant Tulsi Das

## Rani Lakshmibai

The Prime Minister paid tributes to **Rani Laxmibai** on her **191<sup>st</sup> birth anniversary**. She was one of the leading figures of the 1857 war of independence.

- She was born on **19<sup>th</sup> November 1828** in **Varanasi, Uttar Pradesh**.
- Rani Lakshmibai was one of the brave warriors of India's struggle for Independence. In 1853, when the Maharaja of Jhansi died, the East India Company took advantage of the situation and applied the **Doctrine of Lapse to annex Jhansi**.
- Lakshmibai fought bravely against the British and gave a tough fight to **Sir Hugh Rose** so as to save her empire

from annexation. She died fighting on the battlefield on June 17, 1858.

- When the **Indian National Army** started its first female unit (in 1943), it was named after the valiant queen of Jhansi.

### Doctrine of Lapse

- It was an annexation policy followed widely by **Lord Dalhousie** when he was India's **Governor-General** from 1848 to 1856.
- According to this, any princely state that was under the direct or indirect control of the East India Company where the ruler did not have a legal male heir would be annexed by the company.
  - As per this, any adopted son of the Indian ruler could not be proclaimed as heir to the kingdom.
- By applying the doctrine of lapse, Dalhousie annexed the States of:
  - Satara (1848 A.D.),
  - Jaitpur, and Sambalpur (1849 A.D.),
  - Baghat (1850 A.D.),
  - Udaipur (1852 A.D.),
  - Jhansi (1853 A.D.), and
  - Nagpur (1854 A.D.)



Note:



# Social Issues

## Highlights

- International Day for the Elimination of Violence Against Women
- Child Abuse Prevention and Investigation Unit
- World Children's Day
- SAANS Campaign
- Bhopal Gas Tragedy

## International Day for the Elimination of Violence Against Women

### Why in News

The **United Nations (UN)** observes **25<sup>th</sup> November** as the **International Day for the Elimination of Violence Against Women** every year.

- The official **theme** for 2019 is **"Orange the World: Generation Equality Stands Against Rape"**.
- For 2020-2022, the **UN Secretary-General's UNiTE (to End Violence against Women campaign)** will specifically focus on the issue of rapes committed against women in times of peace or war.

### Key Points

- **Global Scenario**
  - Every third of all women and girls experience physical or sexual violence in their lifetime.
  - 1 in 2 women killed worldwide were killed by their partners or family in 2017; while only 1 out of 20 men were killed under similar circumstances.
  - Only 52% of married women freely make their own decisions about sexual relations, contraceptive use, and healthcare.
  - 71% of all human trafficking victims worldwide are women and girls in which 3 out of 4 women are sexually exploited.
- **National Scenario**
  - According to the National Crime Records Bureau (NCRB) report, 3.59 lakh cases of crime against women were reported in the country in 2017.
  - Uttar Pradesh reported the highest number of

crimes against women whereas Madhya Pradesh registered the highest number of rape cases in the country.

- Arunachal Pradesh, Goa, Himachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura - registered the lowest figures of crimes against women.

### Global Conventions

- The **Convention of the Elimination of All Forms of Discrimination against Women (CEDAW), 1979** was adopted by the UN General Assembly to prevent violence against women and girls worldwide.
- The **Declaration on the Elimination of Violence Against Women** was issued by the UN General Assembly in **1993**.
  - It defines violence against women as "any act of gender-based violence that results in physical, sexual or psychological harm including threats of such acts, deprivation of liberty, etc. occurring in public or in private life."
- **Sustainable Development Goal - 5 (SDG-5)** targets for **gender equality** in the world by 2030.

### Steps Taken by the Indian Government

- **Constitutional Safeguards**
  - **Fundamental Rights:** It guarantees all Indian women equality (Article 14), no discrimination by the State on the basis of gender (Article 15(1)) and special provisions to be made by the State in favour of women (Article 15(3)).
  - **Directive Principles of State Policies (DPSP):** It ensures equal pay for equal work (Article 39 (d)).
  - **Fundamental Duties:** Practices derogatory to the dignity of women are prohibited under Article 51 (A).

Note:



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➤ **Legal Provisions**

- **Protection of Women from Domestic Violence Act 2005:** It provides victims of domestic violence with a means for practical remedy through prosecution.
- **The Dowry Prohibition Act 1961:** It prohibits the request, payment or acceptance of a dowry.
- **The sexual Harassment of Women at Workplace (Prevention, Prohibition, and redressal) Act, 2013:** This legislative act seeks to protect women from sexual harassment at their place of work.

## Child Abuse Prevention and Investigation Unit

### Why in News

The **Central Bureau of Investigation (CBI)** has set up an **Online Child Sexual Abuse and Exploitation (OCSAE) Prevention/Investigation Unit** at its **headquarter** in **New Delhi**.

- The unit will function under the **CBI's Special Crime Zone**.
- The unit's **territorial jurisdiction** would be throughout the country.

### Functions of the Unit

- It will probe offences covered under various provisions of the **Indian Penal Code (IPC)**, the **Protection of Children from Sexual Offences (POCSO) Act** and the **Information Technology (IT) Act**, apart from other relevant laws.
- It will collect and disseminate information on **online child sexual abuse and exploitation**.

### Background

- The incidence of online child sexual abuse and exploitation generally transcends international borders.
- Numerous references related to dissemination of **Child Sexual Abuse Material (CSAM)** have been received from the **Interpol** and other national/international organisations.

### Central Bureau of Investigation

- CBI is the **premier investigating** police agency in India.
- It functions under the superintendence of the **Ministry of Personnel, Pension & Public Grievances**.

- However for investigations of offences under the **Prevention of Corruption Act**, its superintendence vests with the Central Vigilance Commission.
- It is the **nodal agency** in India which coordinates investigation on behalf of Interpol member countries.

### International Criminal Police Organization

- The International Criminal Police Organization (INTERPOL) is an intergovernmental organization that helps coordinate the police force of **194** member countries.
- Each of the member countries hosts an INTERPOL National Central Bureau (NCB). This connects their national law enforcement with other countries and with the General Secretariat.
- The General Secretariat provides a range of expertise and services to the member countries.
- It is **headquartered** in **Lyon, France**.

## World Children's Day

### Why in News

World Children's Day is celebrated on **20<sup>th</sup> Nov.** each year to promote international togetherness and awareness among children worldwide and improve children's welfare.

- 20<sup>th</sup> November is an important date as:
  - The **United Nations (UN) General Assembly** adopted the **Declaration of the Rights of the Child in 1959**.
  - The UN General Assembly **adopted** the Convention on the Rights of the Child in **1989**.
- To commemorate the 30<sup>th</sup> anniversary of the Convention on the Rights of the Child, the **United Nation Children's Fund (UNICEF)** undertook the 'Go Blue' campaign wherein landmark buildings around the world lit up blue on 20th November 2019 to show support for child rights.
  - Indian Parliament was also part of the same.

### Initiatives Taken by India

- India celebrates **Children's Day on 14<sup>th</sup> November** every year.
- India **ratified** the Convention on the Rights of the Child in **1992**.
- The under-5 mortality rate has fallen significantly from the 1990 level of 117 per 1000 live births to 39 in 2016.
- The number of children having access to drinking water has increased from 62% in 1992 to 92% in 2019.

Note:

### Convention on the Rights of the Child

- It is a treaty adopted by the **United Nations General Assembly** in **1989**.
  - Under the Convention, every human being under 18 years old is recognized as a child.
  - It sets out the civil, political, economic, social and cultural rights of every child, regardless of their race, religion or abilities.
    - It includes rights such as Right to Education, Right to Rest and Leisure, Right to Protection from Mental or Physical Abuse including Rape and Sexual Exploitation.
  - It is the **world's most widely ratified** human rights treaty.
- 
- The **National Policy for Children, 2013** was adopted to affirm the Government's commitment to a rights-based approach in addressing the continuing and emerging challenges in the situation of children.
  - **The Right to Education Act 2009**, has increased primary school attendance rates for girls from 61% to near-universal in the same period.
  - **Prohibition of Child Marriage Act 2006** saw the prevalence of child marriage declining from 47% girls married before age 18 in 2005-2006, to 27% in 2015-2016.
  - With novel programmes and approaches like **Beti Bachao-Beti Padhao**, child friendly schools, child budgets and **POSHAN Abhiyan**, the States and the Union government are ensuring that children have adequate protection and opportunities for growth and development.

### Steps Need to be Taken

- The Government needs to **focus on the nutrition of children** as presently 21% of children under age five years are wasted and 36% of children under age five years are underweight.
- The Government also needs to **ensure inclusive education** by placing special focus on securing education to the more vulnerable differently-abled children.

## SAANS Campaign

### Why in News

The **Ministry of Health and Family Welfare** has launched a campaign in **Gujarat** named **Social Awareness and Action to Neutralise Pneumonia Successfully (SAANS)**.

- The aim is to **reduce child mortality** due to **pneumonia**, which contributes to around **15%** of deaths of children under the **age of five annually**.

### Key Features

- It aims to protect children from pneumonia, and train health personnel and other stakeholders to provide prioritised treatment to control the disease.
- A child suffering from pneumonia will be treated with a pre-referral dose of antibiotic amoxicillin by **Accredited Social Health Activist (ASHA)** workers.
- **Pulse Oximeter** (device to monitor oxygen saturation) will be used at the Health and Wellness Centre for identification of **low oxygen levels in the blood** of child and if required, the child can be treated by the use of oxygen cylinders.
- A mass awareness campaign will be launched about the effective solutions for pneumonia prevention like breastfeeding, age-appropriate complementary feeding and immunization etc.

### Pneumonia

- Pneumonia is an infection that inflames the **air sacs (alveoli)** in one or both lungs. The air sacs may fill up with fluid or pus, causing symptoms such as a **cough, fever, chills and trouble breathing**.
- **Agents:** Many germs can cause pneumonia. The most common are **bacteria and viruses** in the air that humans breathe.
- It is **preventable** through **vaccination**.
- **Vulnerable Population:** Infants and young children, people older than age 65, and people with weak immune systems.
- **The prevalence rate among Infants in India:** Under-five mortality rate in the country is 37 per 1000 live births, of which 5.3 deaths are caused due to pneumonia.
- **Step Taken by India:**
  - The government aims to achieve a target of reducing pneumonia deaths among children to **less than three per 1,000 live births** by **2025**.
  - In 2014, India launched '**Integrated Action Plan for Prevention and Control of Pneumonia and Diarrhoea (IAPPD)**' to undertake collaborative efforts towards prevention of diarrhoea and Pneumonia related **under-five deaths**.

Note:

## Bhopal Gas Tragedy

### Why in News

Recently, a research study on **congenital deformities** in children born to women exposed to the **1984 gas leak** in **Bhopal** was stopped from being published by an expert committee on the grounds of methodological flaws, poor design and inconclusive findings.

- The expert committee consisted of scientists from the All India Institute of Medical Sciences (AIIMS), Delhi; the National Institute for Research in Environmental Health (NIREH), Bhopal; and the Indian Council for Medical Research (ICMR).

### Key Points

- The study found out that babies born to women exposed to gas were significantly more likely to have “congenital malformations” than those born to women unexposed to gas.
- The findings came in response to a question under the Right To Information Act and were made public by an association of activists fighting for those affected by the leak.
- The **Supreme Court has admitted a curative petition**, which demands more compensation for those affected by the disaster. Data on congenital defects in children were important in bolstering the case for compensation.

### Congenital Malformations

- These can be defined as **structural or functional anomalies** that occur during intrauterine (within the uterus) life and can be identified prenatally, at birth, or sometimes may only be detected later in infancy.
- These are also **known as birth defects**, congenital disorders or congenital anomalies.

### Background

- Post-midnight on December 3, 1984, **Methyl Isocyanate (MIC)** (Chemical formula-  $\text{CH}_3\text{NCO}$  or  $\text{C}_2\text{H}_3\text{NO}$ ) leaked from the pesticide plant of Union Carbide (now Dow Chemicals), an MNC, in Madhya Pradesh capital Bhopal.
  - It is estimated that about 40 tonnes of gas and other chemicals leaked from the Union Carbide factory.
  - **Methyl isocyanate is extremely toxic gas** and if its concentration in the air touches 21ppm (parts per million), it can cause death within minutes of inhaling the gas.
- It is one of the worst chemical disasters globally and still continues to have its ill effects on the people of the affected areas.
- After the tragedy, the government of India enacted a **Public Liability Insurance Act (1991)**, making it mandatory for industries to get insurance, the premium for this insurance would contribute to an Environment Relief Fund to provide compensation to victims of a Bhopal-like disaster.



Note:



# Security

## Highlights

- Defence Acquisition Council
- Defence Industrial Corridors
- MK-45 Naval Guns
- Exercise Mitra Shakti
- SURYA KIRAN - XIV
- Bilateral Maritime Exercise Za'ir-Al-Bahr

## Defence Acquisition Council

### Why in News

The **Defence Acquisition Council (DAC)** has approved the **procurement of weapons and equipment** worth **₹22,800 crore**.

- The **focus was on 'Make in India' initiative** i.e. on indigenous design, development and manufacturing of weapons and equipment.

### Weapons and Equipment Approved

- **Thermal Imaging Night Sights for Assault Rifles:** These would enable troops to undertake long range accurate engagements in dark and all weather conditions thereby enhancing the night fighting capabilities.
- **Airborne Warning and Control System (AWACS) aircraft for the Indian Air Force (IAF).**
  - These platforms would provide **on-board command & control and 'early warning'** which would assist the Indian Air Force (IAF) in achieving effective air space dominance in the least possible time.
  - Induction of these aircraft will greatly enhance both the **Air defence and offensive capabilities** of the IAF.
  - The shortage of such force multipliers was felt during the aerial engagement with the Pakistan Air Force, a day after the **Balakot air strike** in February, 2019.
- **P8I long range patrol aircraft for the Indian Navy:** These aircraft would greatly strengthen the Navy's capabilities for maritime surveillance, Anti-Submarine Warfare (ASW) and Anti-Surface Vessel (ASV) strike. These would be procured from the United States.

### Defence Acquisition Council

- The Defence Acquisition Council is the **highest decision-making body in the Defence Ministry** for deciding on new policies and capital acquisitions for the three services (Army, Navy and Air Force) and the Indian Coast Guard.
- The **Minister of Defence is the Chairman** of the Council.
- It was formed, after the **Group of Ministers recommendations on 'Reforming the National Security System'**, in 2001, **post Kargil War (1999)**.

- **Twin Engine Heavy Helicopters (TEHH) for the Indian Coast Guard:** These aircraft would enable the Coast Guard to undertake missions to prevent maritime terrorism, infiltration of terrorists by sea routes as well as search & rescue operations.

## Defence Industrial Corridors

### Why in News

The Government has set up defence industrial corridors in **Uttar Pradesh** and **Tamil Nadu**.

- These defence corridors will facilitate a well-planned and efficient industrial base that will lead to **increased defence production in the country**.
  - According to data released by the Stockholm International Peace Research Institute (SIPRI), **India topped the list of arms importer** accounting for 13% of the trade in weapons platform between **2012-2018**.
- The corridors **overlap with existing defence public sector companies**, and aim to ensure connectivity among various defence industrial units.

Note:

**Note**

- Connecting Cities in **Uttar Pradesh Defence Industrial Corridor (6)**: Lucknow, Kanpur, Agra, Aligarh, Chitrakoot and Jhansi.
- Connecting Cities in **Tamil Nadu Defence Industrial Corridor (5)**: Chennai, Hosur, Salem, Coimbatore and Tiruchirappalli.

## MK-45 Naval Guns

### Why in News

The United States of America has approved the sale of thirteen **MK-45 naval guns** and related equipment to India.

- The MK-45 (MOD 4) naval gun system will provide the capability to conduct **surface warfare and air defence missions** while enhancing interoperability with the US and other allied forces.
- It has a **range of more than 20 nautical miles or 36 km**.
- India has become one of the few countries that the US decided to sell the latest version (MOD 4) of its naval guns.
  - The other countries are **Australia, Japan, Thailand, and South Korea**.
- It can be noted that the **USA has recently signed a number of defence-related pacts with India, namely:**
  - **General Security Of Military Information Agreement (GSOMIA)**
    - It allows militaries of both the countries to share the intelligence gathered by them.
  - **Logistics Exchange Memorandum of Agreement (LEMOA)**
    - It allows both countries to have access to each other's designated military facilities for refuelling and replenishment.
  - **Communications and Information Security Memorandum of Agreement (CISMOA)**
    - It aims to provide a legal framework for the transfer of highly sensitive communication security equipment from the US to India.
  - **Basic Exchange and Cooperation Agreement (BECA)**
    - BECA will allow India and US to share geospatial and satellite data with each other.

## Exercise Mitra Shakti

### Why in News

The **7<sup>th</sup> edition of India-Sri Lanka joint military training exercise Mitra Shakti – 2019** is scheduled to be conducted in **Pune** from **1<sup>st</sup> - 14<sup>th</sup> Dec. 2019**.



- The exercise aims to build and promote **positive relations between armies of India and Sri Lanka** for counter-insurgency & counter-terrorism operations in the urban and rural environment under **United Nations** mandate.
- The joint exercise also aims for **incorporating the current dynamics of United Nations peacekeeping operations** through practical & comprehensive discussions and tactical exercises.

## SURYA KIRAN - XIV

### Why in News

The joint military exercise 'SURYA KIRAN – XIV' between India and Nepal will be conducted in Nepal from **3<sup>rd</sup> - 16<sup>th</sup> Dec. 2019**.



- The exercise will comprise of 300 soldiers from both Indian and Nepal Army who would be sharing their experience in conduct of various counter insurgency and counter terrorism operations as also various humanitarian assistance missions by both the Armies.
- The exercise is an annual event which is conducted alternatively in Nepal and India.
- The **13<sup>th</sup>** (previous) edition of the exercise was conducted in Uttarakhand, India.

Note:

## **Bilateral Maritime Exercise Za'ir-Al-Bahr**

### ***Why in News***

The bilateral maritime exercise **Za'ir-Al-Bahr (Roar of the Sea)** is conducted between **India and Qatar**.

- It majorly focuses on the fight against terrorism, maritime piracy, and maritime security.
- The participation of **INS Trikand** and **Patrol Aircraft P8-I** will be noteworthy during exercise.
  - The P8-I Maritime Patrol Aircraft incorporates the latest technology for maritime surveillance.



Note:

# Miscellaneous

## Highlights

- Jharkhand Foundation Day
- Sisseri River Bridge
- National Agrochemicals Congress
- Plastic Parks in India
- Persecution of Uighurs
- Willingdon Island
- Jayakwadi Dam
- Mhadei River
- Pavor-Uliya Island
- 8<sup>th</sup> International Conference on Agricultural Statistics (ICAS-VIII)
- Target Olympic Podium (TOP) Scheme
- Srisailem Dam
- Tear Gas
- Winter Grade Fuel in Ladakh
- Pink Ball Cricket
- Golden Rice
- Rohtang Tunnel

## Jharkhand Foundation Day

On **November 15**, the **State of Jharkhand** celebrated its **foundation day**. The state was **carved out of Bihar** in **2000** after the Parliament passed the **Bihar Reorganization Act, 2000**.

- The day coincided with the **birth anniversary of tribal leader Birsa Munda** also known as **Bhagwan Birsa**.

### Birsa Munda

- Born in **1875** in the **Munda tribe**. He is often referred to as '**Dharti Abba**' or the **Earth Father**.
- He led the rebellion that came to be known as **Ulgulan** (revolt) or the **Munda rebellion** against the British government-imposed feudal state system.
- He awakened the masses and sowed the seeds of revolt in them against the landlord as well as the Britishers.
  - He organized masses to stop paying debts/interest to moneylenders and taxes to the British. By this, he led a revolt to bring an end to Victorian rule and the establishment of Munda Rule in Jharkhand (erstwhile Bengal Presidency region).
- He formed two military units- one for military training and armed struggle, the other for propaganda. He combined religion with politics and traveled across villages giving discourses and building a politico-military organization.
- His struggle against the exploitation and discrimination against tribals led to the passing of the **Chotanagpur**

Tenancy Act in 1908 which restricted the passing of land from the tribal people to non-tribals.

## Sisseri River Bridge

Recently, the Defence Minister inaugurated the **Sisseri River Bridge** located at lower **Dibang Valley in Arunachal Pradesh**. The **200m** long bridge provides connectivity between **Dibang Valley and Siang**.

- The bridge was constructed by '**Project Brahman**' of **Border Roads Organisation (BRO)**.
  - There are four projects of BRO in Arunachal Pradesh namely **Vartak, Arunank, Brahman, and Udayak** to not only meet the strategic requirement of India but also contribute to the socio-economic development of the region.
- This bridge is strategically important from the military viewpoint and will be a part of **Trans Arunachal Highway**.
  - The Trans-Arunachal Highway was ₹10,000-crore two-lane highway project that aimed to connect **Tawang** in the west to **Kanubari** in the east of Arunachal Pradesh. It was conceived in **2008**.
- The Government has adopted the **Border Area Development Programme (BADP)** for infrastructural upgradation of the area, necessary for the security of the North-East and the entire country.

### Border Area Development Programme

- BADP was started in the year **1986-87** for balanced development of border areas of states bordering

Note:



Pakistan, namely, **Jammu & Kashmir, Punjab, Gujarat, and Rajasthan**. It was subsequently extended to all the **land borders**.

- The programme is administered by the **Department of Border Management** of the **Ministry of Home Affairs (MHA)**.
- States are provided a **100% non-lapsable Special Central Assistance fund** under BADP to meet the special developmental needs and well being of the people living in remote and inaccessible areas situated near the international border.
- The programme was amended in **2015** to provide the provision for third party inspection and quality control mechanism under MHA for random inspections of the BADP schemes.

## National Agrochemicals Congress

The first-ever **National Agrochemicals Congress** was held at the Indian Agricultural Research Institute (IARI), New Delhi from 13<sup>th</sup> - 16<sup>th</sup> November 2019. It will be conducted **every three years**.

- The **theme** of the Congress is '**Country's Status on Various Fronts of Agrochemicals**'.
- Agrochemicals imply chemicals used in agriculture, such as a pesticide or fertilizer.
- The Congress was conducted in view of the role chemical pesticides still continue to play in pest management as more and more target-specific and environment-friendly products are being introduced.
- It was conducted by the **Society of Pesticide Science India, headquartered** at Division of Agricultural Chemicals, IARI, New Delhi.
- **Recommendations:**
  - Labelling of pesticide indicating the mode of action,
  - To rethink on restrictive banning of pesticides in view of risk-based considerations,
  - Policy regarding data protection of imported technical pesticides and
  - Policy for the introduction of safe nano-formulations and empowerment of farmers through training and extension.

### Indian Agricultural Research Institute

- IARI is the leading institution for agricultural research, education and extension in the country.
- It comes under the **Indian Council of Agricultural Research (ICAR)**, an **autonomous** organisation under the **Ministry of Agriculture and Farmers Welfare**.
  - The Council is the apex body for coordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country.

## Plastic Parks in India

### Why in News

Odisha has become the **first state** to start working on developing a '**Plastic Park**', located in **Jagatsinghpur district**.

### Key Points

- India's **domestic production** meets **only 50%** of its demand for plastic, which is increasing with the growth of construction and infrastructure sector.
  - Many construction companies are using plastic materials. The components used include everything from plastic screws and hinges to bigger plastic parts that are used in decoration, electric wiring, flooring, wall covering, waterproofing and so on.
- To **reduce imports**, the **Ministry of Chemicals & Fertilizers (MoCF)**, had formulated a scheme for setting up of four **Plastic Parks in Assam (Tinsukia), Madhya Pradesh (Raisen), Odisha (Jagatsinghpur) and Tamil Nadu (Thiruvallur)**.
- **Two plastic parks** in the States of **Jharkhand (Deogarh)** and **Madhya Pradesh (Bilaua)** have also been given '**final approval**' in 2018-19.

## Persecution of Uighurs

### Why in News

- According to leaked Chinese government documents, there was a clampdown on **Uighurs and other Muslims in the country's western Xinjiang region**.
  - According to the United Nations experts and activists, at least 1 million **Uighurs and members of other largely Muslim minority groups** have been detained in camps in Xinjiang in a crackdown.

Note:



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- The documents reveal that the Chinese leadership's fears were heightened by terrorist attacks in other countries and the U.S. drawdown of troops from Afghanistan.
- Uighur is a predominantly **Turkic-speaking ethnic group**.
- They are primarily confined in China's northwestern region of Xinjiang and is one of the largest Muslim group in that region.

## Willingdon Island

- Willingdon Island is a **seaport** located in the city of **Kochi, Kerala**.
- It is the **largest man-made/artificial island** of India and is surrounded by **backwaters** (a part of a river in which there is little or no current).
- It was carved out of **Vembanad Lake** and is connected via road and rail. The island is connected to the mainland by the **Venduruthy Bridge**.
- It is a major commercial centre and is home to the **Kochi Naval Base** of the Indian Navy, the Central Institute of Fisheries Technology and the Port of Kochi.
- It was named after the **Viceroy Lord Willingdon** and was created **artificially** in **1936** during his rule to improve the trade relations of British India with the rest of the world.

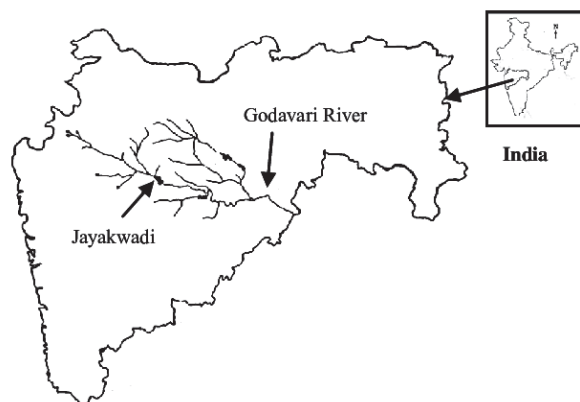
### Lord Willingdon

- He served as the **22<sup>nd</sup> Viceroy and Governor-General** of India from 1931 to 1936.
- Important events of this period include:
  - Second (1931) and Third (1932) Round Table Conferences
  - Relaunching of Civil Disobedience Movement
  - Communal Award by Ramsay MacDonald (1932)
  - Poona Pact (1932)
  - Government of India Act 1935
  - Separation of Burma from India.

## Jayakwadi Dam

### Why in News

Recently, several instruments like **seismometer**, **piezometer**, **slope meter** stopped functioning properly at the Jayakwadi dam. The seismometer was installed at the Jayakwadi dam after the devastating earthquake in Latur district, Maharashtra in 1993.



- Jayakwadi Dam is located on the **Godavari river** in **Aurangabad** district of Maharashtra
  - The dam aims to address the dual problems of flooding along the banks during monsoon months, and that of drought during the rest of the year, particularly in the Marathwada region.
- The **seismometer** is an instrument used to measure and **record seismic waves**. Seismic waves study helps geologists to map the interior of the Earth, and measure and locate earthquakes and other ground motions like volcanic eruptions, explosions, etc. precisely.
- A **piezometer** is an instrument used for measuring the pressure of a liquid or gas or things related to pressure (such as the compressibility of liquid). It measures the strain of a liquid or fuel. They are often placed in boreholes to monitor the pressure or depth of groundwater.
- A slope meter is used to measure the angles of slope, elevation or despair of an object.

## Mhadei River

### Why in News

Goa and Karnataka have had long disputes over water sharing issues of the Mhadei river.

Note:



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- Mahadayi or Mhadei, the **west-flowing river** originates in **Bhimgad Wildlife Sanctuary (Western Ghats)**, Belagavi district of **Karnataka**.
- It is essentially a rain-fed river also called **Mandovi in Goa**.
- It is joined by a number of streams to form the Mandovi which is one of two major rivers (the other one is Zuari river) that flows through Goa.
- The river travels 35 km in **Karnataka**; 82 km in **Goa** before joining the **Arabian Sea**.

### **Kalasa-Banduri Nala Project**

- It is undertaken by the **Government of Karnataka** to improve drinking water supply to the three districts of **Belagavi, Dharwad, and Gadag**.
- It involves building across **Kalasa and Banduri**, two tributaries of the Mahadayi river to divert water to the Malaprabha river.
  - **Malaprabha river** supplies the drinking water to Dharwad, Belgaum, and Gadag districts.
- Kalasa-Banduri project was planned in **1989**; Goa raised an objection to it.
  - The Mahadayi Water Disputes Tribunal was set up in 2010. Goa, Karnataka and Maharashtra are parties to the tribunal.

### **Pavoor-Uliya Island**

Pavoor-Uliya is an island in the **middle of the river Netravati**, about 10 km off Mangalore, Karnataka.

- The Netravati River has its origin in Chikkamagaluru district of Karnataka.
- It merges with the Kumaradhara River at Uppinangady before flowing to the Arabian Sea.
- This river is the main source of water to Bantwal and Mangalore.

### **8<sup>th</sup> International Conference on Agricultural Statistics (ICAS-VIII)**

The **8<sup>th</sup> International Conference on Agricultural Statistics (ICAS-VIII)** is being held from 18<sup>th</sup> to 21<sup>st</sup> November 2019 in New Delhi.

- **Organised by:** Ministry of Agriculture and Farmers' Welfare in collaboration with the Ministry of Statistics

and Programme Implementation, International Statistical Institute - Committee on Agricultural Statistics (ISI-CAS), Food and Agricultural Organization (FAO) and various other organizations.

- **Theme:** Statistics for Transformation of Agriculture to achieve the Sustainable Development Goals
- **ICAS**
  - ICAS is a series of conferences, sponsored by the **Food and Agriculture Organization of the United Nations (FAO), World Bank (WB)**, United States Department of Agriculture (USDA) and other international development agencies.
  - It was started in **1998** based on overarching need for agricultural data worldwide. It is conducted every three years and the last conference was held in **Rome** in **2016**.

### **Target Olympic Podium (TOP) Scheme**

Target Olympic Podium (TOP) Scheme was formulated in **2014** under overall ambit of **National Sports Development Fund (NSDF)** with the aim to identify, groom and prepare potential medal prospects for the Olympic and Paralympic Games.

- **High priority category** has been created to put focus on those sports disciplines played in the Olympics in which India has won medals in the last conducted Asian Games as well as Commonwealth Games or in which India has a good chance of winning medals.
  - Presently, nine sports disciplines viz., (i) Athletics, (ii) Badminton (iii) Hockey (iv) Shooting (v) Tennis (vi) Weightlifting (vii) Wrestling, (viii) Archery and (ix) Boxing have been categorised as 'High Priority'.
- The National Sports Development Fund (NSDF) was established in November, 1998 under Charitable Endowments Act, 1890 with the aim of promotion of sports and games in the country.

### **Srisailem Dam**

#### **Why in News**

- Several floods in the region have created a need for repair and maintenance of the Srisailem dam.

Note:



- The Srisailem dam is constructed across the Krishna River in Andhra Pradesh.
- It is located in the Nallamala hills.

### Krishna River

- The Krishna River is the **second biggest river** in **peninsular India** after the **Godavari River**.
- It originates near **Mahabaleshwar (Satara)** in **Maharashtra**.
- It runs from four states **Maharashtra** (303 km), **North Karnataka** (480 km) and the rest of its 1300 km journey in **Telangana and Andhra Pradesh** before it empties into the **Bay of Bengal**.
- **Tributaries:** Tungabhadra, Mallaprabha, Koyna, Bhima, Ghataprabha, Yerla, Warna, Dindi, Musi and Dudhganga.
- **Pattiseema Lift Irrigation project** is the **first river-linking project** in India, connecting Godavari with Krishna through the Polavaram right canal. It will divert surplus Godavari water to Krishna river.

## Tear Gas

**Definition:** Tear gas, also called **lacrimator**, is a group of substances that irritates the mucous membrane of the eyes. This causes a stinging sensation and tears. They may also irritate the upper respiratory tract, causing coughing, choking, and general debility (physical weakness).

- The effects of tear gases are temporary and reversible in most cases. Gas masks with activated charcoal filters provide good protection against them.

**Substances Used:** The substances most often used as tear gases are synthetic organic halogen compounds. They are not true gases under ordinary conditions but are liquids or solids that can be finely dispersed in the air through the use of sprays, fog generators, or grenades and shells.

### Two Major Types:

- **1-chloroacetophenone (CN)** - is widely used in riot control which chiefly affects the eyes, and
- **O-chlorobenzylidene malononitrile (CS)** - is a stronger irritant that causes burning sensations in the respiratory tract and involuntary closing of the eyes.

## Winter Grade Fuel in Ladakh

It was launched to address the problem of loss of fuel during extreme winter conditions.

- Motorists in high-altitude areas of Ladakh face the problem of **freezing of diesel** in their vehicles when winter temperatures drop to as low as **minus 30-degree celsius**.
- The special winter-grade diesel is **developed by the Indian Oil Corporation Limited (IOCL)**.
  - It has a **pour point of minus 33-degree celsius** and does not lose its fluidity even in the region's extreme winter weather unlike normal grade diesel, which is difficult to use in sub-zero temperatures.
    - The **pour point** of a liquid is the **temperature below which the liquid loses its flow characteristics**.
  - It also **meets Bureau of Indian Standards (BIS) specification of BS-VI grade**.

### BS-VI

- **Bharat stage norms are emission control standards** put in place by the government to keep a check on air pollution based on the **European regulations (Euro norms)**.
- These standards **set limits** on the release of air pollutants from equipment using internal combustion engines, including vehicles.
- BS VI's key improvement in fuel quality over BS IV include:
  - **Lower Sulphur Content:** It has lowered sulphur content of **10 parts per million (ppm)**. Sulphur in fuel contributes to fine particulate matter emissions.
  - **Harmful Hydrocarbon:** It seeks to reduce the level of certain harmful hydrocarbons in the emissions that are produced due to incomplete combustion of fuel.

Note:



## Pink Ball Cricket

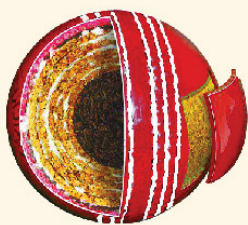
India recently played its first pink-ball, day-night Test match against Bangladesh at Eden Gardens (Kolkata).

- For this match the pink ball has been **manufactured by Sanspareil Greenlands (SG)**, a Meerut-based sports company.

### Need for a Pink Ball

- **Visibility:** Pink was the consensus colour after ball makers tried optic yellow and bright orange, which were **easy to spot on the grass**.
  - The conventional red Test cricket ball is dipped in grease but this cannot be done with pink ball since grease would dull the fluorescent pink, affecting the visibility of the ball under lights.
  - The ball is sprayed with a thick coat of pink colour so that it sparkles for long, making visibility easier.
- **Manufacturing:** Like Red and White, Pink balls are also made of same core using similar production techniques.
  - The **colour of the dye, and the difference in 'finishing' decide** in which format a ball is used.
- **Slow Deterioration:** An advantage of using the Pink Ball is that they deteriorate slowly as compared to the White Balls (used in limited over matches) which makes them ideal for day-night Test matches.
- **India's Stand:** India had earlier refused to participate in the Pink-ball Test matches. India was the only major Test-playing nation to not have played a Day-night Test.

## RED BALL VS PINK BALL

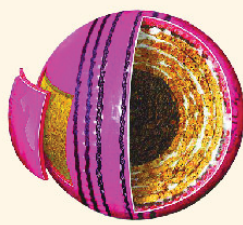


White seam, provides initial movement

Grease applied on the surface

The red ball has dyed leather. Bowlers get reverse swing later in the innings

Shine stays for **25-30** overs



More pronounced black seam, provides more bounce

Grease not applied on the surface

Extra coat of pigment and lacquer, as a result it will swing initially

Shine stays for more than **60** overs

- Saurabh Ganguly, now being the President of BCCI approved the first Pink-ball test which is being held in Eden Gardens, Kolkata.

### Day-night Test

- A day-night Test match is played either totally, or partially under floodlights (artificial stadium lighting) in the evening or at night.

## Golden Rice

### Why in News

Bangladesh is to be the **first country** to approve **golden rice planting** in the country.

- Golden rice is a **genetically modified variety of rice**.
- It is developed by the **Philippines-based International Rice Research Institute (IRRI)**.
- This variety of rice is claimed to be able to **fight vitamin A deficiency**.
  - Vitamin A deficiency is the **leading cause of blindness** among children and **can also lead to death** due to infectious diseases such as **measles**.
- The **presence of beta-carotene pigment** is the reason for its golden colour.
  - The conventional rice is naturally low in the pigment beta-carotene.
  - The beta-carotene is used by the human body to make vitamin A.

### Vitamin A Deficiency

- Vitamin A is a **fat-soluble vitamin** that maintains healthy vision, skin, bones and other tissues in the body.
- **Vitamin A Deficiency (VAD)** can lead to night blindness, a higher risk of the throat, chest, and abdomen infections, follicular hyperkeratosis (dry, bumpy skin), fertility issues and delayed growth in children, etc.

### International Rice Research Institute

- It is an **independent, non-profit, research and educational institute**, founded in **1960** by the **Ford and Rockefeller Foundations** with support from the Philippine government.
- The institute, headquartered in **Los Baños, Philippines**, has offices in **17 rice-growing countries in Asia and Africa**.
- The **IRRI South Asia Regional Centre** is located at **Varanasi (Uttar Pradesh)**.

Note:



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## Rohtang Tunnel

### **Why in News**

The **world's longest tunnel (8.8km)** above 10,000 feet is under construction to connect villages in **Lahaul-Spiti (HP)** to the rest of the country even during winters.

- In winters, heavy snowfall in the Rohtang pass cuts off villages in Lahaul-Spiti From the rest of the country.

### **Rohtang Pass**

- Rohtang Pass (elevation 3,978 m) is located in the state of **Himachal Pradesh**.
- It is present on the **Pir Panjal Range** of Himalayas.
- It **connects the Kullu Valley with Lahaul and Spiti Valleys of Himachal Pradesh**.
- The **Ravi river rises west of the Rohtang pass** in the Kullu hills of Himachal Pradesh.



Note:



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**Summary**

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**Summary**





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# Current Affairs (CONSOLIDATION)

**DECEMBER 2019**  
**(PART – I)**

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# Polity and Governance

## Highlights

- Legal Framework for Illegal Migrants in India
- Nagaland Extends ILP in Dimapur
- Heavy Metals Contaminating India's Rivers
- Special Protection Group (Amendment) Bill, 2019
- Demand for Reforms in Rajya Sabha
- Code of Conduct for Lok Sabha MPs
- Validity of Oaths Taken by Ministers
- Removal of Anglo-Indians Reservation in Legislative Bodies
- Poll Spend Limit
- International Anti - Corruption Day
- Right To A Fair Trial
- Essential Medicines
- Centre Stops Online Sale of Medicines

## Legal Framework for Illegal Migrants in India

### Why in News

Recently, the Home Minister informed in the Rajya Sabha that the **National Register of Citizens (NRC)** will be implemented across India, and repeated **again in Assam**.

- According to the Ministry of Home Affairs, the implementation of NRC is expected to keep a check on illegal migrants.
- However, India already has a number of rules and regulations in place to control illegal migration in the country.

### Existing Legal Framework

- **The clause for the expulsion of foreigners:**
  - **Foreigners Act, 1864**
    - It was the **first** enactment made for dealing with foreigners that provided for the **expulsion of foreigners**.
    - It also allowed arrest, detention, and for a ban on foreigners entry into India after detention.
- **Introduction of Passport:**
  - **The Passport (Entry into India) Act, 1920**
    - The act empowered the union government to make rules requiring persons entering India to be in possession of passports.

- It also granted the government the power to remove from India any person who entered without a passport.
- **Concept of 'burden of proof' lies with the person, and not with the authorities:**
  - **Foreigners Act, 1940**
    - It was enacted during the Second World War, under which the concept of "**burden of proof**" was introduced.
    - This meant that whenever a question arose with regard to the nationality of a person, the onus of proving that he is not a foreigner lay **upon the person**.
  - **Foreigners Act, 1946**
    - It **replaced** the Foreigners Act, 1940 conferring wide powers to deal with all foreigners.
    - The act empowered the government to take such steps as are necessary to prevent illegal migrants including the use of force.
    - The concept of '**burden of proof**' lies with the **person, and not with the authorities**. This provision is **still applicable in all States and Union Territories**. This concept has been **upheld** by a Constitution Bench of the Supreme Court.
    - The act empowered the government to establish **tribunals which would have powers similar to those of a civil court**.
    - Recent **amendments (2019)** to the Foreigners (Tribunals) Order, 1964 empowered district magistrates in all States and Union Territories

Note:



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to set up tribunals to decide whether a person staying illegally in India is a foreigner or not.

- Before this amendment, only union government was empowered to establish foreigner tribunals.

➤ **Increased burden of migrants because of absence of the “burden of a proof” clause:**

○ **Illegal Migrants (Determination by Tribunals) Act, 1983**

- The **absence** of any provision related to the ‘burden of proof’ in the **Illegal Migrants (Determination by Tribunals) Act, 1983** put a very **heavy burden upon the authorities** to establish whether a person is an illegal migrant.
- Moreover, **a number of non-Indians** who may have entered Assam after March 25, 1971, without possession of valid documents, continued to reside in Assam.
- The **act was struck down** by the **Supreme Court in Sarbananda Sonowal v. Union of India (2005)**. The Supreme Court also closed all tribunals in Assam functioning under the Act.
- The Supreme Court, then, **transferred all pending cases** at the IMDT tribunals to the **Foreigners Tribunals** constituted under the Foreigners (Tribunals) Order, 1964.

➤ **Existing Procedure for Appeal:**

- **Assam:**
  - Currently, any person excluded from the National Register of Citizens (NRC) can approach the Foreigners Tribunals, established only in Assam, within 120 days of receiving a certified copy of rejection.
- **Other states and Union Territories:**
  - In other States, a person suspected to be a foreigner is produced before a local court under the Passport Act, 1920, or the Foreigners Act, 1946.

## Nagaland Extends ILP in Dimapur

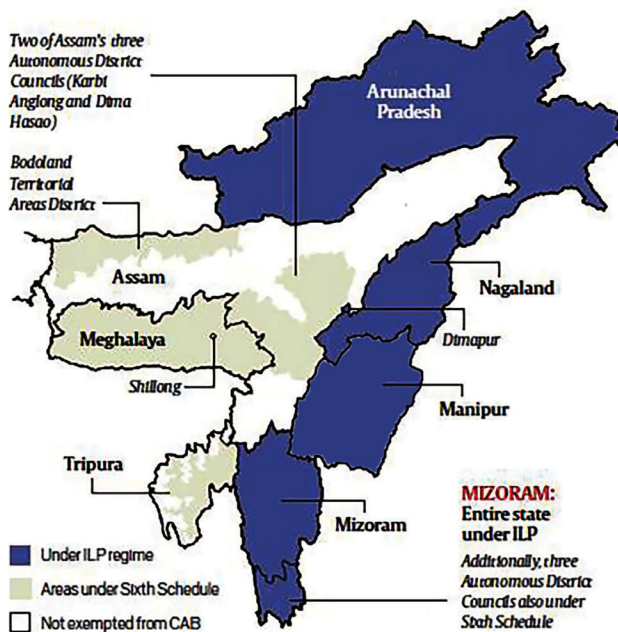
### Why in News

Recently, the **Nagaland government** has extended the **Inner Line Permit (ILP)** system to the **district of Dimapur**.

- This step was taken to exempt the entire district from the purview of the **Citizenship Amendment Bill (CAB)**.
- So far, Dimapur was the only place in Nagaland which was not under the ILP system because the district is a commercial hub and has a mixed population (often referred to as ‘Mini India’).
- Recently **Manipur** has also been brought **under the purview of ILP System**. Thus, the entire northeast India has been exempted from CAB **except for Sikkim and non-tribal areas in Assam and Tripura**.

### Key Points

- The extension of ILP to Dimapur has been issued under section 2 of the **Bengal Eastern Frontier Regulation, 1873** by the governor of Nagaland.
- The extension of the ILP regime makes it mandatory for “every non-indigenous person” who entered the district after November 21, 1979, to obtain an ILP within 90 days.
- **Exemptions:**
  - Any non-indigenous persons living in Dimapur prior to November 21, 1979, with a certificate from the Deputy Commissioner.



**ARUNACHAL PRADESH:** Entire state under ILP regime

**NAGALAND:** Entire state under ILP regime

**TRIPURA:** Sixth Schedule covers 70% of geographical area

**MEGHALAYA:** Almost entire state covered under Sixth Schedule, except a part of Shillong

**ASSAM:** 3 Autonomous District Councils under Sixth Schedule

**MANIPUR:** Entire state under ILP regime

Note:

- Any non-indigenous person passing through Dimapur to other states as a transit passenger with a valid document.

### **Citizenship Amendment Bill, 2019 and North-East India**

- **Protected by the ILP System:** Nagaland, Arunachal Pradesh, Manipur and Mizoram have been exempted from the provisions of the Citizenship Amendment Bill (CAB), 2019.
- **Sixth Schedule Areas:** The whole of Meghalaya (except a part of Shillong), Mizoram and the tribal areas of Tripura and Assam are also exempted from the CAB.
  - The Sixth Schedule contains special provisions for the administration of tribal areas in the four north-eastern states of Assam, Meghalaya, Tripura and Mizoram.

#### **Inner Line Permit**

- Inner Line Permit is an official travel document issued by the concerned **State Government** to allow inward travel of an Indian citizen into a protected/restricted area for a limited period.
- It is based on the Bengal Eastern Frontier Regulation Act (BEFR), 1873.
  - This act was enacted during the British era to protect the British interests from the hill tribals who used to invade the British subjects.
  - An imaginary line known as the inner-line was created to divide between the two communities so that neither party could go beyond the line without a permit from the appropriate authorities.

## **Heavy Metals Contaminating India's Rivers**

### **Why in News**

Recently, the **Central Water Commission (CWC)** has reported that the samples from **two-thirds of the water quality stations** spanning India's major rivers are contaminated by **one or more heavy metals, exceeding safe limits** set by the **Bureau of Indian Standards**.

- The samples from only **one-third** of water quality stations were **safe** whereas **65%** were **polluted** by **heavy metals**.

- Heavy metals are naturally occurring elements that have a high atomic weight and a density of at least 5 times greater than that of water.
- The exercise was **limited to surface water** and **did not cover groundwater** contamination.
- The **presence of metals** in drinking water to **some extent** is **unavoidable** and certain metals, in **trace amounts**, are required for **good health**. However, when present above safe limits, they are associated with a range of disorders.
  - **Long-term exposure** to the heavy metals may result in physical, muscular, and neurological degenerative processes that mimic Alzheimer's disease, Parkinson's disease, muscular dystrophy and multiple sclerosis.

### **Key Points**

- **Iron** emerged as the **most common contaminant** with **above safe limits** across the country.
- **Arsenic and zinc** are the two toxic metals whose concentration is always found within the limits.
  - Arsenic contamination is a major environmental issue that affects **groundwater**.
- The other **major contaminants** found in the samples were **lead, nickel, chromium, cadmium** and **copper**.
- The contamination of water sites depends on the season. The **varied presence of contaminants** is found in **different seasons** namely, **Non-Monsoon, and Monsoon**.

### **Reasons for Contamination of Surface Water**

- The main sources of heavy metal pollution are **mining**, **milling**, **plating** and **surface finishing industries** that discharge a variety of toxic metals into the environment.

River	Chromium	Lead	Iron
Ganga	Exceeds		Exceeds
Yamuna			Exceeds
Brahmaputra			Exceeds
Ramganga		Exceeds	
Rapti	Exceeds		Exceeds
Narmada			Exceeds
Godavari			Exceeds

SOURCE: CENTRAL WATER COMMISSION STUDY

Note:

- The population growth and rise in agricultural and industrial activities are also responsible for contamination of surface water.

## Special Protection Group (Amendment) Bill, 2019

### Why in News

Recently, the Parliament has passed the **Special Protection Group (Amendment) Bill, 2019**. The SPG Bill will amend the SPG Act of 1988.

- The proposed amendments in the **Special Protection Group (SPG) Bill** aims to **reduce the financial burden of VIP security on the state exchequer**.
- The reduction of SPG coverage will also help to **eliminate the notion of a status symbol** attached to it.

### Special Protection Group

- The SPG was raised in **1985** to provide security cover to the **Prime Minister, former Prime Ministers and their immediate family members**.
- The SPG comprises of the personnel from the CRPF, Border Security Force and other Central and State forces.

### Amendments

- **Reduced SPG Coverage:**
  - The protection to be offered **only to the Prime Minister, former Prime Ministers and their immediate family members** that will reside with him at **his official residence**.
  - Currently, the security cover is provided to the Prime Minister, former Prime Ministers and their immediate family members.
- **Time period:**
  - The security will be provided **only for a period of five years to the former Prime Ministers and their immediate family after they leave the office**.
  - However, the immediate family members need to be residing with the Prime Minister at the allotted residence.
- **Withdrawal:**
  - When the proximate security is withdrawn from a former Prime Minister such proximate security will also stand withdrawn from members of his immediate family.

## Demand for Reforms in Rajya Sabha

### Why in News

Recently, the members of Parliament have demanded equal representation for states and more time to speak in Rajya Sabha.

### Representation for States

- The Upper House is the Council of States and thus it is expected to reflect the true spirit of federalism through the uniform representation for all states.
  - But, currently, the seats in Rajya Sabha are allotted on the **basis of population of the particular state**. Hence, the number of representatives **varies from state to state**. For example, Uttar Pradesh has 31 members while Tripura has 1 member only.
- Also, smaller states need to have more number of representatives in the house according to issues and needs of the state.
  - Currently, the northeastern states, barring Assam have only one seat each in the Rajya Sabha.
- The recent demand asks for allocation of seats in Rajya Sabha **on the lines of USA**.
  - In the USA, all states are given equal representation in the Senate, irrespective of their population. The USA has 50 states and the Senate has 100 members—2 from each state.

### Time to Speak in Rajya Sabha

- Currently, the **independent or nominated members** and MPs from **smaller parties** get **less time** to speak in the House. The **inadequacy of time** to speak for the **nominated members restricts the benefits** from their **special expertise**.
  - The members of Rajya Sabha are given time to speak according to the **strength of their party** in the House.

## Code of Conduct for Lok Sabha MPs

### Why in News

The **Lok Sabha Ethics Committee** is all set to **form a code of conduct** for the Members of Parliament (MPs) in the Lok Sabha.

Note:

- It has become necessary that the MPs follow certain decorum in speaking inside the House as well as outside.
- A Code of Conduct is also necessary because of advancements of new technologies in the communication sector. The remarks on the floor of the House spread fast, even if they are removed from the records.

### **Code of Conduct: Evolution**

- A **code for Union ministers was adopted in 1964**, and state governments were advised to adopt it as well.
- In the case of MPs, the first step was the constitution of Parliamentary Standing Committees on Ethics in both the Houses.
  - The **Committee in Rajya Sabha was inaugurated in 1997** to oversee the moral and ethical conduct of the Members and to examine the cases referred to it with reference to ethical and other misconduct of Members.
  - The **first Ethics Committee in Lok Sabha was constituted in the year 2000**.

### **Code of Conduct in Rajya Sabha**

- A 14-point Code of Conduct for members of the House has been in force since 2005. These include:
  - Private interests are subordinate to the duty of the public office.
  - Public interest is not jeopardised.
  - Members should never expect or accept any fee, remuneration or benefit for a vote given or not given by them on the floor of the House, for introducing a bill, etc.
  - Members shall not do anything that brings disrepute to the Parliament and affects their credibility.
  - Members must utilise their position as Members of Parliament to advance general well-being of the people.
  - Members should not be disrespectful to any religion, and work for the promotion of secular values.
  - Members should consider the fundamental duties listed in part IVA of the Constitution with higher regards.
  - Members are expected to maintain high standards of morality, dignity, decency and values in public life.
- A '**Register of Member's Interests**' maintained under the Rules of Procedure and Conduct of Business in the Council of States is available to Members for

inspection on request. The Register is also accessible to ordinary citizens under the **Right To Information (RTI) Act, 2005**.

### **Code of Conduct in Lok Sabha**

- The Ethics Committee has been **constituted for every newly elected Lok Sabha** (since 13<sup>th</sup> Lok Sabha).
- The Ethics Committee was **mandated in August 2015** to formulate a code of conduct for Lok Sabha members and suggest amendments to the code from time to time.
- The Committee **examines every complaint relating to unethical conduct of a member** of Lok Sabha referred to it by the Speaker and make such recommendations as it may deem fit.

### **International Practice**

- In the **United Kingdom**, a code of conduct for MPs was "prepared pursuant to the Resolution of the House of 19 July 1995".
- The **Canadian** House of Commons has a Conflict of Interest and Ethics Commissioner with powers to examine violations of the Conflict of Interest Code at the request of another Member or by Resolution of the House or on his own initiative.
- **Germany** has has a Code of Conduct for members of the Bundestag since 1972.
- The **United States of America (USA)** has a Code since 1968.
- **Pakistan** has a Code of Conduct for members of the Senate.

## **Validity of Oaths Taken by Ministers**

### **Why in News**

During the oath-taking ceremony of the new government, the Chief Minister of Maharashtra with other ministers has altered the oath by invoking the names other than mentioned in the Constitution.

### **Constitutional Provisions**

- **Article 164(3)**: It states that before a Minister enters upon his office, the **Governor** shall administer to him the **oaths of office and of secrecy** according to the forms set out in the **Third Schedule**.

Note:



- Article 164 makes it clear that the **text of the oath is sacrosanct**, and the person taking the oath has to read it out exactly as it is, in the given format.
- **Third Schedule:** It requires the person taking oath to either “**swear in the name of God**” or to “**solemnly affirm**” to “**bear true faith and allegiance to the Constitution**”.
- **Role of the Governor:** If a person wanders from the text of the oath, it is the responsibility of the person administering the oath — in this instance, **the Governor** — to interrupt and ask the person being sworn in to read it out correctly.
  - Once Governor takes it as read, and the Secretary to the Governor has attested that the oath has been administered, it **cannot be legally challenged**.

Schedule Number	Subject Matter
First Schedule	Names of the States and Union Territories with their territorial jurisdiction.
Second Schedule	Provisions relating to the emoluments, allowances, privileges.
Third Schedule	<b>Forms of Oaths or Affirmations.</b>
Fourth Schedule	Allocation of seats in the Rajya Sabha to the states and the union territories.
Fifth Schedule	Provisions relating to the administration and control of scheduled areas and scheduled tribes.
Sixth Schedule	Provisions relating to the administration of tribal areas in the states of Assam, Meghalaya, Tripura and Mizoram.
Seventh Schedule	Division of powers between the Union and the States in terms of List I (Union List), List II (State List) and List III (Concurrent List).
Eighth Schedule	Languages recognized by the Constitution.
Ninth Schedule	Acts and Regulations of the state legislatures dealing with land reforms and abolition of the zamindari system and of the Parliament dealing with other matters.
Tenth Schedule	Provisions relating to disqualification of the members of Parliament and State Legislatures on the ground of defection.
Eleventh Schedule	Specifies the powers, authority and responsibilities of Panchayats.

Twelfth Schedule	Specifies the powers, authority, and responsibilities of Municipalities.
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### Instances of Deviation

- In **1990**, the oath taken by **Devi Lal as deputy Prime Minister** was challenged as being unconstitutional as the Constitution provides only for the Prime Minister and ministers.
  - The **Supreme Court upheld the oath as valid** and stated that describing a person as Deputy Prime Minister is descriptive only and such description does not confer on him any powers of Prime Minister.
  - It also ruled that the description of a minister as Deputy Prime Minister or any other type of ministers such as minister of state or deputy minister of which there is **no mention in the Constitution does not vitiate the oath** taken by him so long as **the substantive part of the oath is correct**.
- In **2012**, Azam Khan (then a member of Uttar Pradesh Legislative Assembly) had to retake his oath after he skipped the oath of office of a cabinet minister, and only took the oath of secrecy.

## Removal of Anglo-Indians Reservation in Legislative Bodies

### Why in News

Recently, the Union Cabinet has approved the **removal of reservation for Anglo-Indians in legislative bodies**.

- Anglo-Indians were provided **two nominated seats in the Lok Sabha and one nominated seat in the State Legislative Assemblies** to ensure adequate representation of the community in elected legislative bodies.
- Anglo-Indians constitute a **religious, social, as well as a linguistic minority**. Being numerically an extremely small community, and being interspersed all over India, the Anglo-Indians were provided reservations in legislative bodies.
- The reservation for the Anglo-Indian community was extended till the year 2020 through the **95<sup>th</sup> Amendment, 2009**.

Note:

### Constitutional Provisions

- **Article 366:** It defines **Anglo-Indian** as a person whose father or any of whose other male progenitors in the male line is or was of European descent but who is domiciled within the territory of India and is or was born within such territory of parents habitually resident therein and not established there for temporary purposes only.
- **Article 331:** It states that the **President** can nominate two members of the Anglo-Indian community to the Lok Sabha if the community is not adequately represented.
- **Article 333:** It states that the **Governor** of a State may if he is of the opinion that the Anglo Indian community needs representation in the Legislative Assembly of the State and is not adequately represented therein, nominate one member of that community to the Assembly.
- **Article 334(b):** The reservation of the Anglo Indian community in the Legislative bodies was **extended for 40 years in 1949** through the insertion of this article.
  - Originally, this provision was to **operate till 1960**.
- **National Commission for SCs (Article 338):** It investigates all matters relating to the **Constitutional and other legal safeguards for the Anglo-Indian community** and report to the President upon their working.

### Poll Spend Limit

#### Why in News

A **Private Member's bill** was introduced in the Parliament which intends to **do away with the cap on election spending by candidates**.

- The Bill has been introduced on the ground that the **ceiling on election expenses ends up being counterproductive** and encourages candidates to under-report their expenditure.
- Also, the **ceiling currently** prescribed by the **Election Commission of India (ECI)** is meant for **legitimate expenditure**. A lot of money in elections is being spent for illegitimate purposes.

#### Current Scenario

- At present, under **Rule 90 of the Conduct of Election Rules, 1961**, a candidate contesting **Lok Sabha polls** can spend **up to Rs 70 lakh and up to Rs 28 lakh** in an

**assembly election** depending on the state in which s/he is contesting polls.

- Under **Section 77 of the Representation of the People Act, 1951**, every candidate shall keep a **separate and correct account of all expenditure** incurred between the date on which he has been nominated and the date of declaration of the result.
- All **candidates** are required to **submit their expenditure statement** to the ECI **within 30 days of the completion of the elections**.
- An **incorrect account or expenditure beyond the cap** can lead to **disqualification of the candidate by the ECI for up to three years**, under Section 10A of the Representation of the People Act, 1951.
- It can be noted that **there is no cap on a political party's expenditure**, which is often exploited by candidates of the party. However, all **registered political parties have to submit a statement** of their election expenditure **to the ECI within 90 days** of the completion of the elections.

## International Anti - Corruption Day

#### Why in News

The **International Anti-Corruption Day** is observed on **9<sup>th</sup> December** every year.

- The United Nations General Assembly on 31<sup>st</sup> October, 2003, adopted the United Nations Convention against Corruption, and designated December 9 as International Anti-Corruption Day, in order to raise awareness about corruption and of the role of Convention in fighting and preventing it.
- The convention came into force in the year 2005, and since then the day is being observed annually.
- The **theme** for the year 2019 is, '**United Against Corruption**'.

#### Corruption

- Corruption may be defined as the abuse of entrusted power for private gain.
- **Related Global Data**
  - Every year \$1 trillion is paid in bribes while an estimated \$2.6 trillion are stolen annually through corruption – a sum equivalent to more than 5% of the global GDP.

Note:



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- In developing countries, funds lost to corruption are estimated at 10 times the amount of official development assistance.

#### ➤ Data Specific To India

- According to the 'India Corruption Survey 2019', conducted by independent agencies Transparency International India (TII) and LocalCircles, the percentage of people who had paid bribes fell from 58% in 2018 to 51% in 2019. In 2017, the figure was 45%.
- The survey revealed that people in Delhi, Haryana, Gujarat, West Bengal, Kerala, Goa and Odisha reported low instances of corruption while Rajasthan, Bihar, Uttar Pradesh, Telangana, Karnataka, Tamil Nadu, Jharkhand and Punjab had higher occurrences.
- Also, India was ranked at **78<sup>th</sup> place** out of 180 countries in '**Corruption Perception Index**' (CPI) released by Transparency International in 2018. India was ranked 81 in 2017 and 79 in 2016.

#### ➤ Steps Taken by India

- The **Central Vigilance Commission** though created in 1964, became an **independent statutory body** only in 2003 by an Act of Parliament. Its mandate is to oversee the vigilance administration and to advise and assist the executive in matters relating to corruption.
- **Related Legislations:** Right to Information Act, 2005, Prevention of Corruption Act, the Judges (Inquiry) Act, the Lokpal and Lokayukta Act 2013, WhistleBlowers Protection Act 2011, Prevention of Money Laundering Act 2002, Benami Transactions (Prohibition) Act 2016, etc.
- Ratification of United Nations Convention Against Corruption in 2011.
- Introduction of e-governance and direct benefit scheme.

## Right To A Fair Trial

### **Why in News**

The Supreme Court (SC), in a recent verdict, has held that the routine practice of investigating agencies of producing documents in sealed covers and the judges reproducing them as judicial findings of their own will affect the right to a fair trial of accused.

### **Key Points**

#### ➤ Routine Practice

- The apex court reacted sharply to the recent trend of agencies like the CBI and the Enforcement Directorate presenting documents in sealed covers to the courts, as evidence collected against the accused in the course of investigation.
- The situation is made worse when judges convert the findings of the investigative agencies in these documents into their own judicial findings and reproduce them in orders, refusing the accused bail.

#### ➤ Verdict

- The Supreme Court held that though it was open for a judge to receive the materials/documents collected during the investigation in order to either "satisfy its conscience that the investigation is proceeding on the right lines" or to grant bail, the judge cannot reproduce the material as his own findings in a judicial order.
- It would be against the concept of a fair trial if in every case the prosecution presents documents in sealed cover and the findings on the same are recorded as if the offence is committed and the same is treated as having a bearing for denial or grant of bail.
- The merits of a case should be left for the trial where the accused can defend himself.

### **Rights of an Accused under Indian Constitution**

- **Article 22** of the Indian Constitution confers the following rights on a person who is arrested or detained under an ordinary law:
  - Right to be informed of the grounds of arrest.
  - Right to consult and be defended by a legal practitioner.
  - Right to be produced before a magistrate within 24 hours, excluding the journey time.
  - Right to be released after 24 hours unless the magistrate authorises further detention.
- It needs to be noted that the above safeguards are **not available to an enemy alien** or a **person arrested or detained under a preventive detention law**.

Note:

## Essential Medicines

### Why in News

India's drug pricing regulator, **National Pharmaceutical Pricing Authority (NPPA)**, has allowed an increase in the maximum retail prices of 21 drugs currently under price control by as much as 50%.

- The decision has been taken by invoking **paragraph 19 of the Drug Prices Control Order (DPCO), 2013** which until now has been used only to reduce the prices of stents and knee implants.
- Most of these drugs are used as the first line of treatment and are crucial to the public health program of the country.
- The decision by the NPPA will apply to formulations like the BCG vaccine for tuberculosis, vitamin C, antibiotics like metronidazole and benzylpenicillin, antimalarial drug chloroquine and leprosy medication dapsone.

### Background

- Manufacturers have been citing **difficulties in supplying these drugs** and many companies even have applied for discontinuation of the product on account of unviability.
- NPPA has been receiving applications for upward price revision under para 19 of DPCO, 2013, since last two years citing reasons like "increase in **Active Pharmaceutical Ingredient - API (key ingredient)** cost, increase in cost of production, exchange rates etc. resulting in unviability in sustainable production and marketing of the drugs.

#### Drug Prices Control Order, 2013

- Under the provisions of DPCO 2013, only the prices of drugs that figure in the **National List of Essential Medicines (NLEM)** are monitored and controlled by the regulator, the National Pharma Pricing Authority.
  - Essential medicines are those that satisfy the priority healthcare needs of the majority of the population. The primary purpose of NLEM is to promote rational use of medicines considering the three important aspects i.e. cost, safety and efficacy.
- Paragraph 19 of the DPCO, 2013, deals with **increase or decrease in drug prices under extraordinary circumstances**. However, there is neither a precedent nor any formula prescribed for upward revision of ceiling prices.

- **India is dependent on China for over 60% of its API requirement**, higher API costs for price-controlled medicines reduce profits and sometimes even make production of these drugs unviable in India. For instance, the cost of ingredients to make vitamin C went up as much as 250%, leading to a 25-30% shortage of this drug in India in 2019.

### Key Points

- The decision has been taken to ensure that the **life saving essential drugs must remain available** to the general public at all times. This is to avoid a situation where these drugs become unavailable in the market and the public is forced to switch to costly alternatives.
- This is the first time the NPPA — which is known to slash prices of essential and life-saving medicines — is increasing prices in public interest.

On a longer term, **India needs to build capabilities to manufacture the key ingredients** for these medicines.

## Centre Stops Online Sale of Medicines

### Why in News

Drugs Controller General of India (DCGI) has directed all states and Union territories to prohibit the sale of medicines through unlicensed online platforms as per the Delhi High Court order.

- In the **Zaheer Ahmed case (2018)**, the Delhi High Court had ruled that online sale of medicines should be prohibited until draft rules to regulate e-pharmacies are finalized and put in place.
- Online sale of prescription medicines is a relatively recent phenomenon in India and laws are yet to be framed to regulate the industry.

### Key Points

- The government has prepared **draft e-pharmacy rules** that are under consideration of a group of ministers (GoM) headed by the Defence Minister.
- The Delhi High Court had stated that the drugs were sold online in **violation of the Drugs and Cosmetics (D&C) Act, 1940**. Under the D&C Act, 1940 and D&C Rules, 1945 sale of spurious drugs is a punishable offence and State Licensing Authorities are empowered to take action in this regard.

Note:



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- However, e-pharmacies continued to sell online, after securing a stay from the Madras High Court in January 2019.
  - In December 2018, a single-judge Bench of the Madras High Court had told traders not to proceed with their online business in drugs till the rules are notified by the Central government.
- E-pharmacies have claimed that their **business model is well covered by the Information Technology (IT) Act, 2000** under the concept of intermediaries, and the **pharmacy retail operations are covered by the Drugs and Cosmetics Act**.

#### The Drugs and Cosmetics Act, 1940

- It regulates the import, manufacturing and distribution of drugs in India.
- Its objective is to ensure that the drugs and cosmetics sold in India are safe, effective and fulfills the safety standards and parameters.

#### Some Provisions of Draft

##### Rules on Sale of Drugs by e-pharmacy

- Those who want to sell pharmacy online will **have to register with the Central Drugs Standard Control Organization (CDSCO)**, the country's apex drug regulator and central licensing authority.
  - Also, they must retain prescriptions and verify details of patients and doctors.
- **No e-pharmacy shall advertise** any drug on radio or television or the Internet or print or any other media for any purpose.

- The supply of any drug shall be made against a cash or credit memo generated through the **e-pharmacy portal** and such memos shall be maintained by the e-pharmacy registration holder as a record.

#### e-Pharmacy Sector

##### ➤ Advantages:

- e-pharmacies **offer discounts, doorstep delivery, accountability** in case of delay in services or non-availability of a particular brand or combination of drugs at the click of a button.
- They offer the customers the **convenience to compare and select their medicines**.

##### ➤ Disadvantages:

- They present **stiff competition and threaten the business of traditional pharmacies**. Their growth can impact the livelihood of nearly a million chemists, distributors and their employees
- **Monitoring of fake and illegal e-pharmacies** could be a challenge and cyber experts need to be employed to tackle such cases.
- **A scanned copy of a prescription is not considered authentic** under the D&C Act 1940 as well as under the IT Act 2000.
- **Drug Abuse:** One prescription can be uploaded on two different e-pharmacy sites, leading to drug abuse. Such multiple dispensing of prescriptions can lead to misuse of drugs and increase the number of drug addicts, especially youth.



Note:

# Economic Scenario

## Highlights

- Consumer Expenditure Survey
- Data Bank of Independent Directors
- GST Compensation
- Taxation Laws (Amendment) Bill, 2019
- Bharat Bond Exchange Traded Fund
- Repo Rate Unchanged
- Guidelines for Licencing of Small Finance Banks
- Forex Reserves
- Remission of Duties or Taxes on Export Product
- Contraction in Index of Industrial Production

## Consumer Expenditure Survey

### Why in News

The Government has decided **not to release the results of the all-India household Consumer Expenditure Survey (CES)**, conducted during 2017-18, due to data quality issues.

- The Government is now examining the feasibility of conducting the next Consumer Expenditure Survey (CES) in 2020-2021 and 2021-22 after incorporating all data quality refinements in the survey process.
- According to the 2017-18 survey, the country has witnessed the first such drop in the **Monthly Per Capita Consumer Expenditure (MPCE)** since 1972-73.
- Previous survey on consumer expenditure was conducted during the period : July 2011 to June 2012.

### Consumer Expenditure Survey

- **Time Interval:** Traditionally, a **quinquennial (recurring every five years)** survey is conducted by the **National Sample Survey Office - NSSO** (comes under the National Statistical Office), Ministry of Statistics and Programme Implementation.
- **Scope:** Collects information on the **consumption spending patterns of households** across the country, both **urban and rural**.
- **Information Generated**
  - Reveals the average expenditure on **goods (food and non-food) and services**.
  - Helps generate estimates of household **Monthly Per Capita Consumer Expenditure (MPCE)** as well as the distribution of households and persons over the MPCE classes.

### ➤ Significance in General

- Helps in calculating the **demand dynamics** of the economy.
- Helps in understanding the shifting priorities in terms of baskets of goods and services, thus provides **pointers to the producers of goods and providers of services**.
- To **assess living standards** and growth trends across multiple strata.

### ➤ Significance for Policymakers

- The CES is an analytical as well as a forecasting tool which helps the Government in **planning required interventions and policies**.
- To spot and address possible structural anomalies that may cause demand to shift in a particular manner in a specific socio-economic or regional division of the population.
- To **rebase the Gross Domestic Product (GDP)** and other macro-economic indicators.

### Consequences of not releasing the data

- Instead of a six-year gap, the next survey's findings — depending on when the Ministry decides to actually undertake it, 2020-21 or 2021-22 — would end up coming after 9 or 10 years after the 2011-12 round.
- As the survey forms the **basis of the estimation of inequality** in India, and is used for adjusting the consumer price index as well as the GDP data, scrapping the survey means further **delays in updating these key statistics**.
- **Against IMF's Obligations**

Note:

**Findings of CES (2011-12)**➤ **Urban and Rural Expenditure**

- Average urban MPCE (at ₹2,630) was about 84% higher than average rural MPCE (₹1,430) for the country as a whole.
- The most noticeable rural-urban differences in the 2011-12 survey related to spending on cereals (urban share: 6.7%, rural share: 10.8%), rent (urban: 6.2%, rural: 0.5%) and education (urban: 7%, rural: 3.5%).

➤ **Expenditure on Food**

- Food accounted for about 53% of the value of the average rural Indian household's consumption during 2011-12 and 42.6% of the average consumption budget for urban India.

➤ **Inequalities**

- Sharp variations between States with better socio-economic indices and those still aiming to improve reflected urban-rural divide and highlighted the gap between the highest spending and lowest spending groups.

- India is a subscriber to the **International Monetary Fund's Special Data Dissemination Standard (SDDS)**.

- Thus, India is obliged to follow good practices in **four areas in disseminating macroeconomic statistics** to the public. These comprise:

- Coverage, periodicity, and timeliness of data;
- Public access to those data;
- Data integrity;
- Data quality.

- IMF's '**Annual Observance Report**' for 2018 has already flagged concerns about India's delays in releasing economic data. By not releasing the CES data, the country risks contravening its SDDS obligations.

**Way Forward**

- The Government can release the data while acknowledging its limitations. Suppressing data will only further erode its credibility.
- The Government should realise that reliable and timely availability of data form the bedrock of sound policy-making and any doubts over official data weaken the credibility of the entire institutional set-up.

## Data Bank of Independent Directors

**Why in News**

Recently, the **Ministry of Corporate Affairs** launched the **Independent Directors Databank** in accordance with the provisions of the **Companies Act, 2013** and the rules made thereunder.

**Background**

- The ministry was working on ways to **strengthen the framework for independent directors**, who have an important role in ensuring good corporate governance practices at companies.
- It seeks to make the process stringent because in many cases political appointees with standard financial background were also getting rehabilitated in several companies as independent directors.
- Recent **Infrastructure Leasing and Financial Services (IL&FS) crisis** highlighted the reckless grading by credit rating agencies who liberally granted and downgraded the companies as per their wish and got away with it.
- Apart from the launch of **Independent Directors Data Bank**, the government has also decided to **conduct examinations for appointments** of independent directors in which a **score of 60% marks** will be mandatory criteria for qualification.
  - The change is in line with the amended **Companies Act 2013**. The government will also maintain a database of professionals qualifying in the test that can be used by companies looking to expand their board or making fresh appointments under the current regulations.

**Significance**

- Independent directors **must not assume a passive role**, merely reacting to ideas foreseen by the controlling shareholder or their appointees. They should be willing to question the status quo in the interest of shareholders, and not play a risk-free mute spectator limiting to attending just number of board meetings.
- **Strict accountability and eligibility** will curb promoters placing their own ineligible candidates and family members on the listed company boards.

Note:

- The concept of the institution of Independent Director is of utmost importance for **Corporate Governance** who should act as the trustees of stakeholders.

### Data Bank

- It is being developed and maintained by the **Indian Institute for Corporate Affairs (IICA)** under Ministry of Corporate Affairs.
- It is a **first of its kind initiative** which provides for a wide array of **e-learning courses** on various topics including the **Companies Act, securities laws, basic accountancy, board practices, board ethics and board effectiveness**.
- It provides an **easy to access navigation platform** for the registration of existing **Independent Directors** as well as individuals aspiring to become independent directors.
- **Companies can register** themselves with the databank to search, select and connect with individuals aspiring to be Independent Directors.

### Independent Director

- An **Independent Director (also sometimes known as an outside director)** is a director on a board of directors representing minority shareholders and **who does not have a pecuniary relationship** with the company or related persons, except for sitting fees.
- Their role is to take a stand unambiguously and independently to have a check and balance on the exuberance of majority shareholders that may expose the company to unwarranted risks.
- The Companies Act, 2013 has mandated all listed public companies to have **at least one-third** of the total Directors to be independent.
- Their role requires them to be clinical while businesses expect them to be practical, that's the tight rope they walk on.

## GST Compensation

### Why in News

The **GST Council** has informed all the States that the central government might not be able to compensate them for losses arising out of the implementation of the Goods and Services Tax (GST).

- The GST Council is a **constitutional body** chaired by the Union Finance Minister and comprises the Minister

of State for Finance/ Revenue and Finance Ministers of all States.

- It **makes recommendations** on all important issues related to the Goods and Services Tax.

### Background

- The GST became applicable from 1<sup>st</sup> July, 2017 after the enactment of the 101<sup>st</sup> Constitution Amendment Act, 2016. With GST, a large number of central and state indirect taxes merged into a single tax.
- As per the GST Act, states are guaranteed compensation for any revenue shortfall below 14% growth (base year 2015-16) for the first five years ending 2022. GST compensation is **paid out of Compensation Cess every two months** by the Centre to states.
  - The Compensation Cess is being collected on the supply of select goods and or services or both till 1st July 2022.
  - All the taxpayers, except those who export specific notified goods and those who have opted for GST composition scheme, are liable to collect and remit the GST compensation cess to the central government.
  - Subsequently, the central government distributes it to the states.
- The Centre has already delayed compensating states for the shortfall in GST revenues for August-September 2019, payment for which was due in October, 2019. At least five states/UTs – Kerala, West Bengal, Delhi, Rajasthan and Punjab issued a joint statement on 20<sup>th</sup> November 2019 raising concerns about the same.

### Key Points

- **Revenue Status:** The government budgeted for ₹6,63,343 crore in GST collections for the current financial year 2019-20, out of which it has collected only about 50% in the first eight months. It targeted ₹1,09,343 crore of compensation cess collections, of which it has so far collected ₹64,528 crores.
- **Compensation Status**
  - The Centre collected Rs 64,528 crore in compensation cess during April-November, 2019 and paid out Rs 45,744 crore for April-July period.
  - It has been reported that the payments were held back to the states for August - September in anticipation of the shortfall in collections and the resultant impact on the government's fiscal deficit.

Note:





- The GST Council has also asked states to give their inputs and proposals regarding review of items under the exemption, GST and compensation cess rates on various items among others by 6th December 2019.
  - Given that cess is imposed only on luxury and sin goods under GST, any measure to generate more cess collections would either include imposing a higher cess on those items or tinkering at the highest tax slab of 28% under the GST regime.

### Impact

- A shortfall in Centre's tax receipts hurts states more since the absolute amount they receive as per the devolution formula takes a hit.
- At a time when growth is faltering, the delays in paying compensation to states as guaranteed by the GST Act will make it more difficult for them to meet their own finances.

### Way Forward

- There is a need to boost the economic growth of the country.
- The Government needs to think about the ways through which it can increase GST collections.

## Taxation Laws (Amendment) Bill, 2019

### Why in News

The Rajya Sabha approved the **Taxation Laws (Amendment) Bill, 2019**, replacing an ordinance that was promulgated to **cut corporate tax rates** to boost growth rate in a slowing economy. Since it deals with taxes, the bill was introduced as a money bill in the Lok Sabha earlier.

- Corporate tax is a tax imposed on the **net income of the company**.

### Key Points

- The **Taxation Laws (Amendment) Bill, 2019** replaces an ordinance that **reduced the tax rate for domestic companies from 30% and 25%** (for those with an annual turnover of over ₹400 crores) to **22%**.
  - These rates are applicable for companies if they don't claim certain exemptions under the Income Tax Act.

- The rate for **new domestic manufacturing companies** set up after October 1 was **lowered to 15%**.
- The new effective tax rate inclusive of surcharge and cess for domestic companies would be 25.17% and for new domestic manufacturing companies would be 17.01%.

### Money Bill

- A Bill is said to be a Money Bill if it only contains provisions related to **taxation**, borrowing of money by the government, expenditure from or receipt to the Consolidated Fund of India.
- A Money Bill may **only be introduced in Lok Sabha**, on the recommendation of the President. It must be passed in the Lok Sabha by a simple majority of all members present and voting.
- The **Rajya Sabha cannot amend money bills** but can recommend amendments. A money bill, that solely concerns taxation or government spending, must be returned to the Lok Sabha **within 14 days**, or the bill is deemed to have been passed by both houses in the form it was originally passed by the Lok Sabha.

## Bharat Bond Exchange Traded Fund

### Why in News

The **Cabinet Committee on Economic Affairs**, chaired by the Prime Minister of India, has approved the Government's plan to create and launch **India's first corporate bond Exchange Traded Fund (ETF) — Bharat Bond ETF**.

- The Fund will provide additional source of money for Central Public Sector Undertakings (CPSUs) Central Public Sector Enterprises (CPSEs), Central Public Financial Institutions (CPFIs) and other Government organizations to meet their borrowing requirements, apart from bank financing.

### Features of Bharat Bond ETF

- The ETF will comprise a basket of bonds issued by the CPSEs, CPSUs, CPFIs, and other government organisations.
- The **unit size** of the bond has been kept at **just ₹1,000** so that even retail investors can invest.

Note:

### Exchange Traded Fund

- An Exchange-Traded Fund (ETF) is a **basket of securities that trade on an exchange**, just like a stock.
- ETF **reflects the composition of an Index**, like BSE Sensex. Its trading value is based on the Net Asset Value (NAV) of the underlying stocks (such as shares) that it represents.
- ETF share prices fluctuate all day as it is bought and sold. This is **different from mutual funds** that only trade once a day after the market closes.
- An ETF can own hundreds or thousands of stocks across various industries, or it could be isolated to one particular industry or sector.
- **Bond ETFs** are a type of ETFs which may include government bonds, corporate bonds, and state and local bonds—called municipal bonds.
  - A **bond** is an instrument that represents a loan made by an investor to a borrower (typically corporate or governmental).
- Besides being cost efficient, ETFs offer a diversified investment portfolio to investors.
- Each ETF will have a fixed maturity date and initially they will be issued in two series, of 3 years and 10 years. Each series will have a separate index of the same maturity series.
  - Index will be constructed by an independent index provider – **National Stock Exchange**.

### Advantages

- The Bharat Bond ETF will ensure **broader investor base** through the participation of retail and High

### Bonds for funds

ETF to comprise basket of bonds issued by Central public sector enterprises, other government entities

- Fund to constitute AAA-rated bonds initially; price to be kept at ₹1,000 per unit to attract retail investors
- Each ETF to have fixed maturity date, initially to be issued in two series of 3 years and 10 years



- On issuer side, bond ETFs expected to offer Central public sector enterprises, other government organisations additional source to meet borrowing requirements

Networth Individuals (HNI). This will lead to an increase in the demand for bonds, thus **reducing the cost of borrowing** for borrowers i.e. government organizations.

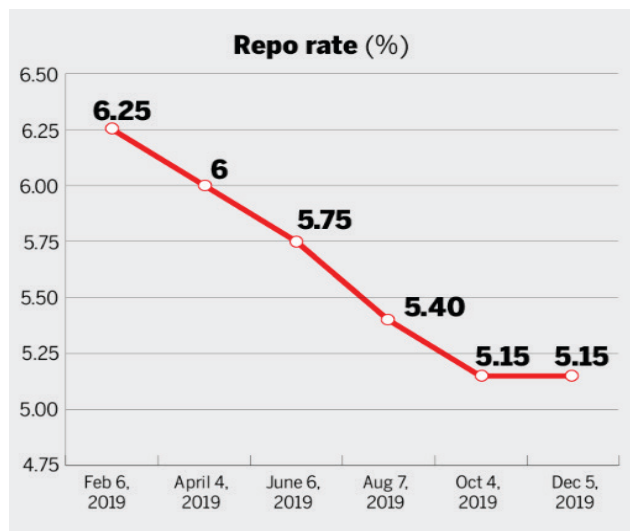
- The Bond ETF will provide safety, liquidity and predictable tax efficient returns.
- The launch of this ETF is expected to eventually **increase the size of bond ETFs in India** leading to achieving key objectives at a larger scale - deepening bond markets, enhancing retail participation and reducing borrowing costs.

## Repo Rate Unchanged

### Why in News

The **Monetary Policy Committee (MPC)** of the **Reserve Bank of India (RBI)** has decided to keep the **repo rate unchanged at 5.15%** in the recent bimonthly policy review.

- This is the first bi-monthly monetary meeting in 2019 in which the repo rate has been kept unchanged. **Since February 2019**, the RBI has cumulatively **cut rates by 135 basis points (bps)**.
- The market was expecting the central bank to cut the repo rate further owing to the weak economic growth rate.
- The repo rate has been kept **unchanged owing to inflation pressure**.
  - The RBI has revised its inflation forecast for the second half of the 2019-20 to 4.7-5.1% from earlier 3.5-3.7%.



Note:

### Monetary Policy Committee

- The Monetary Policy Committee is a statutory and institutionalized framework under the **Reserve Bank of India Act, 1934**, for maintaining price stability, while keeping in mind the objective of growth.
- The **Governor of RBI** is **ex-officio Chairman** of the committee.
- The MPC determines the policy interest rate (repo rate) required to achieve the inflation target (4%).
- An RBI-appointed committee led by the then deputy governor Urjit Patel in 2014 recommended the establishment of the Monetary Policy Committee.

### Repo rate

- It is the **rate at which the central bank of a country (Reserve Bank of India in case of India) lends money to commercial banks** in the event of any shortfall of funds.
- It is used by monetary authorities to **control inflation**.
  - In the event of inflation, central banks increase repo rate as this acts as a disincentive for banks to borrow from the central bank. This ultimately reduces the money supply in the economy and thus helps in arresting inflation.
  - The central bank takes the contrary position in the event of a fall in inflationary pressures.
- Ideally, a low repo rate **should translate into low-cost loans for the general masses**. When the RBI slashes its repo rate, it expects the banks to lower their interest rates charged on loans.

- The **RBI has also slashed its GDP growth forecast** for 2019-20 from 6.1% projected earlier to 5%.

### Current Economic Scenario

- **Headline inflation spiked above the 4% medium-term target** in October, 2019.
  - The **food and fuel inflation** form one of the components of headline inflation in India.
  - The increase was largely due to increase in food prices as fuel group prices have been in deflation for four months in a row.
  - **Headline Inflation is different from Core Inflation. Core Inflation excludes volatile goods** from the basket of commodities tracking Headline Inflation. These volatile commodities mainly comprise food and beverages (including vegetables) and fuel and light (crude oil).

- **Manufacturing has seen a 1% contraction** in the second quarter after almost a flat first quarter. This is clearly reflected in capacity utilisation of the industry that has dropped to 68.9% in July-September 2019 compared with 73.6% in April-June 2019.
- The **output in eight core industries** — which make up 40% of the Index of Industrial Production (IIP)— **contracted** for the second consecutive month in October 2019.

### RBI's Stand

- Several measures already initiated by the Government and the monetary easing undertaken by the Reserve Bank since February 2019 are gradually expected to further feed into the real economy.
  - The focus must be on the need to **maximise the impact of rate reductions**.
  - The Weighted Average Lending Rate (WALR) of scheduled commercial banks between December 2018 and October 2019 increased by 5 basis points bps against a cumulative policy rate cut to the tune of 135 bps. This implies that retail borrowers are yet to experience reduction in commercial lending rates of banks. For them, the cost of borrowing has yet not come down.
- Data on corporate finance and on projects sanctioned by banks and financial institutions suggest some early signs of recovery in investment activity, though its sustainability needs to be watched closely. The need at this juncture is to **address impediments, which are holding back investments**.
- The **introduction of external benchmarks** is expected to strengthen monetary transmission. In this context, there is also a need for greater flexibility in the adjustment in interest rates on small saving schemes.
- The **forthcoming union budget (2020-21)** will provide better insight into further measures to be undertaken by the Government and their impact on growth.

## Guidelines for Licencing of Small Finance Banks

### Why in News

Recently, the **Reserve Bank of India** has released final **Guidelines for 'on tap' Licencing for Small Finance Banks (SFBs)**.

Note:



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- RBI had issued in-principle approval to ten applicants for SFB in 2015. It was mentioned that after gaining experience in dealing with these banks, RBI would grant 'on-tap' licensing.
  - An "on-tap" facility would mean the RBI will **accept applications and grant licences** for banks throughout the year.

### Guidelines for 'on-tap' Licencing

- **Capital requirement:** The minimum paid-up voting equity capital/net worth requirement shall be **₹ 200 crores**.
  - For **Primary (Urban) Co-operative Banks (UCBs)**, desirous of voluntarily transiting into SFBs initial requirement of net worth shall be at **₹ 100 crores**, which will have to be **increased to ₹ 200 crores** within **5 years** from the date of commencement of business.
- **Scheduled bank status to SFBs:** SFBs will be given scheduled bank status **immediately upon commencement of operations**. Also, SFBs will have general permission to **open banking outlets** from the date of commencement of operations.
- **Payments Banks conversion to SFBs:** The **payment banks** can apply for conversion into SFB after **5 years of operations** if they are otherwise eligible as per these guidelines.

### Small Finance Bank

- The small finance bank can primarily undertake **basic banking activities of acceptance of deposits and lending** to unserved and underserved sections including small business units, small and marginal farmers, micro and small industries and unorganised sector entities.
  - It can also undertake other non-risk sharing simple financial services activities such as the distribution of mutual fund units, insurance products, pension products, etc. with the prior approval of the RBI
- **Eligible candidates** for setting up SFB are:
  - Resident **individuals/professionals with 10 years of experience in banking and finance**.
  - The **companies and societies** owned and controlled by **residents**.

	PAYMENTS BANKS	SMALL BANKS
WHO CAN PROMOTE	➤ Prepaid card issuers, telecom companies, NBFCs, business correspondents, supermarket chains, corporates, reality sector co-ops & PSUs	➤ Individuals/professionals with 10 years experience in finance, NBFCs, microfinance cos, local area banks
WHAT THEY MUST DO	➤ Have a minimum capital of Rs 100cr ➤ Maintain 75% of deposits in govt bonds ➤ Maintain 25% of deposits in other banks ➤ Have at least 26% investment by Indians ➤ Get listed if net worth crosses Rs 500cr ➤ Have 25% of branches in unbanked areas ➤ Be fully networked and technology driven ➤ Have Rs 1 lakh cap for deposits in one a/c	➤ Have a minimum capital of Rs 100cr ➤ Extend 75% of loans to priority sector ➤ Have 25% of branches in unbanked areas ➤ Maintain reserve requirements ➤ Cap loans to individuals and groups at 10% and 15% of net worth ➤ Have a business correspondent network
WHAT THEY CAN DO	➤ Offer internet banking ➤ Sell mutual funds, insurance, pensions ➤ Offer bill payment service for customers ➤ Have ATMs and business correspondents (BC) ➤ Can function as BC of another bank	➤ Sell forex to customers ➤ Sell mutual funds, insurance, pensions ➤ Can convert into a full-fledged bank ➤ Expand across the country
WHAT THEY CAN'T DO	➤ Offer credit cards ➤ Extend loans ➤ Handle cross-border remittances ➤ Accept NRI Deposits	➤ Extend large loans ➤ Float subsidiaries ➤ Cannot deal in sophisticated financial products

- **Existing Non-Banking Finance Companies (NBFCs)**, **Micro Finance Institutions (MFIs)**, **Local Area Banks (LABs)** and **payment banks** that are owned and controlled by residents.
- It needs to open at least **25% of its banking outlets in unbanked rural centres**.
- The bank will be required to extend **75% of its adjusted net bank credit** to the **Priority Sector Lending (PSL)**.
- At least **50% of its loan portfolio** should constitute loans and advances of up to **₹ 25 lakhs**.
- The **maximum loan size and investment limit** exposure to a single and group would be restricted to **10% and 15% of its capital funds**, respectively. They **cannot extend large loans**.
- If the initial shareholding by promoters in the bank is in **excess of 40% of paid-up voting equity capital**, it should be brought **down to 40% within a period of 5 years**.
- The small finance banks will be subject to **Cash Reserve Ratio (CRR)** and **Statutory Liquidity Ratio (SLR)**.
  - Banks are required to hold a certain proportion of their deposits in the form of cash is known as the **CRR**. This minimum ratio (that is the part of the total deposits to be held as cash) is stipulated by the RBI.
  - The share of Net Demand and Time Liabilities that a bank is required to maintain safe and liquid assets, such as government securities, cash, and gold is termed as **SLR**.

Note:



## Forex Reserves

### Why in News

India's Foreign Exchange (Forex) reserves have crossed the \$450-billion mark for the first time ever on the back of strong investment inflows which enabled the Reserve Bank of India (RBI) to buy dollars from the market.

- India's forex reserves were at \$451.7 billion on 3rd December 2019, an increase of \$38.8 billion over end-March 2019.
  - The rise in forex reserves will give the central bank the leeway to act against any sharp depreciation of the rupee.
  - At \$451.7 billion, the country's import cover is now over 11 months.
- India's forex reserves fell to \$274.8 billion in September of 2013, prompting the Centre and RBI to unleash measures to attract inflows. It has been a steady rise for the reserves since then, with \$175 billion added in the last six years.

### Foreign Exchange Reserves

- Foreign exchange reserves are **assets held on reserve by a central bank in foreign currencies**, which can include bonds, treasury bills and other government securities.
  - It needs to be noted that most foreign exchange reserves are held in U.S. dollars.
- These assets serve many purposes but are most significantly held to ensure that the **central bank has backup funds if the national currency rapidly devalues** or becomes altogether insolvent.
- **India's Forex Reserve include:**
  - Foreign Currency Assets (such as dollar)
  - Gold
  - Special Drawing Rights
    - Special drawing rights, or SDR, are **artificial currency instrument created by the International Monetary Fund**, which uses them for internal accounting purposes.
    - The value of the SDR is calculated from a weighted basket of major currencies, including the U.S. dollar, the euro, Japanese yen, Chinese yuan, and British pound.

- The SDR interest rate (SDRi) provides the basis for calculating the interest rate charged to member countries when they borrow from the IMF and paid to members for their remunerated creditor positions in the IMF.
- Reserve Position in the International Monetary Fund
  - A reserve tranche position implies a **portion of the required quota of currency each member country must provide to the International Monetary Fund (IMF)** that can be utilized for its own purposes.
  - The reserve tranche is basically an **emergency account** that IMF members can access at any time without agreeing to conditions or paying a service fee.

## Remission of Duties or Taxes on Export Product

### Why in News

There has been rising demand from the Micro, Small, Medium Enterprises (**MSME**) sector seeking clarification on the new export policy viz. **Remission of Duties or Taxes on Export Product (RoDTEP)**.

- The new scheme will be implemented from 1<sup>st</sup> January 2020 and will replace the existing **Merchandise Exports from India Scheme (MEIS)** and create a fully automated route for **Input Tax Credit (ITC)** in the GST to help increase exports in India.
  - It is expected to adequately incentivize exporters by **reducing duties paid on exports** and will initiate the refund of various taxes to exporters.
  - **ITC** is provided to set off tax paid on the purchase of raw materials, consumables, goods or services that were used in the manufacturing of goods or services. This helps in **avoiding double taxation and the cascading effect of taxes**.
- By adopting to RoDTEP scheme, Indian exporters will be able to **meet the international standards** for exports as affordable testing and certification will be made available to exporters within the country instead of relying on international organizations.
  - Also under it, tax assessment is set to become fully automatic for exporters. Businesses will get access to their refunds for GST via an **automatic refund-route**.

Note:

- This would **increase the economy** for the country and **working capital** for the enterprise.
- **WTO Compliant:** Apart from boosting the export sector of our country, RoDTEP will coordinate with the **World Trade Organization (WTO)** to reduce the post-production transaction costs for exporters. The implementation of the scheme thereby must provide a **production-oriented process along with WTO**, which in turn can boost the production of SMEs, **MSMEs**.
- RoDTEP is a **WTO-consistent scheme** under which indirect taxes on inputs are consumed in the production process.
  - In general, according to principle recognised in WTO, indirect taxes on exports are reimbursed.
  - A number of indirect taxes, such as import tariffs and goods and services tax (GST), are already reimbursed for exports in India and most other countries. RoDTEP would cover central and state indirect taxes, which are not currently reimbursed thereby complying with WTO rules.
- **Merchandise Export from India Scheme (MEIS)** was not WTO rules compliant. It was introduced in the **Foreign Trade Policy (FTP) 2015-20** w.e.f. 1<sup>st</sup> April 2015 with the objective to offset infrastructural inefficiencies and associated costs involved in exporting goods/products which are produced /manufactured in India including products produced/manufactured by MSME Sector.

## Contraction in Index of Industrial Production

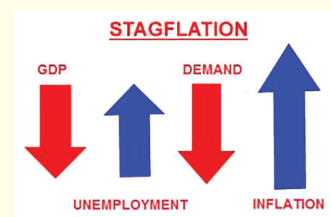
### Why in News

According to the data released by the Ministry of Statistics and Programme Implementation (MoSPI), the quick estimates of **Index of Industrial Production (IIP)** stands at 127.7 for October 2019, which is **3.8% lower** as compared to the level in the month of October 2018. This contraction is due to demand slump in economy and fall in activity across sectors such as manufacturing, electricity, infrastructure etc.

- **Retail inflation** (measured by the Consumer Price Index) surged to a **40-month high** of **5.54%** in November 2019, owing to rising food inflation.
- The combination of contraction in industrial activity and rising inflation has led experts to fear that India is entering a phase of **stagflation**.

### Stagflation

- Stagflation means a situation characterized by **simultaneous increase in prices and stagnation of economic growth**.



- It is described as a situation in the economy where the growth rate slows down, the level of unemployment remains steadily high and yet the inflation or price level remains high at the same time.
- **Dangerous for the economy**
  - In a usual low growth situation, central banks and government try to stimulate the economy through higher public spending and low interest rates to create demand.
  - These measures also tend to elevate prices and cause inflation. So, these tools cannot be adopted when inflation is already running high, which makes it difficult to break out of low growth-high inflation trap.
- The **solution** lies in increasing productivity, this enables higher growth without inflation.

### Index of Industrial Production

- The Index of Industrial Production (IIP) maps the **change in the volume of production in Indian industries**.
- It is estimated and published on a monthly basis by the **Central Statistical Organisation (CSO)** under MoSPI.
- It is currently calculated using **2011-2012 as the base year**.
- The IIP is basically divided into three sectors, though a use-based classification is also provided by the CSO.
  - The **three sectors** include: Mining, Manufacturing and Electricity.
    - Electricity, crude oil, coal, cement, steel, refinery products, natural gas, and fertilisers are the

% y-o-y	Weight %
Industrial output	100
<b>Use-based classification</b>	
Primary goods	34.1
Capital goods	8.2
Intermediate goods	17.2
Infrastructure/ Construction	12.3
Consumer durables	12.8
Consumer nondurables	15.3
<b>Sectoral classification</b>	
Mining	14.4
Manufacturing	77.6
Electricity	8.0

Note:

**eight core industries** that comprise about 40% of the weight of items included in the Index of Industrial Production.

- **Use based classification include:** Primary Goods, Capital Goods, Intermediate Goods, Infrastructure/Construction goods, Consumer durables and Consumer nondurables.

➤ **Calculation**

- The index is created by giving different weights to each sector and every month, production is tracked.
- Finally, the index value is compared to the value it had in the same month last year to figure out the economy's industrial health.

**Consumer Price Index**

- **Inflation** refers to the rise in the prices of most goods and services of daily or common use, such as food,

clothing, housing, recreation, transport, consumer staples, etc.

- It measures the average price change in a basket of commodities and services over time. The opposite and rare fall in the price index of this basket of items is called 'deflation'.
- It is indicative of the decrease in the purchasing power of a unit of a country's currency. This is measured in percentage.
- In India, inflation is primarily measured by two main indices — **WPI (Wholesale Price Index)** and **CPI (Consumer Price Index)**, which measures wholesale and retail-level price changes, respectively.
  - The goods or services sold by businesses to smaller businesses for selling further is captured by the WPI.
  - The CPI is an index measuring retail inflation in the economy by collecting the change in prices of most common goods and services used by consumers.



Note:

# International Relations

## Highlights

- Saudi Arabia Becomes First Arab Nation to Lead G20
- India - Sri Lanka
- SAARC Founding Day
- 19<sup>th</sup> IORA Council of Ministers Meeting

## Saudi Arabia Becomes First Arab Nation to Lead G20

### Why in News

Recently, Saudi Arabia became the first Arab nation to take over the G20 Presidency on December 1, 2019.

- It has taken over from Japan and it will host the G20 Summit in its capital, Riyadh on November 21 and 22, 2020.
- The theme of Summit – "Realising Opportunities of the 21<sup>st</sup> Century for All".
- The three key aims of the G20 Presidency, 2020 are:
  - **Empowering People** by creating the conditions in which all people mainly women and youth can live, work and thrive.
  - **Safeguarding the Planet** by fostering collective efforts to protect our global common-pool resources.
  - **Shaping New Frontiers** by adopting long-term and bold strategies to share the benefits of innovation and technological advancement.

### Challenges

- As the presiding nation, Saudi Arabia has to **work towards mitigating global risks** like climate change, demographic issues, such as low birth rates, rising life expectancy and aging societies which requires coordinated efforts at global level. However, **rising populism and nationalism** may prevent the progress at the multilateral level.
- It has promoted a **liberalisation drive**, including granting greater rights to women. However, incidents like the **murder of journalist Jamal Khashoggi** drew intense global criticism over human rights issues in Saudi Arabia.

- Therefore, G20 member states should **exert pressure on the Saudi Arabia** for its **authoritative policies** and hold it accountable for its human rights obligations.

### G20

#### ➤ About

- The G20 is an **informal group of 19 countries and the European Union**, with representatives of the **International Monetary Fund** and the **World Bank**.
- The G20 membership comprises a mix of the world's largest advanced and emerging economies, representing about two-thirds of the world's population, 85% of global gross domestic product, 80% of global investment and over 75% of global trade.

#### ➤ Headquarter

- The G20 operates as a forum and not as an organisation. Therefore, it **does not have any permanent secretariat or management and administrative structure**.

#### ➤ Origin

- **1997-1999 Asian Financial Crisis**: This was a **ministerial-level forum** which emerged after G7 invited both developed and developing economies. The finance ministers and central bank governors began meeting in 1999.
- **Amid 2008 Financial Crisis** the world saw the need for a new consensus-building at the highest political level. It was decided that the G20 leaders would begin meeting once annually.

#### ➤ Members

- The members of the G20 are **Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States, and the European Union**.

Note:



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- One nation holds the Chair every year, known as '**G20 Presidency**'. Argentina chaired the G20 summit of 2018 and Japan for 2019.

## India - Sri Lanka

### Why in News

The newly elected **Sri Lankan President Gotabaya Rajapaksa** visited India from 28<sup>th</sup> - 30<sup>th</sup> November, 2019.

- The Sri Lankan President played a major role in ending the country's **civil war (1983-2009)**.
- The President's two brothers, Mahinda Rajapaksha and Chamal Rajapaksha, holds the position of the Prime Minister and Agricultural Minister respectively in Sri Lanka.

### Sri Lanka's Civil War

- Sri Lanka has been **mired in ethnic conflict** since the country, formerly known as Ceylon, became independent from British rule in 1948.
- After independence, the Sinhalese majority immediately began to pass laws that discriminated against Tamils (Hindu in religion), particularly the Indian Tamils brought to the island by the British.
- In 1972, the Sinhalese dominated government changed the country's name from Ceylon and made Buddhism the nation's primary religion.
- As ethnic tension grew, in **1976**, the **LTTE or the Liberation Tigers of Tamil Eelam** was formed under the leadership of Velupillai Prabhakaran, and it began to campaign for a Tamil homeland in northern and eastern Sri Lanka, where most of the island's Tamils reside.
- The conflict between the Sri Lankan government and LTTE lasted nearly three decades, **ending in 2009**, when the LTTE forces were finally defeated.
- The war was one of the longest-running civil wars in Asia.

### Key Points

- **Issues Discussed:** Strengthening of trade ties, boosting maritime security, addressing concerns of the fishermen, fulfilling aspirations of tamil community in Sri Lanka and to fight against terrorism.
- **Line of Credit**
  - India extended a **\$400 million** line of credit to Sri Lanka to help strengthen its infrastructure and economy.

- An additional **\$50 million** to help Sri Lanka combat terrorism.

- Sri Lankan President extended an **invitation to the Prime Minister of India to visit Sri Lanka** at a mutually convenient time.

### India - Sri Lanka Relations

- **India is Sri Lanka's closest neighbour.** The **relationship** between the two countries is more than 2,500 years old and both sides have built upon a legacy of intellectual, cultural, religious and linguistic intercourse.
- During the course of the civil war, India supported the right of the Government of Sri Lanka to act against terrorist forces.
- The **Indian Housing Project**, with an initial commitment to build 50,000 houses for those affected by the civil war as well as for the estate workers in the plantation areas, is Government of India (GoI)'s flagship project of developmental assistance to Sri Lanka.
- Given the proximity of the territorial waters of both countries, especially in the Palk Straits and the Gulf of Mannar, incidents of straying of fishermen are common. Both countries have agreed on **certain practical arrangements to deal with the issue of bona fide fishermen** of either side crossing the International Maritime Boundary Line.
- Recently, the **Chennai (India) – Jaffna (Sri Lanka) flight service has resumed** after a gap of 41 years.
  - The flight operations were suspended during the decades old civil war in Sri Lanka.



## SAARC Founding Day

### Why in News

The Prime Minister of India has addressed a letter to the **South Asian Association for Regional Cooperation (SAARC)** Secretariat on the founding day of the bloc.

- The letter highlighted the need for **greater collaboration** among countries in South Asia in order to **resist the threat of terrorism** that poses a challenge to prosperity and peace in the region.

Note:



drishti

- In the last three years, India has been distancing itself from the SAARC, citing security challenge facing the region from terror networks based in Pakistan, which is also a member of the grouping.

### **South Asian Association for Regional Cooperation**

- SAARC was established with the signing of the SAARC Charter in Dhaka (Bangladesh) on **8<sup>th</sup> December 1985**.
- **Eight Member States:** Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.
- **Secretariat:** Kathmandu (Nepal)
- **Objective:** To promote the welfare of the people of South Asia and to improve their quality of life, and to accelerate economic growth, among other things.
- **SAARC Summits:**
  - These are usually held biennially and hosted by member states in alphabetical order.
  - The **last SAARC Summit in 2014** was held in Kathmandu (Nepal), which was attended by India.
  - The 2016 SAARC summit was to be held in Islamabad. The summit was called off after India, Bangladesh, Bhutan and Afghanistan declined to participate in the Islamabad meet, because of an attack on an Indian army camp in Uri (Jammu and Kashmir).
- The latest meeting of the SAARC Foreign Ministers took place in New York on 26th September, 2019 on the sidelines of the UN General Assembly, which was attended by the Minister of External Affairs of India.

## **19<sup>th</sup> IORA Council of Ministers Meeting**

### **Why in News**

Recently, the **19<sup>th</sup> Indian Ocean Rim Association (IORA) Council of Ministers (COM) Meeting** was held in **Abu Dhabi (UAE)** under the theme of **"Promoting a Shared Destiny and Path to Prosperity in the Indian Ocean"**.

- The **United Arab Emirates (UAE)** has assumed the position of **Chair** while **Bangladesh** will be Vice-Chair of the IORA for the period of **2019-2021**.
  - The **Republic of South Africa** was the chair for the period of **2017-2019**.
- The meeting was attended by **IORA's 22 Member States and nine Dialogue Partners**.

### **Indian Ocean Rim Association**

- It was **established in 1997** and is a regional forum that seeks to build and expand understanding and mutually beneficial cooperation through a consensus-based, evolutionary and non-intrusive approach.
- **IORA has 22 member states**, including Australia, Bangladesh, Comoros, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalia, South Africa, Sri Lanka, Tanzania, Thailand, UAE, and Yemen.
- Its **Secretariat is based in Cyber City, Ebène, Mauritius**.
- It manages, coordinates, services and monitors the implementation of policy decisions, work programmes and projects adopted by the member states.
- The association gains importance by the fact that the Indian Ocean carries half of the world's container ships, one-third of the world's bulk cargo traffic and two-thirds of the world's oil shipments.
- It is a lifeline of international trade and transport and the Indian ocean region is woven together by trade routes and commands control of major sea-lanes.

### **Key Points**

- It is the **only ministerial-level organization** that focuses purely on the Indian Ocean region, bound together by growing economic and trade linkages and a shared interest in promoting prosperity, peace and stability.
- In **2014**, **India** hosted the **first Indian Ocean Dialogue in Kochi, Kerala** bringing together officials, academics and other strategic thinkers to discuss **six broad themes** – the geo-political contour of the Indian Ocean Region, maritime security challenges, strengthening regional institutions, information sharing, cooperation in disaster relief and management, and economic cooperation. The **Kochi Consensus** was adopted as its outcome document.
  - The **Indian Ocean Dialogue (IOD)** is a **flagship initiative** of IORA, with its origins in the 13th Council of Ministers meeting, held in November 2013 in Perth, Australia.
  - The **sixth edition of IOD will be held on 13 December 2019 in New Delhi, India**.

Note:

**India's Role**

- India continues to promote its official policy of **"coordination, cooperation and partnership"** in the regional maritime domain.
- As coordinator to the priority area on disaster risk management, India has **published guidelines for IORA**. It has also urged partners to join the **Coalition for Disaster Resilient Infrastructure** launched at the UN in September 2019.
- India has been **trying to emerge as the net provider of information** in the IOR and in that direction

it created the **Information Fusion Centre** located in **Gurugram** to assist member countries of IOR with real-time crisis information. **Bangladesh, Mauritius, Maldives, Sri Lanka** and **Seychelles** have been part of the information support structure of India.

- Indian policy takes into consideration that IOR is not an India-run maritime domain and that is reflected in the government's **Security and Growth for All in the Region (SAGAR)** programme, which aims to turn the region more inclusive.



Note:

# Science and Technology

## Highlights

- White Dwarfs System
- Swedish Technology to Reduce Stubble Burning
- Combination Therapy for TB
- Typbar TCV Vaccine
- World Malaria Report, 2019
- 50<sup>th</sup> PSLV Launch

## White Dwarfs System

### Why in News

- For the first time ever, astronomers have found an indirect evidence of a giant planet orbiting a **white dwarf star (WDJ0914+1914)**. The system was found in the Cancer constellation.
- The planet was **not seen directly** but evidence of its presence was in the form of a disc of gas (hydrogen, oxygen and sulphur) formed due to its evaporating atmosphere.
- Spikes of gas were detected by the Very Large Telescope of the European Southern Observatory in Chile.

### Significance

- This is the **first evidence of an actual planet revolving around a white dwarf star**. Prior to this discovery, only smaller objects such as asteroids had been detected.
- WDJ0914+1914 is providing us with a glimpse into the very distant future of our own solar system. In about 4.5 billion years from now, the Sun will become a white dwarf evaporating all the planets.

### White Dwarfs

- Stars like our sun **fuse hydrogen in their cores into helium** through nuclear fusion reactions. White dwarfs are stars that have **burned up all of the hydrogen** they once used as nuclear fuel. Such stars have very high density.



- Fusion in a star's core produces **heat and outward pressure** (they bloat up as enormous **red giants**), but this pressure is kept in balance by the inward push of gravity generated by a star's mass.
- When the hydrogen, used as fuel, vanishes and fusion slows, gravity causes the star to **collapse in on itself into white dwarfs**.
- **Black Dwarf:** Eventually—over tens or even hundreds of billions of years—a white dwarf cools until it becomes a **black dwarf, which emits no energy**. Because the universe's oldest stars are only 10 billion to 20 billion years old there are no known black dwarfs
- It must be noted that not all white dwarfs cool and transform into black dwarfs. Those white dwarfs which have enough mass reach a level called the **Chandrasekhar Limit**. At this point the pressure at its center becomes so great that the star will detonate in a **thermonuclear supernova**.

### Chandrasekhar Limit

- **Chandrasekhar Limit** is the maximum mass theoretically possible for a stable white dwarf star. A limit which mandates that no white dwarf (a collapsed, degenerate star) can be more massive than about **1.4 times the mass of the Sun**. Any degenerate object more massive must inevitably **collapse into a neutron star or black hole**.
- The limit is named after the **Nobel laureate Subrahmanyan Chandrasekhar**, who first proposed the idea in 1931. He was awarded the **Nobel Prize in Physics in 1983 for his work on the physical processes involved in the structure and evolution of stars**.

Note:



## Swedish Technology to Reduce Stubble Burning

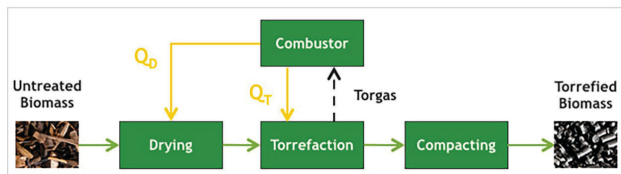
### Why in News

The pollution from **stubble burning** in winter is a major factor for the sharp **decline in air quality in Delhi**. To overcome this issue, India is testing **Swedish technology** — **torrefaction** that can convert rice stubble into 'bio-coal'.

- The government has funded a **pilot project** at the **National Agri-Food Biotechnology Institute in Mohali (Punjab)** with a Swedish company to evaluate the feasibility of the technology.

### Torrefaction Technology - Stubble to Bio-coal

- Torrefaction is a **thermal process to convert biomass into a coal-like material**, which has better fuel characteristics than the original biomass.
- The process involves **heating up** straw, grass, sawmill residue and wood biomass to **250 degrees celsius - 350 degrees celsius**.
- This changes the elements of the biomass into '**coal-like**' pellets. These pellets can be used for combustion along with coal for industrial applications like steel and cement production.



### Advantages

- The project has a capacity of converting **150-200 kilograms of paddy straw to bio-coal every hour** and **reduce  $\text{CO}_2$  emissions by 95%**.
- Torrefied biomass is **more brittle**, making grinding easier and **less energy-intensive**.
- Compared to fresh biomass, **storage** of the torrefied material can be substantially simplified since **biological degradation** and water uptake is **minimized**.
- The torrefied pellets are ideal for **coal replacement** because it has lower shipping and transport costs, **lower sulfur and ash content (compared with coal)**, etc.

### Disadvantages

- The volume of torrefied biomass is **reduced only slightly, ~ 10-20%** lower than the dried feedstock during the process.
- Despite higher calorific values, **energy density is not improved significantly**.
  - **Energy density** is the amount of energy stored in a given system or region of space per unit volume.
- Torrefaction **does not reduce corrosion** of machinery especially boiler tubes.

### Bio-coal

- Bio-coal, also commonly referred to as **synthetic coal**, is created through the torrefaction of biomass.
- The bio-coal has **similar characteristics to traditional fossil-based coal**, and thus viable option to **reduce greenhouse gas emissions**.

## Combination Therapy for TB

### Why in News

Researchers from Bengaluru have made an important discovery of the mechanism used by Tuberculosis (TB) bacteria to tolerate TB drugs.

### What is the Mechanism?

- **Macrophages** (a type of white blood cell), when infected with **pathogens** (such as bacteria or virus), as a first-line of defence, **reduce the pH range in the body**, i.e. making pH acidic.
- The researchers found that instead of controlling the TB bacteria, **the mildly acidic pH was actually facilitating a fraction of the bacteria to continue multiplying** and develop drug tolerance.
  - Anti-TB drugs induce oxidative stress to kill bacteria inside macrophages.
  - However, the drug tolerant bacteria have a remarkable ability **to counter oxidative stress**.
  - The bacteria uses the acidic pH of macrophages as a cue to specifically increase its capacity to deal with oxidative stress.
  - The bacteria also induce efflux pumps (to expel antibiotics) as an additional mechanism to reduce antibiotic efficacy.

Note:

- This is against the common notion that only the non-replicating or slowly metabolising TB bacteria become tolerant to anti-TB drugs.
- The mechanism was found responsible for longer TB treatment of six-nine months.
- The drug-tolerant bacteria were found in macrophages that were more acidic (pH 5.8) while the drug-sensitive bacteria were seen in macrophages that were less acidic (pH 6.6).

### Researchers' Solution

- The researchers used already approved **anti-malaria drug chloroquine in combination with a TB drug isoniazid** in mice and guinea pigs.
- The **chloroquine drug neutralised the pH** within the macrophages. This prevented the bacteria from inducing the mechanism to protect themselves from oxidative stress. So no drug-tolerant TB bacteria emerged.
- Once the pH was neutralised, the **isoniazid drug** was able to **eradicate TB from animals**.
- The two-month treatment was able to completely sterilise mouse lungs and a near-complete eradication was observed from the lungs of guinea pigs.
- In addition, it was found that the drug combination also reduces the chances of TB relapse.

### Tuberculosis

- TB is caused by **bacteria (Mycobacterium tuberculosis)** that most often affect the **lungs**.
- **Transmission:** TB is spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air.
- **Symptoms:** Cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.
- **Treatment:** TB is **treatable and curable disease**. It is treated with a standard 6 month course of 4 antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer.
- Anti-TB medicines have been used for decades and strains that are resistant to 1 or more of the medicines have been documented in every country surveyed.
  - **Multidrug-resistant tuberculosis (MDR-TB)** is a form of TB caused by bacteria that do not respond

to isoniazid and rifampicin, the 2 most powerful, first-line anti-TB drugs. MDR-TB is treatable and curable by using second-line drugs.

- **Extensively drug-resistant TB (XDR-TB)** is a more serious form of MDR-TB caused by bacteria that do not respond to the most effective second-line anti-TB drugs, often leaving patients without any further treatment options.

## Typbar TCV Vaccine

### Why in News

Hyderabad-based **Bharat Biotech** has developed a **typhoid vaccine (Typbar TCV)** which has **better efficacy** than the previously used vaccinations in preventing typhoid fever.

- Typbar TCV is a type of **conjugate vaccine** which has already been pre-qualified by the **World Health Organisation's Strategic Advisory Group of Experts on Immunization (WHO-SAGE)**.
- Currently, two typhoid vaccines viz. Polysaccharide Typhoid Vaccine and Live, Weakened Typhoid Vaccine are used in India. However, their efficacy is lower than the conjugate vaccine as they offer 60-70% protection, unlike the conjugate vaccine which confers nearly 82% protection.

### Typbar TCV

- It is a **type of conjugate vaccine**. **Conjugate vaccines** are made using a combination of two different components. In Typbar TCV, an **antigen is chemically linked to a carrier protein** to create more powerful combined immune response.
  - The conjugate vaccine can be given to babies as young as six months, while the other two typhoid vaccines — **polysaccharide typhoid vaccine** and **live, weakened typhoid vaccine** cannot be given to children below two years of age.
- Its **single dose** is effective in preventing typhoid in children aged **9 months to 16 years**. It confers protection two-three weeks after the administration.
- Typhoid bacteria can be treated with antibiotics but the microbes have **developed resistance against multiple antibiotics**.
  - **Extensively drug-resistant (XDR) typhoid** outbreaks have been found in **India, Bangladesh, and Pakistan**.

Note:

- Typhbar TCV is the **world's first clinically proven conjugate** Typhoid vaccine.
  - Bharat Biotech has been supplying the typhoid conjugate vaccine to Pakistan since 2017. **Pakistan is also the first country** to introduce the **typhoid conjugate vaccine** as part of its **national immunisation programme**.

### Typhoid

- Typhoid fever is caused by the highly contagious **Salmonella Typhi bacteria**. The bacteria spread through **contaminated food or water**.
- **Symptoms** are prolonged fever, headache, nausea, loss of appetite, and constipation or sometimes diarrhoea.
  - These are often non-specific and clinically non-distinguishable from other febrile illnesses.
- Clinical severity varies and severe cases may lead to **serious complications** or even **death**.
- According to the WHO, a large proportion of **severe typhoid** fever cases occur in **children aged below two years**.

## World Malaria Report, 2019

### Why in News

The **World Health Organisation (WHO)** has released the **World Malaria Report, 2019**.

- The report provides a comprehensive update on global and regional malaria data and trends including prevention, diagnosis, treatment, elimination and surveillance.
- According to the report, **228 million cases** of malaria are observed **worldwide, down from 251 million cases in 2010**.
- **Highest Burden:** India along with 19 countries in sub-Saharan Africa carried almost **85% of the global malaria burden**.
  - Though **India** has observed the **largest absolute reductions** among the countries that share 85% of the malaria burden.

### Key Points

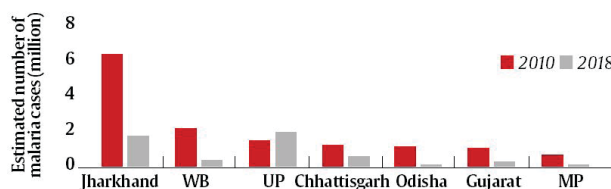
- **Global Analysis:**
  - **Incidence rate:** It has declined globally between 2010 and 2018, from 71 to 57 cases per 1000 population.

- **Deaths:** The **number of deaths due to malaria has decreased** globally. (405,000 deaths in 2018 from 416,000 deaths in 2017).

### National Analysis:

- **Incidence rate:** India reported **2.6 million fewer cases** in 2018 **compared to 2017**. Thus the overall incidence of malaria in the country has reduced.
  - However, **7 states** (Uttar Pradesh, Jharkhand, Chhattisgarh, West Bengal, Gujarat, Odisha and Madhya Pradesh) account for about **90% of the burden** of malaria cases in India.
- **Deaths:** Overall number of deaths due to malaria in India have reduced.

ESTIMATED MALARIA CASES IN INDIA, 2010 VERSUS 2018



### Steps taken at the global level

- WHO's Global Technical Strategy for Malaria, 2016-2030.
- WHO has also released a new country-driven approach – **"High burden to high impact"** to enhance response to malaria in countries where malaria cases increased in 2018 as compared to 2017

### Steps taken by the Indian government

- **National Strategic Plan for Malaria Elimination (NSPME) (2017-22)**
  - The Strategic Plan gives year wise elimination targets in various parts of the country depending upon the endemicity of malaria in the next 5 years.
  - It is based on the **National Framework for Malaria Elimination 2016** which is in line with **WHO's Global Technical Strategy for Malaria, 2016-2030**.
- Indian Council of Medical Research (ICMR) has established **'Malaria Elimination Research Alliance-India (MERA-India)** which is a conglomeration of partners working on malaria control.

### Malaria

- Malaria is caused by **Plasmodium parasites**.
- The parasites are spread to people through the bites of infected female *Anopheles* mosquitoes, called **"malaria vectors"**.

Note:

- **World Malaria Day** is observed on **25<sup>th</sup> April**.
- It can be noted that WHO officially endorses disease-specific global awareness days for only four diseases viz. HIV-AIDS, TB, Malaria, and Hepatitis.

## 50<sup>th</sup> PSLV Launch

### Why in News

Recently, India's **Polar Satellite Launch Vehicle (PSLV-C48)** marked its **50<sup>th</sup> launch** by injecting India's **advanced radar imaging earth observation satellite RISAT-2BR1**.

- PSLV-C48 also injected 9 **other customer satellites** from Japan, Italy, Israel and the U.S.A. into their intended orbits.
- This was **75<sup>th</sup> launch vehicle mission** from **Satish Dhawan Space Centre, Sriharikota**.

### RISAT-2BR1

- The **628 kg RISAT-2BR1**, is placed into a **576-km orbit** at an **inclination of 37 degrees**.
- It is the **second satellite** in the **RISAT-2B** series and along with the **CARTOSAT-3**, it is the **part of 'spy' satellites**.
  - These satellites will keep a check on infiltration by allowing round-the-clock surveillance across the border.
- RISAT-2BR1 is expected to bolster the country's **border monitoring measures** besides aiding in

disaster management, agriculture and tracking forest cover.

- It is equipped with a **Synthetic Aperture Radar (SAR)** that can take pictures of the earth both during the **day and night**, irrespective of the cloud conditions.

### Polar Satellite Launch Vehicle

- Polar Satellite Launch Vehicle (PSLV) is the **third generation launch vehicle** of India.
- It is a **four-staged** launch vehicle with **first and third** stage using **solid** rocket motors and **second and fourth** stages using **liquid** rocket engines.
  - It is the **first Indian launch vehicle** to be equipped with **liquid stages**.
- Initially, PSLV had a **carrying capacity** of 850 kg but has been **enhanced to 1.9 tonnes**.
- The PSLV has helped take payloads into almost **all the orbits in space** including **Geo-Stationary Transfer Orbit (GTO)**, the Moon, Mars and would soon be launching a mission to the Sun.
  - Between 1994 and 2019, the PSLV launched 50 Indian satellites and 222 foreign satellites for over 70 international customers from 20 countries.
- It has a history of successful launches of payloads that include **Chandrayaan-1, Mars Orbiter Mission (MOM) and the space recovery mission, etc.**
  - The PSLV has **failed only twice** in its history — the maiden flight of the **PSLV D1 in 1993** and the **PSLV C-39 in 2017**.



Note:



# Environment and Ecology

## Highlights

- COP25 Climate Summit
- Global Climate Risk Index 2020
- Green Activists Opposes Coastal Highway

## COP25 Climate Summit

### Why in News

'Carbon Markets' has become a contentious issue at the **Conference of Parties 25 (CoP 25)** to the **United Nations Framework Convention on Climate Change (UNFCCC)** was held in Madrid (Spain) from 2<sup>nd</sup> - 13<sup>th</sup> December, 2019.

- **Originally**, the Summit was scheduled to be held at **Chile (South America)** but violent mass movement across the country made Chile reluctant from hosting the event.
  - The location of this conference is **rotated every year in different regions** of the world. This year it was the **turn of South America** to host the event.

### Agenda for COP25

- The **prime objective** of the conference is to **complete the rule-book to the 2015 Paris Agreement** that will become **effective in 2020** to **replace the 1997 Kyoto Protocol** (comes to an end in 2020).
  - The issues like the creation of new **carbon markets**, emission reduction targets, country's individual targets, etc. **remained unresolved** during **COP24 at Katowice (Poland) 2019**. Thus the rulebook under the Paris Agreement could not be finalized.

### Kyoto Protocol

- The Kyoto Protocol is an **international agreement** linked to the UNFCCC, which commits its Parties by setting **internationally binding** emission reduction targets.
- The Kyoto Protocol was adopted in Kyoto, Japan, in **1997** and entered into force in **2005**.

- It recognized that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of industrial activity
- The detailed rules for the implementation of the Protocol were adopted at COP-7 in Marrakesh, in 2001, and are referred to as the **Marrakesh Accords**.
- Kyoto Protocol Phase-1 (2005-12) gave the target of cutting down emissions by 5%.
- Phase-2 (2013-20) gave the target of reducing emissions by at least 18% by the industrialized countries.
- The summit will also discuss about the functioning of international emissions trading systems, compensation for poor countries to deal with rising sea levels and other consequences of climate change.
- It will consider the **annual Emissions Gap Report**, produced by the **UN Environment Programme (UNEP)** and a **series of reports** from the **Intergovernmental Panel on Climate Change (IPCC)**.
  - Both the reports summarise that the goal of keeping average temperatures within 1.5°C from pre-industrial times is **"on the brink of becoming impossible."** As the **overall emissions** are **still increasing** worldwide.
- The processes and methods of reporting information about climate change would be fixed during the summit. Specifically, the **developing countries** will try to ensure that there are greater **appreciation and recognition** of the **issue of loss and damage** due to climate change.
  - There is a demand to institute a mechanism to compensate countries that suffer major losses due to climate change-induced events like **cyclones** or floods.

Note:

- Efforts to commit to a long-term action plan to fight climate change.
  - So far, only 71 countries, most of them small emitters, have committed themselves to achieve net-zero emissions by 2050.

### India's Agenda

- India is **unlikely** to announce any **enhanced targets** during the summit.
- India's current efforts are already much more compared to even rich and developed countries. Thus, India will reiterate its stand for "**Common but Differentiated Responsibilities**".
  - Developed countries are major contributors to climate change and they are doing proportionately less, especially when it comes to providing finance and technology to the less developed world.

### Carbon Market

- A carbon market allows countries, or industries, to earn carbon credits for emission reductions they make in excess of what is required of them.
- These credits can be traded to the highest bidder in exchange for money.
- The buyers of carbon credits can show the emission reductions as their own and use them to meet their own emission reduction targets.
- For example, technology upgradation and emission reduction of a brick kiln in India can be achieved in two ways:
  - A developed country which is unable to meet its reduction target can **provide money or technology** to the brick kiln in India, and thus **claim the reduction** of emission as its own.
  - Alternatively, the kiln can make the investment, and then offer on sale the emission reduction, **called carbon credits**. Another party, struggling to meet its own targets, can buy these credits and show these as their own.
- A carbon market already existed under the 1997 Kyoto Protocol but several countries walked out of the Kyoto Protocol and thus the demand for carbon credits had waned.
- As a result, developing countries like India, China and Brazil had accumulated huge amounts of carbon credits. These credits are now in danger of getting redundant.

### Carbon Markets under the Paris Agreement

- The provisions relating to setting up a new carbon market are described in Article 6 of the Paris Agreement.
  - It enables bilateral arrangements for transfer of emissions reductions.
  - It also provides a wider carbon market in which reductions can be bought and sold by anyone.
  - It provides for making 'non-market approaches' available to countries to achieve targets.

## Global Climate Risk Index 2020

### Why in News

The international environmental think tank 'German-watch' has recently released the Global Climate Risk Index 2019.

- The index analyses the extent to which countries and regions have been affected by the impacts of weather-related loss events (storms, floods, heat waves etc.).

### Key Findings

- **Worst affected in 2018:** Japan, Philippines and Germany
- **Worst affected between 1999-2018 (long-term index):** Puerto Rico, Myanmar and Haiti.
- **Deaths and financial loss between 1999-2018:** Altogether, lakhs of people died during extreme weather events globally.
- **Low income or lower-middle income countries had to face much higher impacts:** Of the ten most affected countries and territories in the period 1999-2018, seven were developing countries.
- **Link between climate change and the frequency & severity of extreme heat:** Heatwaves were one major cause of damage in 2018.
  - Germany, Japan and India were suffering from extended periods of heat.

Ranking 2018 (2017)	Country
1 (36)	Japan
2 (20)	Philippines
3 (40)	Germany
4 (7)	Madagascar
5 (14)	India
6 (2)	Sri Lanka
7 (45)	Kenya
8 (87)	Rwanda
9 (42)	Canada
10 (96)	Fiji

Note:

- Across Europe, extreme heat spells are now up to 100 times more likely than a century ago.
- Impact of heatwaves on African countries may be under-represented due to a lack of data.

### India

- India, which suffered water shortages, crop failures and worst flooding, holds the **5<sup>th</sup> position**.
- India has also recorded the **highest number of fatalities due to climate change** and the **second-highest monetary losses from its impact in 2018**.

### Suggestions

- The Global Community needs to address the lack of additional climate finance like carbon markets to help developing countries to address loss and damage.
- There must be consensus on issues like climate finances and implementation of green technologies.

#### Germanwatch

Germanwatch, based in Bonn and Berlin (Germany), is an independent development and environmental organisation which works for sustainable global development.

## Green Activists Opposes Coastal Highway

### Why in News

Green Nobel Prize winner Prafulla Samantara with other green activists has **opposed the 415-km-long coastal highway** from Digha in **West Bengal** to Gopalpur in **south Odisha** proposed by the Central and State governments.

- The proposed highway will pass through **Chilika lake**, **Bhitarkanika** and related eco-sensitive areas.

- The project will **destroy more than 33% of the natural mangrove forests** in these areas and may lead to increased sea erosion.

### Green Nobel Prize

- The **Goldman Environmental Prize** (also known as **Green Nobel Prize**) recognizes **individuals** for sustained and significant efforts **to protect and enhance the natural environment**, often at great personal risk.
- It is awarded **annually by Goldman Environmental Foundation since 1990**.
- It honours people from the world's **six** continental regions: **Africa, Asia, Europe, Islands & Island Nations, North America** and **South & Central America**.
- The Goldman Prize views **"grassroots" leaders** as those involved in local efforts, where positive change is created through community or citizen participation in the issues that affect them.
- Goldman Prize recipients are usually people from isolated villages or inner cities who choose to take great personal risks to safeguard the environment.
- The **winners are announced on Earth Day** which is observed on **22<sup>nd</sup> April** every year.
- So far, **five Indians** have received the Goldman Environmental Prize. They are:
  - **Prafulla Samantara (2017)**: Campaign against drilling and mining in Niyamgiri Hills, Odisha.
  - **Ramesh Agrawal (2014)**: Protested coal mining in Chhattisgarh.
  - **Rashida Bee & Champa Devi Shukla (2004)**: Union Carbide gas leak (Bhopal) related environmental justice.
  - **MC Mehta (1996)**: Industrial pollution fouling the Ganges and eroding the Taj Mahal.
  - **Medha Patkar (1992)**: Narmada Bachao Andolan.



Note:

# Art & Culture

## Highlights

- Dr. B.R. Ambedkar's 63<sup>rd</sup> Mahaparinirvan Diwas
- Sattriya Dance
- Shore Temple

## Dr. B.R. Ambedkar's 63<sup>rd</sup> Mahaparinirvan Diwas

### Why in News

Mahaparinirvan (achievement of nirvana after death) Diwas is observed every year on Dec 6 to commemorate death anniversary of Dr. B.R. Ambedkar.

- He is known as the **Father of the Indian Constitution** and was independent **India's first law minister**.

*"Constitutional morality is not a natural sentiment. It has to be cultivated. We must realise that our people have yet to learn it. Democracy in India is only a top-dressing on an Indian soil which is essentially undemocratic."*

— B.R. Ambedkar, *Annihilation of Caste*

*"I measure the progress of a community by the degree of progress which women have achieved"*

— Babasaheb Ambedkar.

### About Dr. Ambedkar

- Dr. B.R. Ambedkar was **born on 14 April 1891 in Mhow, Central Province** (now Madhya Pradesh).
- He founded **Bahishkrit Hitkarni Sabha (1923)**.
- He led the **Mahad Satyagraha in March 1927** to challenge the regressive customs found in Hinduism.
- He **participated in all the three round-table conferences**.

#### Round Table Conferences

- **First Round Table Conference:** It was held in **London on Nov. 12, 1930** but the **Congress did not participate** in it.
- In March 1931, Mahatma Gandhi and Lord Irwin (Viceroy of India 1926-31) entered into a Pact, **called**

**Gandhi-Irwin Pact**, by which the Congress called off the Civil Disobedience Movement and agreed to participate in the Round Table Conference.

- **Second Round Table Conference:** It was held in London on the **7<sup>th</sup> of September, 1931**.
- **Third Round Table Conference:** It was held in London on the **17<sup>th</sup> of November, 1932** to consider the reports of various sub-committees appointed from time to time. It ultimately led to the **passage of Govt. of India Act, 1935**.
- The **Congress did not participate** as most of the leaders were in jail.

- In 1932 he signed **Poona pact with Mahatma Gandhi**, which abandoned the idea of separate electorates for the depressed classes (Communal Award). However, the seats reserved for the depressed classes were increased from 71 to 147 in provincial legislatures and to 18% of the total in the Central Legislature.
- In 1936, he was elected to the Bombay Legislative Assembly as a legislator (MLA).
- In 1947, Dr. Ambedkar accepted PM Nehru's invitation to **become Minister of Law in the first Cabinet of independent India**.
- On August 29, 1947, he was appointed Chairman of the Drafting Committee for the new Constitution.
- He resigned from the cabinet in 1951, over differences on the Hindu Code Bill.
- In 1956, he converted to Buddhism.
- He passed away on **6<sup>th</sup> December 1956**.
- Dr. Ambedkar was a social reformer, jurist, economist, author, polyglot orator, a scholar and thinker of comparative religions.
- **Chaitya Bhoomi** is a memorial to B. R. Ambedkar located in Dadar, Mumbai.

Note:



## Sattriya Dance

### Why in News

Dance historian Dr. Sunil Kothari has recently been bestowed with the Madhabdev Award by the Government of Assam for popularising Sattriya dance.

### Sattriya

#### ➤ Origin

- Sattriya originated in **Sattra, monastery**, as a part of **neo-Vaishnavite movement** started by **Srimanta Sankardev in Assam**, in the **15<sup>th</sup> Century**. He propagated the “ek sharan naama dharma” (chanting the name of one God devotedly).



- **Classical Dance:** Sattriya was given the status of a classical dance in the year 2000 by **the Sangeet Natak Akademi**. Other classical dances of India are: Bharatnatyam (Tamil Nadu), Kathakali (Kerala), Kuchipudi (Andhra Pradesh), Kathak (North India), Mohiniyattam (Kerala), Manipuri (Manipur) and Odissi (Odisha).

#### ➤ Features

- Sattriya dances differ from other dance forms in **its basic stance**. For male it is known as **Purush Pak** while for female, **Prakriti Pak**. The dance is based on **mythological themes**.
- They have special mnemonic bols, typical **Assamese music known as Borgeet**, musical instruments like large cymbals, drums, colourful costumes, besides complicated choreographic patterns using various talas for each stanza sung by the vocalist.
- Corpus of Sattriya dances consists of ankiya **bhaona** and also Ojapali dances in which the main singer sings and enacts abhinaya, telling stories and a group of dancers dance as back up dancers playing small cymbals.

#### ➤ Two Separate Streams

- One, the **Bhaona-related repertoire** starting from the Gayan-Bhayanar Nach to the Kharmanar Nach.
- Second, the dance numbers which are independent, such as Chali, Rajagharia Chali, Jhumura, Nadu Bhangi etc.

#### ➤ Popular Artists

- Guru Jatin Goswami and Sharodi Saikia among others.

## Shore Temple

### Why in News

The shoreline on the northern side of the Shore temple in **Mamallapuram, Tamil Nadu** is facing severe sea erosion.



- Shore Temple is one among a number of Hindu monuments at Mamallapuram (Mahabalipuram), on the Coromandel Coast of **Tamil Nadu**.
- It is considered the finest early example of medieval southern Indian temple architecture.
- It was built probably in the reign of **Narasimhavarman II, also known as Rajasimha (Pallava ruler)** who reigned from 700 to 728 CE.
- Unlike most of its neighbours at the site, it is **built of cut stones** rather than carved out of caves.
- It has 3 shrines, 2 dedicated to **Shiva and the other to Vishnu**.
- Its style is characterized by a **pyramidal kutina-type tower** that consists of stepped stories topped by a cupola and finial, a form quite different from the northern Indian *sikhara*.
- The Mamallapuram monuments and temples, including the Shore Temple complex, were collectively designated a **UNESCO World Heritage site in 1984**.



Note:

# Social Issues

## Highlights

- International Day of Persons with Disabilities
- Anaemia in Indian Children
- Susceptibility of Infants to Measles
- Rare Diseases in India
- International Human Rights Day
- Human Development Index
- Breast Milk Banks
- Ekal School Abhiyan
- Samagra Shiksha Abhiyan
- Accessible India Campaign

## International Day of Persons with Disabilities

### Why in News

International Day of Persons with Disabilities was celebrated worldwide on **3<sup>rd</sup> December 2019**.

### Key Points

- It was **proclaimed in 1992** by **United Nations General Assembly resolution 47/3**.
- The **Convention on the Rights of Persons with Disabilities (CRPD)** was adopted in 2006. It has further advanced the rights and well-being of persons with disabilities in the implementation of the **2030 Agenda for Sustainable Development** and other international development frameworks.
- **Significance:**
  - It **aims** to promote the rights and well-being of persons with disabilities in all spheres of society and development and to increase awareness of the situation of persons with disabilities in every aspect of political, social, economic and cultural life.
- **Theme for 2019:**
  - **Promoting the participation of persons with disabilities and their leadership: taking action on the 2030 Development Agenda.**
  - This year it focuses on the empowerment of persons with disabilities for inclusive, equitable and sustainable development as anticipated in the 2030 Agenda for Sustainable Development, which pledges to **'leave no one behind'** and

recognizes disability as a cross-cutting issues, to be considered in the implementation of its 17 Sustainable Development Goals (SDGs).

- **The United Nations Disability Inclusion Strategy:**
  - The United Nations launched it in **June 2019** in line with its commitment to make the UN an inclusive organization for all.
  - It provides for the foundation for sustainable and transformative progress on disability inclusion through all pillars of the work of the United Nations.
- **India also celebrated** International Day of Persons with Disabilities. Vice President of India presented the **National Awards for the Empowerment of Persons with Disabilities** and **suggested measures** to improve facilities for their holistic development.
- **Steps taken by the government:**
  - **Article 41** of the **Directive Principles of State Policy (DPSP)** states that State shall make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness, and disablement, within the limits of its economic capacity and development.
  - **Right of Persons with Disabilities Act, 2016**
    - This act **defines disability** based on an evolving and dynamic concept.
    - Under the act, the types of disabilities have been **increased from 7 to 21**. In addition, the Government has been authorized to notify any other category of specified disability.
    - The act is implemented by the **Ministry of Social Justice & Empowerment**.
  - **Deendayal Disabled Rehabilitation Scheme (DDRS).**

Note:



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- Scheme of Assistance to Disabled Persons for purchase/fitting of Aids/appliances (ADIP Scheme)
- Scheme for Implementation of Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (SIPDA)
- District Disability Rehabilitation Centres (DDRC)
- Accessible India Campaign
- Other Scholarship Schemes
- **Steps Needed:**
  - Society should be inclusive and sensitive towards the needs of differently-abled.
  - Creation of accessible infrastructure should be of paramount importance.
  - Schools must inculcate sensitivity towards disability among children early in their lives.
  - Safety at road and workplace should be enhanced for the prevention of debilitating accidents.
  - Social attitude towards disability should be changed.
  - Good cinema should be encouraged on the topic of disability.

## Anaemia in Indian Children

### Why in News


A paper published in 'Scientific Reports' pointed out that **about 58.5% of children below five years of age in India are anaemic**.

- Over one lakh children were analyzed using the **National Family Health Survey (2015-16) data**.

### WAYS TO TACKLE ANAEMIA

**CAUSES**

- Iron and nutritional deficiency
- Blood loss during menstruation
- Worm infections of the intestine
- Chronic kidney ailments, hypothyroidism and endocrine abnormalities
- Body unable to absorb iron due to medical reasons




**SYMPTOMS**

Weakness, fatigue, shortness of breath, giddiness, headache, Increased heart-beat, pale and dry skin and irritation in mood.

**TREATMENT FOR ANAEMIA**


Proper balanced diet. Vegetables rich in iron include spinach, carrots, radish, beetroot, tomatoes, potatoes and green leafy vegetables. Fruits like bananas, apples, pomegranate, sapota.

Iron supplements only under medical advice. In some cases, blood transfusion.



**HOW TO DIAGNOSE**

- ❖ Blood tests to detect the blood components
- ❖ RBC and WBC count
- ❖ Complete Blood Picture (CBP) Test
- ❖ Bone marrow exam to find iron storage capacity of body



- **Socio-demographic factors** such as the wealth of the family, maternal education, maternal age, type of residence are the main reasons behind the incidence of childhood anaemia.
- Recently, a 'Lancet Global Health report' also revealed that **23% of Indian men suffer from anaemia**.

### Anaemia

- The **World Health Organization (WHO)** defines anaemia as a condition in which the **number of red blood cells or their oxygen-carrying capacity is insufficient to meet physiological needs**.
- **Iron deficiency** is the **most common cause** of anaemia, although other conditions, such as folate, vitamin B12 and vitamin A deficiencies, chronic inflammation, parasitic infections, and inherited disorders can all cause anaemia.
- In its severe form, it is associated with fatigue, weakness, dizziness and drowsiness. **Pregnant women and children are particularly vulnerable**.

### Key Findings

- **Maternal Education**
  - Maternal education increases the chances of mothers being aware of different health issues and thus taking the correct and appropriate steps towards preventing such issues.
  - There exists an inverse relationship between the mother's education and the incidence of childhood anaemia. In other words, as the mother's education level increases, the tendency of the child to be anaemic decreases significantly.
- **Wealth of the Family**
  - 52.9% of children in rich households were marked anaemic.
  - The number was 63.2% in the poorest households.
  - This suggests that a large number of children in poor households are anaemic, though the situation in rich households is also not that well.
- **Maternal Age**
  - There exists an inverse relationship between the age of mothers and the incidence of anaemia in children. The children of younger mothers are more anaemic.
  - This reveals the powerlessness of mothers in the age group 15-19 years in ensuring that the children get the right food.

Note:

- This also reveals the power dimension in the allocation and use of resources in the household.

### Indian Programmes Related to Anaemia

- In **2018**, the government of India launched **Anaemia Mukt Bharat (AMB)** as part of the **Intensified National Iron Plus Initiative (NIPI) Program** for **accelerating the annual rate of decline** of anaemia from **one to three percentage points**.
  - The target groups for AMB are **Children** (6-59 months, 5-9 years), **Adolescent Girls & Boys** (10-19 years), **Women of Reproductive Age** (15-49 years), **Pregnant Women and Lactating Mothers**.
- The Ministry of Health and Family Welfare has also launched the **Weekly Iron and Folic Acid Supplementation (WIFS)** Programme to meet the challenge of high prevalence and incidence of anaemia amongst **adolescent girls and boys**.
- Other programmes introduced include Integrated Child Development Scheme (ICDS), National Nutritional Anemia Control Program (NNACP), etc to combat anemia.

### Way Forward

- A broader health strategy is required to effectively address the issue of anaemia. Also, there is a need to bridge the gap between policy and practice.
- The mother's health needs to be addressed as anaemia in mothers and premature delivery can also lead to childhood anaemia.
- In addition to the maternal influence on childhood anaemia, paternal and overall household influences need to be considered for a more comprehensive policy framework for intervention at the household level.

## Susceptibility of Infants to Measles

### Why in News

- According to recent studies, infants become susceptible to **measles infection at the end of three months after birth** and not six months as earlier thought.
- A study observed that **maternal antibodies disappear by the end of three months**, contrary to the **common notion** that **maternal antibodies** against measles **protect** infants for the **first six months of age**.

- Currently, in countries like **India** with **ongoing transmission of measles** the **first dose of vaccination is given only at 9-12 months of age**.
  - In countries with **no ongoing transmission**, the **first dose** is administered when the baby is **12-15 months of age**.
- Thus babies remain susceptible to measles infection for a longer period of time before they get vaccinated with the first dose.

### Key Points

- **Measles Burden:** In 2018, measles caused an estimated **10 million cases and 1,42,000 deaths globally**. Nearly **72,000 cases** have been reported in **India during 2018-2019** which is the **third-highest** in the **world**.
  - At **2.3 million**, India has the **second-highest** number of children who are **not vaccinated** against measles after Nigeria.
  - But the number of unvaccinated children in India had **reduced** from 2.9 million (2017) to 2.3 million (2018).
- **Vaccination Coverage:** The World Health Organisation (WHO) recommends the **high coverage [over 95%]** of **two doses** of measles-containing vaccine to protect infants from measles.
  - But, in 2018, **86%** of children received the **first dose** and only **69%** received the **second dose** globally.
- **Time for Vaccination:** The vaccine-induced protection is **less in infants** if the vaccine is given **earlier than recommended**.
  - Also, **early vaccination may "alter response"** after the second dose of vaccine, leading to "lower levels of the antibody" compared with children who are vaccinated as per schedule.
  - The **pregnant mothers cannot** be administered measles vaccine as the vaccine uses live, weakened virus. The weakened or live virus after the injection may cause an **infection in the vaccinated person's body**.
- **Threshold level of Protection:** In the case of India, many mothers gain immunity through **natural infection** and are also continually exposed to the virus, leading to "**repeated immunologic boosting and more robust antibody levels**".
  - Infants born to mothers in **countries where measles virus** has been **eliminated** have **lower maternal**

Note:



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**antibodies** and these antibodies quickly fall below the threshold of protection before they receive the first measles vaccination dose.

- **Maternal Age:** The **probability** of infants getting infected **increases with maternal age**. This is because **pregnant mothers** remain **protected through vaccination** and not through natural infection.
  - A one-month-old infant has a 25% probability of getting infected with measles if the mother is 25 years old but the probability increases to 40% if the mother is 40 years old.

### Indian Government Initiatives

- **Measles-Rubella (MR) vaccination**
  - The Ministry of Health and Family Welfare launched MR Vaccination program in 2017.
  - The MR campaign targets around 41 crore children across the country, the largest ever in any campaign.
  - All children aged between 9 months and less than 15 years will be given a single shot of Measles-Rubella (MR) vaccination irrespective of their previous measles/rubella vaccination status or measles/rubella disease status.
  - MR vaccine will be provided free- of- cost across the states.
- Other Initiatives include **Universal Immunization Programme (UIP)**, **Mission Indradhanush** and **Intensified Mission Indradhanush**.

#### Measles

- Measles **virus** is an enveloped, ribonucleic acid virus of the genus Morbillivirus.
- Measles is highly contagious, and an infected person often transmits the virus to over **90% of unprotected close contacts**.
- The virus infects the **respiratory tract**, then spreads throughout the body. Measles is a **human disease** and is **not known to occur in animals**.
- Measles can be entirely prevented through a **two-dose vaccine** and had been officially eliminated in many countries with advanced healthcare systems.
  - The **first dose of measles vaccine** was introduced in the **1990s** in India.
  - India introduced the **second dose** from **2010 onwards**. India was **one of the last countries** to add a second dose of measles vaccine.

#### Treatment

- **No specific antiviral treatment** exists for measles virus.
- Severe complications from measles can be avoided through medical care that ensures good nutrition, adequate fluid intake, and treatment of dehydration.

## Rare Diseases in India

### Why in News

Recently, it was reported that the application of the majority of patients suffering from **Lysosomal Storage Disorders (a rare disease)** has been pending with the Union Ministry of Health and Family Welfare for several months.

- There are more than **2,000 children infected with rare diseases** across the country. Many of them require **Enzyme Replacement Therapy (ERT)**.
  - ERT is a medical treatment which replaces an enzyme that is deficient or absent in the body.
- There is also a demand for the **reformulation of National Policy for Treatment of Rare Diseases, 2017**.

### Lysosomal Storage Disorders

- Lysosomal storage disorder is an **inherited metabolic disease** that is characterized by an **abnormal build-up of various toxic materials** in the **body's cells** as a result of **enzyme deficiencies**.
- It may affect different parts of the body, including the skeleton, brain, skin, heart, and central nervous system.
- There is currently **no approved treatment** for many lysosomal storage diseases.

### Rare Diseases

- A rare disease is a health condition of **low prevalence** that affects a **small number of people** compared with other prevalent diseases in the general population.
  - There is **no universally accepted definition** of rare diseases and the definitions usually vary across different countries.
- Though rare diseases are of **low prevalence and individually rare**, collectively they affect a **considerable proportion of the population**.

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- **80%** of rare diseases are **genetic in origin** and hence disproportionately **impact children**.
- In India there are **56-72 million people** affected by rare diseases.

### **National Policy for**

#### **Treatment of Rare Diseases, 2017**

- The policy highlights the **measures and steps**, both in the **short as well as in the long term**, that need to be taken to deal comprehensively with rare diseases.
- The policy intends to constitute an **Inter-ministerial Consultative Committee** to coordinate and steer the initiatives of different ministries and departments on rare diseases.
- It also mentions for the **creation of a corpus fund** at **Central and State** level for funding treatment of rare diseases.
- The policy aims to create a **patient registry for diseases** housed in Indian Council of Medical Research (ICMR).
- However, recognizing the higher cost of treatment for rare diseases, the policy also seeks to **strike a balance between access to treatment with health system sustainability**.
- It also aims to create awareness among health professionals, families of patients and the public in general, about rare diseases

## **International Human Rights Day**

### **Why in News**

The International Human Rights Day is **observed every year on 10<sup>th</sup> December**. The day marks the adoption of the **Universal Declaration of Human Rights (UDHR)** by the **United Nations General Assembly (UNGA)** in **1948**.

- The **theme** for **2019** is **"Youth Standing up for Human Rights"**.
  - The campaign, **#StandUp4HumanRights** has also been launched by the **Office of the High Commissioner for Human Rights (OHCHR)**, to encourage, galvanise, and showcase how youth all over the world stand up for rights.
- Human rights are at the heart of the **Sustainable Development Goals (SDGs)**, as in the absence of human dignity, sustainable development cannot be achieved.

- Human Rights are driven by progress on all SDGs, and the SDGs are driven by advancements on human rights.
- India has enacted the Protection of Human Rights Act, 1993 to ensure the protection of human rights. Recently, **several amendments were made to the Protection of Human Rights Act, 1993 through Protection of Human Rights (Amendment) Bill, 2019**. These are:
  - **Eligibility:** Not only a person who has been Chief Justice of India but also a person who has been a **judge of the Supreme Court is also made eligible to be appointed** as Chairperson of the Commission in addition to the person who has been the Chief Justice of India.
  - **Strength:** It increases the members of the Commission from **two to three of which, one shall be a woman**.
  - **Members of National Commission:** Apart from Chairperson of **four National Commissions (Scheduled Castes, Scheduled Tribes, Women and Minorities)**, it also intends to **include** Chairperson of the National Commission for Backward Classes, Chairperson of the National Commission for the Protection of Child Rights and the Chief Commissioner for Persons with Disabilities as deemed members of the Commission.
  - **Tenure:** The amendment **reduces the term** of the Chairperson and Members of the Commission and the State Commissions **from five to three years and shall be eligible for re-appointment**.

### **Universal Declaration of Human Rights**

- Universal Declaration of Human Rights was proclaimed under UNGA resolution 217 A in Paris. It set out, for the first time, fundamental human rights to be universally protected.
- It states that 'All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.'
- It entitles everyone to all the rights and freedoms and prohibits slavery and slave trade in all forms.
- Other rights recognized under the declaration are right to a nationality, right against arbitrary arrest, detention or exile, the right to seek asylum from prosecution, the right to freedom of movement and residence, etc.

Note:



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- The Universal Declaration is **not a treaty**, so it does not directly create legal obligations for countries. However, it is an expression of the fundamental values which are shared by all members of the International community.
- The Universal Declaration of Human Rights holds the **Guinness World Record** as the **most translated document**.

#### Office of the High Commissioner for Human Rights (OHCHR)

- The Office of the High Commissioner for Human Rights (**UN Human Rights**) is the leading **UN entity** on human rights.
- It was established in **1993** and is a **part of the United Nations Secretariat**.
- OHCHR is **headquartered in Geneva**.
- UN Human Rights plays a crucial role in safeguarding the integrity of the **three interconnected pillars of the United Nations** – peace and security, human rights and development.
- It also provides assistance in the form of technical expertise and capacity development in order to support the implementation of international human rights standards on the ground.

## Human Development Index

### Why in News

India was ranked **129** out of 189 countries on the **2019 Human Development Index (HDI)** improving from the **130<sup>th</sup>** position in **2018**.

- HDI is part of the **Human Development Report** that is **published by the United Nations Development Programme (UNDP)**.
- The other indices that form the part of the 2019 Report are:
  - Inequality-adjusted Human Development Index (IHDI),
  - Gender Development Index (GDI),
  - Gender Inequality Index (GII) and
  - Multidimensional Poverty Index (MPI).
- The **focus** of the 2019 Report titled "**Beyond income, beyond averages, beyond today**" is on '**Inequality in Human Development**'.

### Human Development Index

- HDI emphasizes that **people and their capabilities** should be the ultimate criteria for assessing the development of a country, not economic growth alone.
- HDI measures average achievement of a country in **three basic dimensions** of human development:
  - A long and healthy life,
  - Access to knowledge, and
  - A decent standard of living.
- **Top Performers in 2019**
  - Norway, Switzerland, Ireland occupied the top three positions in that order.
  - Germany is placed fourth along with Hong Kong, and Australia secured the fifth rank on the global ranking.
- **India's Neighbours**
  - Sri Lanka (71) and China (85) were higher up the rank scale.
  - Bhutan (134), Bangladesh (135), Myanmar (145), Nepal (147), Pakistan (152) and Afghanistan (170) were ranked lower on the list.
- **Region Wise Performance**
  - South Asia was the fastest growing region in human development progress witnessing a 46% growth over 1990-2018, followed by East Asia and the Pacific at 43%.
- **India's Performance**
  - India's HDI value increased by 50% (from 0.431 to 0.647), which places it above the average for other South Asian countries (0.642).
  - In India, between 1990 and 2018, life expectancy at birth increased by 11.6 years, mean years of schooling increased by 3.5 years and expected

### Ups and downs

Among India's neighbours Sri Lanka moved up five rungs on the HDI ladder while Maldives fell three ranks. While Pakistan slipped two spots, Bangladesh moved up one

Source: Human Development Report, UN

Country	2017 Rank	2018 Rank
India	130	129
Brazil	79	79
China	86	85
Russia	49	49
South Africa	113	113
Pakistan	150	152
Afghanistan	168	170
Sri Lanka	76	71
Bhutan	134	134
Nepal	149	147
Bangladesh	136	135
Maldives	101	104

Note:

years of schooling increased by 4.7 years. Per capita incomes rose by over 250%.

### ***Inequality-adjusted Human Development Index***

- The IHDI indicates **percentage loss in HDI due to inequality**.
- India's position worsened by one position to 130 (as compared to the HDI Index 2019- 129) with a score of 0.477. Although, the IHDI score has improved from 0.468 in 2018.

### ***Gender Development Index***

- GDI measures **disparities on the HDI by gender**.
- India is only marginally better than the South Asian average on the Gender Development Index (0.829 vs 0.828).

### ***Gender Inequality Index***

- GII presents a composite measure of gender inequality using **three dimensions**:
  - Reproductive health,
  - Empowerment and
  - The labour market.
- In GII, **India is at 122 out of 162 countries**. Neighbours China (39), Sri Lanka (86), Bhutan (99), Myanmar (106) were placed above India.
- The report noted that group-based inequalities persist, especially affecting women and girls and no place in the world has gender equality.
- The report notes that the world is not on track to achieve **gender equality** by 2030 as per the **UN's Sustainable Development Goals (SDG -5)**. It forecasts that it may take 202 years to close the gender gap in economic opportunity.
- The report presents a new **"social norms index"** indicating how prejudices and social beliefs obstruct gender equality, which shows that only 14% of women and 10% of men worldwide have no gender bias.
- The report highlights that **new forms of inequalities** will manifest in future through **climate change and technological transformation** which have the potential to deepen existing social and economic fault lines.

### ***Multidimensional Poverty Index***

- MPI captures the multiple **deprivations that people in developing countries** face in their **health, education and standard of living**.

- India accounts for 28% of the 1.3 billion multidimensional poor.

## **Breast Milk Banks**

Breast Milk Banks are established under **"National Guidelines on Establishment of Lactation Management Centres in Public Health Facilities"** by the **Ministry of Health and Family Welfare**.

- Under the guidelines, Breast Milk Banks follow a structural hierarchy, which can be simplified as:
  - **Comprehensive Lactation Management Centre**
    - It is established for the purpose of **collecting, screening, processing, storing and distributing** donor human milk at Government Medical Colleges or District Hospitals with **high delivery load** and **availability** of newborn treatment units.
  - **Lactation Management Unit**
    - It has a **collection and storage facility** of **mother's own milk** in District Hospital/Sub-district Hospital with at least **12 beds**.
  - **Lactation Support Units**
    - These are established at **all delivery points** to provide breastfeeding support, lactation counselling and **Kangaroo Mother Care (KMC)** support to mothers.
    - KMC is a method of care for preterm infants. The method involves infants being carried, usually by the mother, with skin-to-skin contact.
- The **first** Breast Milk Bank of India was established in **1989 at Mumbai**.

### ***Importance of Breastfeeding***

- Breast milk is the **optimum source of nutrition** for the **first six months** of life of an infant.
- It prevents infections like diarrhoea and acute respiratory infections in early infancy and thus **reduces infant mortality**.
- It **decreases** the risk of mothers developing breast cancer, ovarian cancer, type 2 diabetes, and heart disease.
- It also protects infants from obesity-related illnesses, diabetes and increases IQ.

### ***Initiatives By Indian Government***

- **MAA – "Mothers Absolute Affection"**

Note:



- **MAA** is a nationwide programme of the **Ministry of Health and Family Welfare** to promote breastfeeding.
- **Vatsalya – Maatri Amrit Kosh**
  - **Vatsalya**, a **National Human Milk Bank** and Lactation Counselling Centre has been established in collaboration with the Norwegian government.

## Ekal School Abhiyan

### **Why in News**

Recently, the Prime Minister admired the role of **Ekal Vidyalaya Sangathan** for leading the '**Ekal School Abhiyan**' and in **nation-building by imparting education and awareness** to millions of rural and tribal children who reside in the remotest locations across **India and Nepal**.

### **Key Points**

- '**Ekal School Abhiyan**' aims to **promote education among rural and tribal children**.
- The Sangathan has remarkably promoted the education amongst rural and tribals through the '**Panchatantra Model of Education**' that include:
  - Promotion of nutrition through **Poshan Vatikas**,
  - Training for **bio-fertilizers** use in farming,
  - Imparting **skills** for using medicinal qualities of herbs,
  - Training for employment, and
  - Generation of Social Awareness.
  - This helps in realizing **Gandhi's ideals** of 'Gram Swaraj', 'Social Justice' of **Baba Saheb**, 'Antyodaya' of **Deen Dayal Upadhyay**, and **Swami Vivekanand's** 'dream of a Glorious India'.
- Ekal Sangathan makes the use of **e-education and digitization** to achieve the desired objective and aims to launch a **single real-time dashboard** for monitoring the progress of all the Ekal Vidyalayas in a comprehensive way.
- Ekal Vidyalaya is a **movement** involving **integrated and holistic development** of rural & tribal people of India and Nepal. The main activity undertaken in this movement is to **run one-teacher schools (known as Ekal Vidyalayas)** all over India, in the remotest villages so as to educate every child.
  - The Ekal movement aims to help **eradicate illiteracy** following the **philosophy of rural development** based on the criteria of equality and inclusiveness across all the sections of the society.
- The Ekal Vidyalaya Sangathan has been awarded the **Gandhi Peace Prize in 2017** for its contribution in providing education for rural and tribal children in remote areas, rural empowerment, gender, and social equality.
- Other schemes of government like scholarship for scheduled tribe's children, **Eklavya model residential school**, **Poshan Abhiyan**, **Mission Indradhanush** and school holidays on the occasion of tribal festivals, etc. have helped not only in checking the school dropout rates but also promoted the holistic development of children.

## Samagra Shiksha Abhiyan

### **Why in News**

Ministry of Human Resource Development is implementing the **Scheme of Vocationalisation of School Education**.

- Under the scheme, a vocational subject is offered for Classes IX to XII along with the general education to provide necessary employability and vocational skills for a variety of occupations.
- The above scheme is being implemented under the umbrella of '**Samagra Shiksha – an integrated scheme for school education**'.

### **Samagra Shiksha**

- **Key Provisions:**
  - Samagra Shiksha is an **integrated** scheme for school education extending from **pre-school to class XII** to ensure inclusive and equitable quality education at **all levels** of school education.
  - It **subsumes** the three Schemes of **Sarva Shiksha Abhiyan (SSA)**, **Rashtriya Madhyamik Shiksha Abhiyan (RMSA)** and **Teacher Education (TE)**.
    - The scheme treats school education holistically as a **continuum from Pre-school to Class 12**.
  - The main emphasis of the Scheme is on improving the quality of school education by focussing on the **two T's – Teacher and Technology**.
- **Vision:**
  - The vision of the Scheme is to ensure inclusive and equitable quality education from pre-school to senior secondary stage in accordance with the **Sustainable Development Goal (SDG)** for Education.

Note:

- **SDG-4.1:** Aims to ensure that all boys and girls complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.
- **SDG 4.5:** Aims to eliminate gender disparities in education and ensure equal access to all levels of education.
- The scheme mainly aims to support States in the implementation of the **Right of Children to Free and Compulsory Education (RTE) Act, 2009**.
- Right to Education Act (RTE) is a fundamental right under **Article 21-A** of the Constitution of India.
- **Funding Pattern:**
  - The Scheme will be implemented as a **Centrally Sponsored Scheme**.
    - The fund sharing pattern for the scheme between Centre and States is at present in the ratio of **90:10 for the North-Eastern States and the Himalayan States** and **60:40 for all other States and Union Territories with Legislature**.
    - It is **100% centrally sponsored for Union Territories without Legislature**.
  - The scheme also proposes to give flexibility to the States and UTs to plan and prioritize their interventions within the scheme norms and the overall resource envelope available to them.

## Accessible India Campaign

### Why in News

The deadline for the government's **Accessible India Campaign (AIC)** has been extended to March 2020 due to slow progress.

- AIC is the nationwide flagship campaign of the Department of Empowerment of Persons with Disabilities (DEPwD), **Ministry of Social Justice and Empowerment**.
- The aim of the Campaign is to make a **barrier-free and conducive environment for Divyangjans** (Persons with Disabilities - PwDs) all over the country.

### Accessible India Campaign

- **Launched** by the Prime Minister of India on International Day of Persons with Disabilities on 3rd December 2015.

### Background

- **Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995** categorically provided for non-discrimination in transport and in the built environment.
  - It needs to be noted that the **Rights of Persons with Disabilities Act, 2016** replaced the PwD Act, 1995.
- **United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)**, to which **India is a signatory**, under Article 9 casts obligations on the Governments for ensuring to PwDs accessibility to (a) Information, (b) Transportation, (c) Physical Environment, (d) Communication Technology and (e) Accessibility to Services as well as emergency services.

### Three Components of AIC

- Built Environment Accessibility
- Transportation System Accessibility
- Information and Communication Eco-System Accessibility

### Targets entailed under the three components

- Making 50% of all the government buildings of National Capital and all the State capitals fully accessible by December 2018.
- Completing accessibility audit of 50% of government buildings and making them fully accessible in 10 most important cities/towns of States by December 2019.
- Ensuring that 50% of railway stations in the country are converted into fully accessible railway stations by March 2018.
- Ensuring that 25% of Government owned public transport carriers in the country are converted into fully accessible carriers by March 2018.
- Conducting accessibility audit of 50% of all government (both Central and State Governments) websites and converting them into fully accessible websites by March 2017.



Note:

# Security

## Highlights

- Pathalgarhi Movement

## Pathalgarhi Movement

### Why in News

Recently, the Union government withdrew amendments to the **Forest Rights Act (FRA), 2006** which would have diluted tribal rights over forests. These amendments evoked sustained protests by tribal and environmental activists.

- The state government of **Jharkhand** tried to amend the **Chotanagpur Tenancy Act, 1908** and **Santhal Parganas Tenancy Act, 1876** to facilitate easier land acquisition norms which added to the problem. They were also withdrawn later on.
- However, these decisions gave rise to the **Pathalgarhi incidents** in the tribal belt demanding implementation of the FRA and provisions of the **Panchayats (Extension of Scheduled Areas) Act (PESA), 1996**.

- **Birsa Munda's** struggle against the exploitation and discrimination faced by tribals led to the passing of the **Chotanagpur Tenancy Act in 1908** which restricted the passing of land from the tribal people to non-tribals.
- The **Santhal Parganas Tenancy Act, 1876** prohibits the sale of Adivasi land to non-Adivasis in Santhal Pargana region along Jharkhand's border with Bengal.

### Pathalgarhi Rebellion

- It is a **protest** in which tribal people embed stone slabs (pathals) on the outskirts of a village or area,

demarcating the limits of where their writ runs, prohibiting the entry of any institution connected to the state.

- It is mainly concentrated in the four districts of Jharkhand — namely **Khunti, Gumla, Simdega and West Singhbhum**.
- In Munda tribal custom, placement of a huge stone marks the death of a person. The Pathalgadi movement draws on this tradition of honouring the community's ancestors.

### The Panchayats (Extension to the Scheduled Area) Act, 1996

- It **safeguards and preserves** the traditions and customs of the people, and their cultural identity, community resources and customary mode of dispute resolution.
- PESA **empowers** Gram Sabha/Panchayat at an appropriate level with the right to mandatory consultation in land acquisition, resettlement and rehabilitation of displaced persons.
- It seeks to **reduce alienation** in tribal areas as they will have better control over the utilisation of public resources.
- It will help **minimise exploitation** of tribal population as they will be able to control and manage money lending, consumption and sale of liquor and also village markets.
- It **promotes cultural heritage** through the preservation of traditions, customs and cultural identity of tribal population.



Note:

# Miscellaneous

## Highlights

- INSTEX Barter Mechanism
- World AIDS Day
- Operation 'Clean Art'
- Navy Day
- Exercise Hand-in-Hand
- Hornbill Festival
- Typhoon Kammuri
- Islamic Republic of Mauritania
- Zero FIR
- Exercise INDRA 2019
- Red Tourism
- Icicles, Stalactites and Stalagmites
- White Island
- World Heritage Week 2019
- Mullaperiyar Dam
- Jangubai Cave Temple and Kaplai Caves

## INSTEX Barter Mechanism

### Why in News

Six Countries - Belgium, Denmark, Finland, the Netherlands, Norway and Sweden have recently joined Instrument in Support of Trade Exchange (INSTEX).

### Key Points

- A trade mechanism **INSTEX** was established by **France, Germany** and the **United Kingdom** in **January 2019** to allow European entities to maintain trade with Iran.
- The mechanism has been designed to **circumvent U.S. sanctions against trade with Iran** by avoiding the use of the dollar.
  - After withdrawing from Iran nuclear deal (Joint Comprehensive Plan of Action, JCPOA) in 2018 the United States imposed sanctions.
- This Paris-based mechanism **functions as a clearing house** allowing Iran to continue to sell oil and import other products or services in exchange.
- The mechanism represents continuing commitment of France, Germany and the UK to the JCPOA.
- It has been seen that the system **has not yet enabled any transactions**.

## World AIDS Day

The World AIDS Day is observed on **1<sup>st</sup> December** every year all over the world.

- Founded in 1988, World AIDS Day was the first ever global health day.
- The main motto behind celebrating the day is to raise public awareness about AIDS.
  - **Acquired ImmunoDeficiency Syndrome (AIDS)**, is a pandemic disease caused due to the infection of **Human Immunodeficiency Virus (HIV)**, which causes damage to the immune system.
- The **theme** for the year 2019 is '**Communities make the difference**'.

### Note

- The **National AIDS Control Organisation (NACO)** is a division of the Ministry of Health and Family Welfare that provides leadership to HIV/AIDS control programme in India through 35 HIV/AIDS Prevention and Control Societies.
- The Ministry of Health and Family Welfare has implemented **the Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (Prevention and Control) Act, 2017 (HIV/AIDS Act, 2017)** to prevent and control the spread of HIV/AIDS and to create mechanisms for redressing the complaints of persons infected with HIV and AIDS.

## Operation 'Clean Art'

### Why in News

Recently, there has been a widespread crackdown on factories making **paint brushes with mongoose hair** across the country.

Note:



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### Not a pretty picture

A look at the seizure of paint brushes made of mongoose hair in recent years



Cases	No. of brushes seized	Arrests	
2017	15	62,924	23
2018	16	79,021	19
2019	27	54,352	49

• For about 150 kg of mongoose hair, at least 6,000 animals would have been killed, according to an estimate

• Mongoose is listed in Schedule II Part 2 of the Wildlife Protection Act

• Any smuggling or possession of its body part is a non-bailable offence

### Key Points

- Brushes made of mongoose hair are preferred because they are of **superior quality and hold colour better**.
- There are **six species of mongoose found in India** - Indian grey mongoose, Small Indian mongoose, Ruddy mongoose, Crab-eating mongoose, Stripe-necked mongoose and Brown mongoose.
- The **Indian grey mongoose** is the **most commonly found species** and also the **most hunted**.
- Mongoose is listed in **Schedule II Part 2 of the Wildlife Protection Act, 1972** and any smuggling or possession of its body parts is a non-bailable offence.
- **IUCN Red List status** - Least Concerned.
- **All six species** are listed on **CITES Appendix III** with a zero quota for commercial trade.

### Operation Clean Art

- It was the **first pan India operation** to crackdown on the smuggling of mongoose hair in the country.
- It was conceived by **Wildlife Crime Control Bureau (WCCB)** with the singular aim of ensuring that the **mongoose hair brush trade should be closed down across the country**.

## Navy Day

### Why in News

The Indian Navy Day is celebrated on **December 4** every year to commemorate **Operation Trident**. The Navy also organises a **Beating Retreat ceremony** at the **Gateway of India in Mumbai** on the eve of the Navy Day.

### Operation Trident

- It was a counter-attack by Indian Navy **on the Karachi harbour** during the **Indo-Pakistan war in 1971**.
- India used **anti-ship missiles** for the first time during this operation and destroyed the Pakistani destroyer ship **PNS Khaibar**.

- The Indian Navy's **three warships** - **INS Nipat**, **INS Nirghat** and **INS Veer** - played an important role in the attack.

### Indian Navy

- It is headed by the **President of India** as its **Supreme Commander**.
- Indian Navy's **Motto** is - **Sam no Varunah** (शं नो वरुण) that means that the God of water, Varuna, should be auspicious unto us.
- Some of the **earliest operations** of the Indian Navy include **liberation of Goa from Portugal in 1961**.
- The Navy has developed as an admirable force with the making of the **nuclear-powered ballistic missile submarine INS Arihant** and several other ships.
- Indian Navy currently has **one aircraft carrier, the INS Vikramaditya**, which was a **former Russian ship** that was commissioned into service in 2013.
- It **operates three classes of submarines**: **Chakra** (it has the **nuclear-powered INS Chakra**), **Sindhughosh**, and **Shishumar**.
- **Marine Commandos or MARCOS** is the special force unit of the Indian Navy, trained to conduct amphibious warfare, counter-terrorism, special reconnaissance, hostage rescue and asymmetric warfare.
  - They were the first to respond to the **26/11 Mumbai** terror attacks.



## Exercise Hand-in-Hand

The 8<sup>th</sup> India-China **joint training exercise 'HAND-IN-HAND 2019'** with the theme of **'Counter Terrorism'** under United Nations mandate is scheduled to be conducted at **Umroi, Meghalaya** from 7<sup>th</sup> to 20<sup>th</sup> December 2019.



Note:

- The aim of the exercise is to practice joint planning and conduct of counter terrorist operations in semi urban terrain.
- In **2018**, the exercise was held in **Chengdu, China**.
- The exercise **did not take place in 2017** due to the 72-days long standoff between Indian and Chinese troops in **Doklam**.

## Hornbill Festival

Hornbill Festival is celebrated in **Nagaland** to encourage inter-tribal interaction.

- It is one of the largest **indigenous festivals** organised by the **state government of Nagaland** to promote tourism in the state.
- The festival is celebrated **annually** in the **first week of December** in order to preserve, protect and revive the uniqueness and richness of the Naga heritage.
- The festival is considered as the **"Festival of Festivals"** in Nagaland.
- The festival is named after the bird **Hornbill** which is the most **revered and admired** bird for the Nagas.
  - The festival is a tribute to this bird, known for its qualities of grandeur and alertness.
  - The bird is also closely identified with the social and cultural life of the Nagas, as reflected in various tribal dances, songs and folklores.
- Hornbill festival exposes the **culture and tradition of the tribal people** and reinforces the identity of Nagaland.

## Typhoon Kammuri

### Why in News

Recently, a typhoon struck the Philippines, bringing heavy rains and suspending air travel. The government issued warnings of floods, storm surges and landslides.

### Key Points

- It is locally known as **Tisoy** and is the 20<sup>th</sup> typhoon to hit the country in 2019.
- **Tropical Cyclone**
  - **Cyclone** is the formation of a very **low-pressure system** with **very high-speed winds** revolving around it. Factors like wind speed, wind direction, temperature and humidity contribute to the development of cyclones.



- Cyclones are called '**Hurricanes**' in the **North Atlantic and Eastern Pacific**, '**Typhoons**' in **South-East Asia and China** and '**Tropical Cyclones**' in the **South-West Pacific and Indian Ocean Region**.

## Islamic Republic of Mauritania

Mauritania is located on the **Atlantic coast of Africa** and is bounded to the northwest by Western Sahara, to the northeast by Algeria, to the east and southeast by Mali and to the southwest by Senegal.

- It is the **eleventh largest country of the continent** and consists of **desert largely**.
- The capital is **Nouakchott** and it got **independence from France on 28<sup>th</sup> November 1960**.
- It has **Arab-Berber population to the north** and **black Africans to the south**. **Arabic and French** are the prominent languages.
- It is a member of the **United Nations** and the **African Union**.
- In the **Human Development Index 2019**, it was at rank 161.
- The most prominent feature of this region is the **Guelb er Richat**, also known as **the Eye of the Sahara**, which is a deeply eroded dome consisting of a variety of intrusive and extrusive igneous rocks.



Note:



## Zero FIR

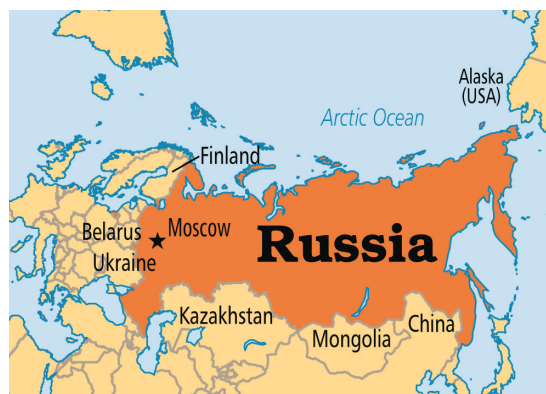
### Why in News

In Kanchikacherla of Andhra Pradesh, a 'Zero FIR' was registered for a missing boy and he was found within 24 hours after the investigation was taken up.

- Zero FIR were registered earlier as well but this was the **first case in which it was done for "quick action"**.
- It means that an FIR can be filed in any police station, **irrespective of the jurisdictional limitations and location of the incident**.
- The respective police station takes in the FIR and **marks it as a zero FIR by giving it serial number zero** and immediately transfers the documents over to the concerned jurisdiction.
- It was initially **highlighted after the Nirbhaya Case, 2012**.
  - Zero FIRs may be registered on the basis of a woman's statement at any police station irrespective of jurisdiction. This means women can file an FIR at any police station and the complaint is required to be registered on the basis of the woman's complaint, verbatim.
- The police officers who **fail to comply** with the registration of Zero FIR **may invite prosecution under Section 166A of IPC** and also departmental action.

## Exercise INDRA 2019

**Exercise INDRA 2019, a joint tri services exercise between India and Russia will be conducted in India from**



**10<sup>th</sup> - 19<sup>th</sup> December 2019 at Babina (near Jhansi), Pune, and Goa simultaneously.**

- The two countries will be able to imbibe the best practices from each other, jointly evolve and drill to defeat the menace of terror, under the United Nations mandate.
- The **INDRA series of exercise began in 2003**. It was **conducted as a single service exercise** alternately between the two countries. However, **the first joint Tri Services Exercise was conducted in 2017**.
- **Exercise INDRA 2018**, a joint military exercise on combating insurgency was conducted at Jhansi, Uttar Pradesh.

## Red Tourism

- China has stepped up efforts to promote "**red tourism**" which features visits to sites with significance of **revolutionary history of China**.
- The 'Red tourism' focuses on **the historical heritage** of the Chinese Communist Party for tourism development.
- Significance of the glorification of the Chinese revolution are:
  - To improve the education about the party's revolutionary traditions, promote patriotism especially among youth, and stimulate economic development in revolutionary areas.
  - To eliminate rural poverty, along with the promotion of the legitimacy of the **Communist Party of China (CPC)**.
- At the heart of China's flourishing red tourism is the **Long March**. It includes locations and the choreographed stories of how the founding father of Red China, Mao Zedong, and his comrades battled for the **communist revolution in 1949**.

Note:



### Long March

- The Long March was a military retreat undertaken by the **Red Army** of the **Communist Party of China** to evade the pursuit of the **Kuomintang** (KMT or Chinese Nationalist Party) army during the **Chinese Civil War (1934-35)**.
- This was not a single Long March, but a series of marches, as various Communist armies in the south escaped to the north and the west.
- It was a key moment in the civil war, and also in the development of communism in China. **Mao Zedong** emerged as the leader of communist forces from the long march. He led the communist to victory over the nationalists.

## Icicles, Stalactites and Stalagmites

### Icicles

- Icicles typically form on days when **the air temperature is subfreezing but sunshine warms and melts some snow or ice**. As it drips off, a water droplet freezes when it loses its heat to the cold air.
- It starts with a few frozen droplets and after reaching a certain size, drops begin to drip along the side of the structure turning into a pointy stick-like structure.
- Icicles formed in caves are known as **ice stalactites**.

### Stalactite

- It is an icicle-shaped formation that hangs from the ceiling of a cave and is produced by the **precipitation of minerals** from water dripping through the cave ceiling. Most stalactites have **pointed tips**.



### Stalagmite

- It is an **upward-growing mound** of mineral deposits that have precipitated from water dripping onto the floor of a cave. Most stalagmites **have rounded or flattened tips**.
- The dominant mineral in such deposits is **calcite (calcium carbonate)**, and the largest displays are formed in **caves of limestone and dolomite**. Other minerals that may be deposited include other carbonates, opal, chalcedony, limonite, and some sulfides.

## White Island

### Why in News

Recently a volcanic eruption took place at **White Island in New Zealand**.

- White Island is **New Zealand's most active cone volcano** which has been built up by continuous volcanic activity over the past 1,50,000 years.
- About 70% of the volcano lies under the sea and the Island forms the tip of the volcano.
- The volcano is located in the **Bay of Plenty**, about 48km (29 miles) from the east coast of New Zealand's North Island.
- Including its underwater base, White Island is the **largest volcanic structure in New Zealand**.
- The island became a **private scenic reserve in 1953**.
- The island is also known by name **Whakaari**.



## World Heritage Week 2019

### Why in News

Every year the World Heritage Week is celebrated by the **United Nations Educational, Scientific and Cultural Organization (UNESCO)** from **19<sup>th</sup> to 25<sup>th</sup> November**.

Note:



- In India, the **Archaeological Survey of India (ASI)** celebrates it.

### Key Points

- Its **objective** is to make people **aware of the rich heritage** and also **strive for its preservation**.
- The Archaeological Survey of India and several other museums organise programs highlighting the significance of ancient monuments and their preservation.
  - Various **programs** related to **historical structures, palace tours and cultural and traditional heritage** of the country were initiated to celebrate the week.
  - Several **schools and colleges** celebrated it by organising quiz and painting competitions.
- The heritage sites celebrating the week include Qutub Minar, Kashi Vishwanath Temple, Delhi Red Fort, Delhi Darwaza and Bhadra Gate among others.
- There are **38 UNESCO World Heritage sites in India** which include **30 cultural sites, 7 natural sites and 1 mixed site**.
  - **Jaipur** is the **latest addition** to the list of UNESCO cultural heritage sites.

### United Nations Educational, Scientific and Cultural Organization

- It was founded in **1945** to develop the “**intellectual and moral solidarity of mankind**” as a means of building lasting peace.
- It is located in **Paris, France**.

### Archaeological Survey of India

- It is the premier organization for the **archaeological research, scientific analysis, excavation of archaeological sites, conservation and preservation of protected monuments**.
- It is an attached office under the **Department of Culture, Ministry of Culture**.
- It was **founded in 1861 by Alexander Cunningham—the first Director-General of ASI**.

## Mullaperiyar Dam

### Why in News

The **Ministry of Jal Shakti** has constituted a **three-member Supervisory Committee** to settle the issue of **Mullaperiyar dam** between **Kerala and Tamil Nadu**.



- The tension between the two states over the issue has persisted since the **1960s**, with Kerala citing concerns regarding the **dam's safety** and arguing for the reduction of the dam's water levels.
- With the water from the dam being diverted to five districts in Tamil Nadu and its importance in the state's irrigation and power production practices, Tamil Nadu has consistently opposed this.

### Mullaperiyar Dam

- It is located on the **confluence** of the **Mullayar and Periyar rivers** in **Kerala's Idukki district**.
- It is **operated and maintained** by **Tamil Nadu** for meeting the drinking water and irrigation requirements of five of its southern districts.
  - According to a 999-year lease agreement made during the British rule the operational rights were handed over to Tamil Nadu.
- The dam intends to divert the waters of the **west-flowing river Periyar** eastward to the arid rain shadow regions of the Tamil Nadu.

### Periyar River

- The Periyar River is the **longest river in the state of Kerala** with a length of 244 km.
- It is also known as '**Lifeline of Kerala**' because it is one of the few **perennial** rivers in the state.

Note:

- A perennial river is a channel that has continuous flow in parts of its stream bed all year round.
- Periyar River **originates** from **Sivagiri hills of Western Ghats** and flows through the **Periyar National Park**.
- The **main tributaries** of Periyar are Muthirapuzha, Mullayar, Cheruthoni and Perinjankutti.

## **Jangubai Cave Temple and Kaplai Caves**

### **Why in News**

The Jangubai Cave Temple and the Kaplai Caves are considered as a **pilgrimage site** by aboriginal tribes like **Gond, Pradhan and Kolam**.

- These caves are located at **Maharashtra – Telangana border**.

### **Kolam Tribe**

- The Kolam tribe (or in their own language, Kolavar) is a **scheduled tribe of Maharashtra**. They also live in Andhra Pradesh, Chhattisgarh, and Madhya Pradesh.
- They have a language of their own (Kolami) which belongs, like Gondi, to the intermediate group of **Dravidian languages**.
- They are **monogamous** and follow Hinduism.

- In 2018, the Government has identified **Katkaria (Kathodia), Kolam and Maria Gond** as **Particularly Vulnerable Tribal Groups (PVTGs)**.
  - The Ministry of Tribal Affairs is administering the scheme “Development of PVTGs” for the overall development of PVTGs. This scheme is flexible and enables the States to focus on areas that they consider is relevant to PVTGs and their socio-cultural environment.

### **Gond Tribe**

- It is spread over Chhattisgarh, Jharkhand, Madhya Pradesh, Andhra Pradesh, Karnataka, Gujarat, Maharashtra, Bihar, and West Bengal.
- Their main concentration is in the forest and hilly areas between the Vidhyans and the Satpura.

### **Pradhan Tribe**

- The Pardhan is a **subgroup** of the tribal Gond people who live in central India.
- The large majority of the Pardhan live in **Maharashtra and Madhya Pradesh**.
- The primary language of the Pardhan people is their **own Pardhan language**. Some Pardhans also speak Hindi, Marathi and Gondi.
- The traditional occupation of the Pardhan is that of being singers and musicians at festivals and important life ceremonies.



Note:

**Key Points**

**Details**


**Summary**

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**Summary**





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# Current Affairs (CONSOLIDATION)

**DECEMBER 2019**  
**(PART – II)**

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# Polity and Governance

## Highlights

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- Privilege Motion
- Annulment of Election of MLA
- EVMs Not Under RTI Act
- No State Wise Minority Classification: SC
- Packaged Foods Breach Salt and Fat Limits
- Section 144 of CrPC
- Cabinet Committee on Investment and Growth
- Impeachment of US President
- Good Governance Day
- Restructuring of Railway Board
- UGC Issues Norms for Ethics in Higher Education
- India State of Forest Report (ISFR) 2019
- SDG India Index by NITI Ayog

## Disha Bill, 2019

### Why in News

The Andhra Pradesh Disha Bill, 2019 i.e. Andhra Pradesh Criminal Law (Amendment) Bill, 2019 which provides for **death sentence for offences of rape and gangrape** has been passed recently.

- The Bill amends relevant provisions of the Indian Penal Code, 1860 and the Code of Criminal Procedure Act, 1973.

### Features Different from Existing Laws

- A **Women & Children Offenders Registry** is to be established, operated and maintained by the Andhra Pradesh Government in an electronic form. This registry will be made public and will be available to law enforcement agencies.
  - The Government of India has also launched a National Registry of Sexual offenders but the database is not digitized and is not accessible to the public.
- **Exclusive punishment of death penalty** in cases relating to rape and murder of a woman where there is adequate conclusive evidence.
  - At present, provision for punishing an offender in a rape case is a fixed jail term leading to life imprisonment or the death sentence.
- **Reduces the judgment period:** The judgment will have to be pronounced in 21 working days from date

of offence in cases of rape crimes with substantial conclusive evidence.

- The existing judgment period as per the Nirbhaya Act, 2013 and Criminal Amendment Act, 2018 is 4 months (two months of investigation period and two months of trial period).
- **Stringent punishment for sexual offences against children:** The Bill prescribes life imprisonment for sexual offences against children.
  - In cases of molestation/sexual assault on children under the **POCSO Act, 2012**, the punishment ranges from a minimum of three years to a maximum of seven years of imprisonment.
- **Punishment for harassment of women through social media:** In cases of harassment of women through email, social media, digital mode or any other form, the guilty shall be punishable with imprisonment.
  - At present, no such provision exists in the Indian Penal Code.
- **Investigation Related Provisions**
  - Exclusive special courts in each district of the State to ensure speedy trial. These courts will exclusively deal with cases of offences against women and children including rape, acid attacks, stalking, voyeurism, social media harassment of women, sexual harassment and all cases under the POCSO Act.
  - Constitution of special police teams and appointment of the special public prosecutor in special courts. There is no such provision in existing laws.

Note:



## Privilege Motion

### Why in News

A Privilege Motion has been moved against the Union Textile Minister Smriti Irani in the Lok Sabha.

### Privilege Motion

- It is concerned with the **breach of parliamentary privileges** by a minister.
- **Breach of Privileges**
  - Parliamentary Privileges are **certain rights and immunities** enjoyed by members of Parliament, individually and collectively, so that they can “effectively discharge their functions”.
  - When any of these rights and immunities are disregarded, the offence is called a breach of privilege and is **punishable under law of Parliament**.
  - **A notice is moved in the form of a motion** by any member of either House against those being held guilty of breach of privilege.
- **Role of the Speaker/Rajya Sabha (RS) Chair**
  - The Speaker/RS chairperson is the **first level of scrutiny** of a privilege motion.
  - The Speaker/Chair can decide on the privilege motion himself or herself or refer it to the privileges committee of Parliament. If the Speaker/Chair gives consent under relevant rules, the member concerned is given an opportunity to make a short statement.
- **Rules governing Privilege**
  - Rule No 222 in Chapter 20 of the Lok Sabha Rule Book and correspondingly Rule 187 in Chapter 16 of the Rajya Sabha rulebook governs privilege.
  - Rules says that a member may, with the consent of the Speaker or the Chairperson, raise a question involving a breach of privilege either of a member or of the House or a committee thereof.

### Parliamentary Privileges

- Parliamentary privileges are special rights, immunities and exemptions enjoyed by the two Houses of Parliament, their committees and their members.
- The Constitution also extends the parliamentary privileges to those persons who are entitled to speak and take part in the proceedings of a House of Parliament or any of its committees. These include the **Attorney General of India and Union ministers**.

- The **parliamentary privileges do not extend to the President** who is also an integral part of the Parliament. **Article 361** of the Constitution provides for privileges for the President.
- **Article 105** of the Constitution expressly mentions two privileges, that is, freedom of speech in Parliament and right of publication of its proceedings.
- Apart from the privileges as specified in the Constitution, **the Code of Civil Procedure, 1908**, provides for freedom from arrest and detention of members under civil process during the continuance of the meeting of the House or of a committee thereof and forty days before its commencement and forty days after its conclusion.
- It needs to be noted that the **Parliament, till now, has not made any special law** to exhaustively codify all the privileges.

### Privilege Committee

- It is a **Standing Committee**. It examines the cases of breach of the privileges of the House and its members and recommends appropriate action.
- The **Lok Sabha** committee has **15 members**, while the **Rajya Sabha** committee has **10 members**.

## Annulment of Election of MLA

### Why in News

Recently, the **Allahabad High Court** annulled the election of Mohammad Abdullah Azam Khan, as a **Member of Legislative Assembly (MLA) from Uttar Pradesh on the grounds of being underage at the time of the assembly elections (2017)**.

- The order was passed on a petition which claimed that the candidate was **less than 25 years of age at the time of filing the nomination** and hence was **ineligible to contest**.

### Background

The Constitution of India as well as the Parliament of India has laid down qualifications and disqualifications for being elected as a member of State Legislative Assembly and State Legislative Council.

- **Qualifications:**
  - **Constitutional Provisions:**
    - Citizenship of India

Note:



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- **Subscription to an oath or affirmation** before the person authorised by the Election Commission.
- Age **must be not less than 25 years** for the legislative assembly and not less than 30 years for the legislative council.
- Need to possess other qualifications prescribed by Parliament.
- **Parliamentary Provisions through Representation of the People Act (1951):**
  - A person to be elected to the legislative assembly must be an **elector for an assembly constituency** in the concerned state.
  - A person to be elected to the legislative council must be an **elector for an assembly constituency in the concerned state** and to be qualified for the governor's nomination, he must be a **resident in the concerned state**.
  - He must be a member of a scheduled caste or scheduled tribe if he wants to contest a seat reserved for them. However, a member of scheduled castes or scheduled tribes can also contest a seat not reserved for them.
- **Disqualifications:**
  - **Constitutional Provisions:**
    - Any **office of profit** under the **Union or state government** (except that of a minister or any other office exempted by the state legislature),
    - **Unsound mind** and stands so declared by a court,
    - Undischarged insolvent,
    - **Not a citizen of India** or has voluntarily acquired the citizenship of a foreign state or is under any acknowledgement of allegiance to a foreign state,
    - Disqualified under **any law** made by **Parliament**.
  - **Parliamentary Provisions through Representation of the People Act (1951):**
    - Must **not** have been found guilty of certain **election offences** or corrupt practices in the elections.
    - Must **not** have been convicted for any offence resulting in **imprisonment for two or more years**. But, the detention of a person under a **preventive detention law** is **not a disqualification**.
    - Must **not fail** to lodge an account of **election expenses** within the time.
    - Must **not** have **any interest in government contracts, works or services**.
  - Must **not be a director** or managing agent nor hold an office of profit in a corporation in which the **government has at least 25 per cent share**.
  - Must **not** have been **dismissed from government service** for **corruption** or disloyalty to the state.
  - Must **not** have been convicted for promoting enmity between different groups or for the offence of bribery.
  - Must **not** have been punished for preaching and practicing social crimes such as untouchability, dowry and sati.
- On the question of whether a member has become subject to any of the above **disqualifications, the governor's decision is final**. However, the governor should obtain the opinion of the **Election Commission** and act accordingly.
- **Election Petition:**
  - The **Constitution** lays down that no election to the Parliament or the state legislature is to **be questioned except by an election petition** presented to such authority and in such manner as provided by the appropriate legislature.
  - **Since 1966**, the election petitions are **triable by high courts alone**. Whereas the **appellate jurisdiction** lies with the **Supreme Court alone**.
  - **Article 323 B** empowers the appropriate legislature (Parliament or a state legislature) **to establish a tribunal for the adjudication of election disputes**.
    - It also provides for the **exclusion of the jurisdiction of all courts** (except the special leave appeal jurisdiction of the Supreme Court) in such disputes.
    - So far, no such tribunal has been established.
  - In **Chandra Kumar case (1997)**, the clause of the **exclusion of the jurisdiction of all courts in election disputes** was declared unconstitutional by the Supreme Court.
  - Consequently, if at any time an election tribunal is established, an appeal from its decision lies to the high court.

## EVMs Not Under RTI Act

### *Why in News*

Recently, the Delhi High Court **quashed** an order of the **Central Information Commission (CIC)** which had held

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that **Electronic Voting Machines (EVMs)** fall within the definition of 'information' under the **Right To Information (RTI) Act**.

- The CIC's order had come on a plea which sought **access to an EVM maintained by the Election Commission (EC)** under the RTI Act.
- CIC had observed that EVMs available with the EC in a **material form or as a sample** is a **piece of information** under **section 2(f) of the RTI Act**.
  - **Section- 2 (f)** states that "Information" means any material in any form, including Records, Documents, Memos, e-mails, Opinions, Advice, Press releases, Circulars, Orders, Logbooks, Contracts, Reports, Papers, **Samples, Models**, Data material held in any electronic form and information relating to any private body which can be accessed by a Public Authority under any other law for the time being in force.
- With this judgement, **EVMs are out of the purview of RTI ACT**.

### ***Election Commission's Stand***

- **EC does not maintain any EVM in sample or model form for the purpose of Section 2(f) of the RTI Act.**
  - Though it maintains a small number of EVMs for the purposes of **training of election officials** and uses in **awareness programmes** under strict supervision.
- All EVMs utilised in the conduct of elections are **securely stored** in **accordance** with the manual on **EVMs issued by the EC and the Representation of the People Act**.
- As per **Article 324 of the Constitution**, ECI has plenary powers in matters related to conduct of elections. And **EVMs are integral to the conduct of elections** in India. Its unregulated disclosure may lead to the **threat to the purity and fairness of elections**.

## **No State Wise Minority Classification: SC**

### ***Why in News***

The Supreme Court has dismissed a plea seeking guidelines to **"identify and define" religious minorities in every State** to protect their culture and interests.

- The petition sought to **recognise Hindus as minorities in the States where they are low in population**.
- Currently, the **linguistic minorities** are identified on a state-wise basis thus **determined by the state government** whereas **religious minorities** are determined by the **Central Government**.
  - A linguistic minority is a group of people whose mother tongue is different from that of the majority in the state or part of a state.
- However, the Supreme court ruled that **languages are restricted state wise but religion is beyond all borders**, especially political borders. Thus, **religion needs to be considered on a pan-India basis** and not state-wise.

### ***Background***

- **Constitutional Provisions:**
  - The term "**Minority**" is **not defined** in the **Indian Constitution**. However, the Constitution recognises only **religious and linguistic minorities**.
  - **Article 29:** It provides that any section of the citizens residing in any part of India having a **distinct language, script or culture of its own**, shall have the **right to conserve the same**.
    - It grants protection to both **religious minorities as well as linguistic minorities**. However, the Supreme Court held that the scope of this article is not necessarily restricted to minorities only, as use of the word '**section of citizens**' in the Article that include minorities as well as majority.
  - **Article 30:** Under the article, all minorities shall have the right to establish and administer educational institutions of their choice.
    - The protection under Article 30 is confined only to minorities (religious or linguistic) and **does not extend to any section of citizens** (as under Article 29).
  - **Article 350-B:** Originally, the Constitution of India did not make any provision with respect to the **Special Officer for Linguistic Minorities**. But, the **Seventh Constitutional Amendment Act of 1956** inserted **Article 350-B** in the Constitution.
    - It provides for a Special Officer for Linguistic Minorities **appointed by the President of India**.
    - It would be the duty of the Special Officer to investigate all matters relating to the safeguards provided for linguistic minorities under the constitution.

Note:



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### ➤ Parliamentary Provisions:

- **National Commission for Minorities Act, 1992**
  - The act **defines a minority as "a community notified as such by the Central government"**. Government of India has declared six religions namely, Muslims, Christians, Sikhs, Buddhist and Parsis (Zoroastrian) and Jain as **religious minorities** in India.
  - Under this act, the government formed the **National Commission for Minorities** which consist of Chairperson, a Vice-Chairperson and five Members.
  - The five Members including the Chairperson shall be from **amongst the minority communities**.
  - The commission monitors the working of the safeguards provided in the Constitution and in laws enacted by Parliament and the State Legislatures.
  - It also makes recommendations for the effective implementation of safeguards for the protection of the interests of minorities by the Central Government or the State Governments.

#### Minorities Rights Day in India

- National Commission for Minorities observes the **18<sup>th</sup> December** as Minorities Rights Day every year.
- The day marks the adoption of the **"Declaration on the Rights of Persons belonging to National or Ethnic, Religious and Linguistic Minorities"** by the **United Nations in 1992**.
- The declaration states that States shall protect the existence of the National or Ethnic, Cultural, Religious and Linguistic identity of minorities within their respective territories and encourage conditions for the promotion of that identity.

## Packaged Foods Breach Salt and Fat Limits

### Why in News

According to a recent analysis by the **Centre for Science and Environment (CSE)**, an array of packaged snacks and fast foods breach safe limits of salt and fat content.

- CSE relied on the concept of the **Recommended Dietary Allowance (RDA)** to calculate the safety limits.

### Recommended Dietary Allowance

- RDA is a **daily ceiling** on the amount of salt, fat, carbohydrates and trans fats.
- It is **based on scientific consensus** and has been agreed upon by expert bodies such as the **World Health Organisation** and the **National Institute of Nutrition in India**.
- According to RDA, ideally an adult should not consume more than **5 gm of salt, 60 gm of fat, 300 gm carbohydrate and 2.2 gm of trans fat** on every day basis.

### Centre for Science and Environment

- It is a **public interest research and advocacy organisation** based in **New Delhi**. CSE researches into, lobbies for and communicates the urgency of development that is both sustainable and equitable.
- It was established in 1980.

### Key Points

- CSE analysed samples were collected from grocery stores and fast food outlets in the city.
- It found out that given the size of servings and the amount of nutrients per 100 gm, a single packet of packaged item had **more salts and fats than the recommended limits**.
- In 2019, **Food Safety and Standards Authority of India (FSSAI)** proposed **draft Food Safety and Standards (Labelling and Display) Regulations**, which require packaged food companies to declare nutritional information such as calories (energy), saturated fat, trans-fat, added sugar and sodium per serve on the front of the pack.
  - The food labels also need to declare, per serve percentage contribution to RDA on the front of the pack.
  - Though these regulations are under discussions since 2015 and several drafts have come out on them, they have yet to become law, and to be operationalised.
- The CSE concluded that all of the popular snacks and fast foods should display a **'Red Octagon'** on the front of the pack.
  - **Red Octagon** is a warning symbol employed in packaged foods in **Chile and Peru**. It has a number and the name of the food component within that indicates how widely off the RDA a particular ingredient is.

Note:



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- For example a Red “3.1 Salt” on a pack of potato chip, indicates that the salt it contains is 3.1 times the RDA for snacks.
- The **food industry is opposing** the move because all of the packaged food which was tested would come under the red mark.
- The regulations, as of now, don’t apply to fast foods such as burgers and pizzas, even though they were included in the CSE analysis.

## Section 144 of CrPC

### Why in news

With protests against the Citizenship Amendment Act intensifying at several places across many states, several state governments have imposed Section 144 of the Criminal Procedure Code (CrPC) to curb the protests.

### What is Section 144 of CrPC?

- **Section 144 of Criminal Procedure Code (CrPC)** is frequently used to prohibit assemblies of **five or more individuals**, or to order mobile phone companies to block voice, SMS, or Internet communications in one or more geographical areas.
- It empowers a district magistrate, a sub-divisional magistrate or any other executive magistrate specially empowered by the state government in this behalf to issue orders to prevent and address urgent **cases of apprehended danger or nuisance**.
  - The orders may be directed against a particular individual, or to persons residing in a particular place or area, or to the public generally when frequenting or visiting a particular place or area.
- No order passed under Section 144 can remain in **force for more than two months from the date of the order**.
- The state government can extend this, **but not more than six months**.

### Issues Related to Section 144

- The term cases of **apprehended danger or nuisance** are too broad and wide enough to give absolute power to a magistrate.
- The immediate remedy against such an order is a revision application to the magistrate himself.

- An aggrieved individual can approach the High Court by filing a writ petition (article 226) if his fundamental rights are at stake. This however is a time taking process.

### How have courts ruled on Section 144?

- **Dr. Ram Manohar Lohiya case 1967**, the Supreme Court held that “no democracy can exist if ‘public order’ is freely allowed to be disturbed by a section of the citizens”.
- **Madhu Limaye vs Sub-Divisional Magistrate case 1970**, a seven-judge bench headed by the then **Chief Justice of India M Hidayatullah** upheld the constitutionality of section 144.
  - The court said that “**law may be abused**” is **no reason to strike it down**.
  - It further ruled that the restrictions imposed through Section 144 cannot be held to be violative of the right to freedom of speech and expression.
  - Imposition of Section 144 falls under the “**reasonable restrictions**” under Article 19(2) of the Constitution.
- In 2012, the Supreme Court **criticised the government for imposing Section 144** against a sleeping crowd in Ramlila Maidan.
  - The court held that such a provision can be used **only in grave circumstances for maintenance of public peace**. The emergency must be sudden and the consequences sufficiently grave.

## Cabinet Committee on Investment and Growth

### Why in News

The **newly-formed Cabinet Committee on Investment and Growth (CCIG)** held its **first** meeting to discuss issues related to the slowdown in the economy.

- The meeting also discussed about the **slowing GDP growth to 4.5% (a six-year low)** as **investment, exports and consumption** have **declined** in the country.
- Alongside CCIG, a **Cabinet Committee on Employment & Skill Development** was also constituted in response to rising unemployment in the country.
  - The **Periodic Labour Force Survey** had shown the **overall unemployment rate to be 6.1%** during 2017-18.

Note:

## Cabinet Committees

➤ Cabinet Committees are **extra-constitutional** in emergence. In other words, they are **not mentioned** in the Constitution. However, the **Rules of Business** provide for their establishment.

- These Rules emerge out of **Article 77(3)** of the Constitution, which empowers the President to make rules for the more convenient transaction of the business of the Government, and for the allocation among Ministers.

➤ These committees are of two types—**standing and ad hoc**. The **standing** Cabinet Committees are of a permanent nature while the **ad hoc** Cabinet Committees are of a **temporary** nature.

- The **Prime Minister** constitutes **Standing Committees of the Cabinet** and sets out the specific functions assigned to them. He can **add or reduce** the number of committees.
- The ad hoc committees are constituted from time to time to deal with special problems. They are disbanded after their task is completed.

**Note:** All committees except Cabinet Committee on Accommodation and Cabinet Committee on Parliamentary Affairs are headed by Prime Minister.

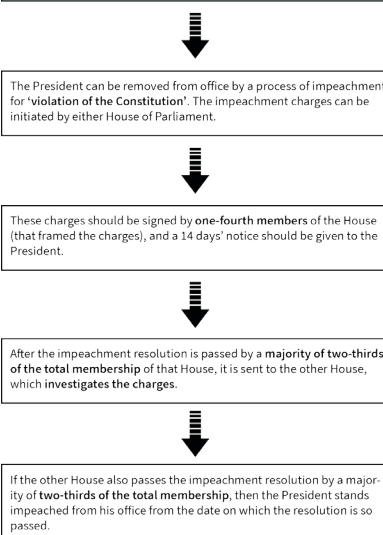
## Impeachment of US President

### Why in News

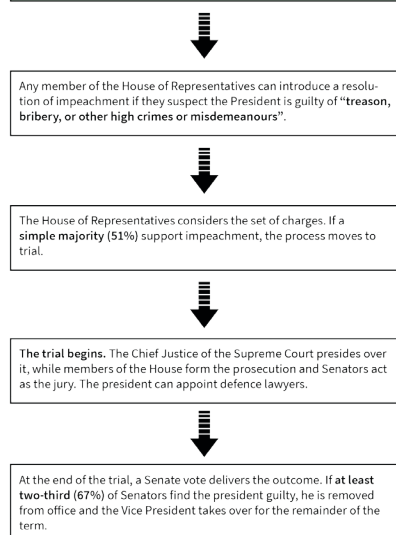
Donald Trump has become the **third US President** in history to be impeached by the House of Representatives. The **trial** will now start in the **Senate**.

- The two prior impeachments were: Andrew Johnson (1868) and Bill Clinton (1998).
- The legislature of the United States of America i.e. **Congress of the United States** consists of two houses: the Senate, in which each state, regardless of its size, is represented by two senators, and the House of Representatives, to which members are elected on the basis of population.
- The US Constitution states that the President can be removed for conviction of treason, bribery, or other high crimes or misdemeanour.

### Procedure for Impeachment of President of India (Article 61)



### Procedure for Impeachment of President of US



- In India, the President can be removed only for 'violation of the Constitution' and the Constitution does **not define the meaning** of the phrase 'violation of the Constitution'.

## Good Governance Day

### Why in News

The Good Governance Day is observed on **25<sup>th</sup> December** to mark the **birth anniversary of former Prime Minister Atal Bihari Vajpayee**.

- On this occasion, a number of initiatives have been taken by the government viz. the launch of **Atal Bhujal Yojana (ATAL JAL)**, naming of **tunnel under Rohtang Pass** as **Atal Tunnel** and the launch of **Good Governance Index (GGI)**.

### Atal Bhujal Yojana

- The Atal Bhujal Yojana (ATAL JAL) is a **centrally sponsored scheme** worth **Rs. 6,000 crore** to be implemented over **5 years** for sustainable management of **groundwater** with community participation.
- ATAL JAL will promote **panchayat led** groundwater management and **behavioural change** with a primary focus on demand-side management.
- It is being implemented by the **Ministry of Jal Shakti** (earlier known as Ministry of Water Resources, River Development and Ganga Rejuvenation).
- The scheme is being funded by the **Government of India** and the **World Bank** on **50:50** basis.

Note:

- The entire World Bank's loan component and central assistance will be passed on to the States as grants.
- The identified **over-exploited and water-stressed areas** for the implementation of the scheme are **Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, and Uttar Pradesh**.
- The States have been selected according to the degree of groundwater exploitation and degradation, established legal and regulatory instruments, institutional readiness, and experience in implementing initiatives related to groundwater management.



### Atal Tunnel

- The **8.8-kilometre-long** Atal tunnel under Rohtang Pass is the **world's longest tunnel above an altitude of 3,000 metres**. It has a **fireproof emergency tunnel** built into the main tunnel itself.
  - Rohtang Pass (elevation 3,978 m) is located in the state of **Himachal Pradesh**.
  - It is present on the **Pir Panjal Range** of Himalayas.
  - It connects the **Kullu Valley with Lahaul and Spiti Valleys** of Himachal Pradesh.
  - The **Ravi river rises** west of the Rohtang pass in the Kullu hills of Himachal Pradesh.
- It will provide **all-weather connectivity to remote areas of Himachal Pradesh and Ladakh (UT)** which otherwise remained cut off from the rest of the country for about six months during winters.
- The tunnel will help to promote tourism in the region.

### Good Governance Index

- The Good Governance Index (GGI) has been launched by the Ministry of Personnel, Public Grievances & Pensions to determine the **status of governance** in the country.
- It assesses the impact of various interventions taken up by the State Government and UTs.
- **Objectives of GGI:**
  - Provide quantifiable data to compare the State of Governance in the States and UTs.
  - Enable States and UTs to formulate and implement suitable strategies for improving governance.
  - Shift to result-oriented approaches and administration.

- The GGI takes into consideration the following **ten sectors**:
  - Agriculture and Allied Sectors,
  - Commerce & Industries,
  - Human Resource Development,
  - Public Health,
  - Public Infrastructure & Utilities,
  - Economic Governance,
  - Social Welfare & Development,
  - Judicial & Public Security,
  - Environment
  - Citizen-Centric Governance
- The States and UTs are divided into three groups — the **Big States, North-East and Hill States, and Union Territories**.
- **Findings of GGI:**
  - **Big States: Tamil Nadu topped** the index followed by Maharashtra, Karnataka, Chhattisgarh and Andhra Pradesh whereas Odisha, Bihar, Goa, Uttar Pradesh and Jharkhand are **poor performers**.
  - **North-East and Hill States: Himachal Pradesh** ranked first, followed by Uttarakhand, Tripura, Mizoram and Sikkim. Jammu and Kashmir, Manipur, Meghalaya, Nagaland, and Arunachal Pradesh are the worst performers in this group.
  - **Union Territories: Puducherry** is the best-governed UT followed by Chandigarh and Delhi. Lakshadweep is the worst performing UT.

Note:



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**Atal Bihari Vajpayee**

- Atal Bihari Vajpayee was born on **December 25, 1924** in the erstwhile princely state of Gwalior (now a part of the Indian State of **Madhya Pradesh**).
- He entered in national politics during the **Quit India Movement of 1942** which hastened the end of British colonial rule.
- He was the Prime Minister of the country in **1996 (for a short period of time) and 1999**. He is the first Prime Minister since Pandit Jawaharlal Nehru to have become Prime Minister of India **with two successive mandates**.
- He has been elected to the **Lok Sabha nine times** and to the **Rajya Sabha** twice. In **1994**, he was named **India's 'Best Parliamentarian'**.
- He was conferred with the **country's highest civilian honour, the Bharat Ratna in 2015** and **second-highest civilian honour, the Padma Vibhushan in 1994**.

## Restructuring of Railway Board

**Why in News**

The Union Cabinet has approved **restructuring of the Railway Board**.

- The **number of Railway Board members** will be **reduced to five from existing eight**.
- The **eight railway services** will be **integrated** into a central service called the **Indian Railway Management Service (IRMS)**. All employees at the management level will come into the Railways through one service — the IRMS.
  - The Indian Railways is organised into service departments such as traffic, civil, mechanical, electrical, signal & telecom, stores, personnel, and accounts.
- This is in line with the recommendations of numerous committees, notably **Rakesh Mohan (2001)** and the **Bibek Debroy panel (2015)**.

**Restructured Board**

- The Board will now consist of **five members** — Chairman, who will act as a CEO, along with four members responsible for infrastructure, operations and business development, rolling stock and finance.

**Railway Board**

- The Railway Board was constituted in **1905** as the **chief administrative and executive body** to assist the Minister of Railways.
- It consists of a Chairman and **seven members** from different service departments such as traffic, civil, mechanical, electrical and signal & telecom.
- There will also be a **Directorate General - Human Resources (DG - HR)** under the Chairman. The Board will also have some independent members, who will be highly distinguished professionals.
- The modalities and unification of the services will be worked out by the Ministry of Railways in consultation with the Department of Personnel and Training (DoPT).
- The Railways will also **upgrade the 27 General Managers (GMs)** working at zonal levels to secretary level grade — highest in the government of India.

**Objective**

- The integration of service departments will **cut the clutter in decision making** and organise the working of the Railway Board and its zones along more commercial lines. This will also **end departmentalism**.
  - The lack of coordination between the maintenance and traffic staff is said to have played a role in the Khatauli rail mishap near Muzaffarnagar in August 2017.
- It will streamline railway operations and provide flexibility the way Railways deploy people. It is a **step towards corporatisation**.
  - **Corporatisation** refers to the restructuring or transformation of a state-owned asset or organization into a corporation.

## UGC Issues Norms for Ethics in Higher Education

**Why in News**

**Ministry of Human Resource Development (MHRD)** has adopted the **Higher Education Quality Improvement Programme Mandate** to improve the quality in higher educational institutions.

- The **Quality Mandate** was developed by the **University Grants Commission (UGC)** which contains 5 documents covering the **5 verticals of Quality Mandate**:

Note:



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- **Evaluation reforms**
- **Eco-friendly and sustainable university campuses**
- **Human values & professional ethics**
- **Faculty induction**
- **Academic research integrity**

### Key Points

- The **quality mandate aims at** evolving higher education system to equip the country's next generation with vital skills, knowledge and ethics for leading a rewarding life.
  - Student evaluation plays a crucial role in improving the quality of Higher Education in the country.

### Five Documents on 5 verticals of Quality Mandate

- **Evaluation reforms:** Under this, the report '**Evaluation Reforms in Higher Educational Institutions in India**' has been published in order to make student assessment more meaningful, effective and linked to '**Learning Outcomes**'.
- **Eco-friendly and Sustainable University Campuses:** The **SATAT - Framework for Eco-Friendly and Sustainable Campus development in Higher Educational Institutions** encourages universities to adopt reflective policies and practices to enhance the environmental quality of the campus and to adopt sustainable and green methods in its future.
- **Human Values & Professional Ethics:** A policy framework '**MulyaPravah – Guidelines for Inculcation of Human Values and Professional Ethics in Higher Educational Institutions**' has been developed to discuss and streamline the process that helps to infuse the culture of human values and ethics in educational institutions.
  - The **guidelines** for values and ethics in higher education call for students to-
    - **Observe modesty** in their overall appearance and behaviour.
    - **Maintain good health** and refrain from any kind of intoxicants.
    - **Maintain harmony** among students belonging to different socio-economic status, community, caste, religion or region.
- **Faculty Induction:** The guidelines for Guru-Dakshta – A guide to **Faculty Induction Programme (FIP)** will fulfill its main objective to sensitise and motivate the faculty

to adopt learner centred approaches, **Information and Communication Technology (ICT)** integrated learning and new pedagogic approaches to teaching-learning, assessment tools in higher education.

- **Academic Research Integrity:** UGC is putting up efforts for setting up a **Consortium for Academic and Research Ethics (UGC-CARE)** to continuously monitor and identify quality journals across disciplines. It will be useful to create more awareness and help the cause of promoting academic integrity and ethical publishing.

### University Grants Commission

- It came into existence on **28<sup>th</sup> December, 1953** and became a **statutory organization** of the Government of India by an **Act of Parliament in 1956**, for the coordination, determination and maintenance of standards of teaching, examination and research in university education.
- The **head office** of the UGC is located in **New Delhi**.

## India State of Forest Report (ISFR) 2019

### Why in News

The Ministry for Environment, Forests and Climate Change has released the India State of Forest Report (ISFR), 2019.

- ISFR is a **biennial publication** of **Forest Survey of India (FSI)**, an organization under the Ministry of Environment Forest & Climate Change.
- The ISFR **assesses** the forest and tree cover, bamboo resources, carbon stock and forest fires.
- The 2019 report for the first time has assessed the qualitative nature of the forest cover, including listing its biodiversity and the type of plants and trees found.
- It also created a **national forest inventory for the first time** on produce from forests.

### Key Findings

- **Forest Cover**
  - Forest Cover (Area-wise): Madhya Pradesh> Arunachal Pradesh> Chhattisgarh> Odisha> Maharashtra.
  - Forest Cover (Percentage): Mizoram (85.4%)> Arunachal Pradesh (79.63%)> Meghalaya (76.33%).

Note:

### ➤ Increase in Forest Cover

- The country's forest cover includes all patches of land with a tree canopy density of more than 10% and more than 1 hectare in area, irrespective of land use, ownership and species of trees.
- The total forest cover of the country is 7,12,249 sq km which is **21.67% of the geographical area** of the country.
- The **top five states** to have shown an increase in forest cover include **Karnataka (1,025 sq km) > Andhra Pradesh (990 sq km) > Kerala (823 sq km) > J&K (371 sq km) > Himachal Pradesh (334 sq km).**

### ➤ Decline of Forest Cover in North Eastern Region

- Total forest cover in the North Eastern region is 1,70,541 sq km, which is 65.05% of its geographical area.
- There has been a decrease of forest cover to the extent of 765 sq km (0.45%) in the region. **Except Assam and Tripura, all the States** in the region show **decrease** in forest cover.

### ➤ Forest Cover in Tribal Districts

- The total forest cover in the tribal districts is 4,22,351 sq km, which is 37.54% of the geographical area of these districts.
- There has been a decrease of 741 sq km of forest cover within the Recorded Forest Area/ Green Wash (RFA/GW) in the tribal districts and an increase of 1,922 sq km outside.
- There has been a decline in tree cover inside forests due to tribal populations getting "**land titles**" (**patta**) and there has been a rise in trees outside the forest area due to an increase in tree plantation and afforestation activities.

#### Note

- **Recorded Forest Area:** The area recorded as forest in the Government records.
- **Green Wash:** The extent of wooded areas generally shown in light green colour on the Survey of India toposheets.

### ➤ Increase in the tree cover

- Tree cover includes all patches of trees less than 1 hectare.
- The tree cover of the country is estimated as 95,027 sq km which is 2.89% of the geographical area.

- **Maharashtra has had the highest increase in tree cover** and a large part of that is due to horticulture.

### ➤ In comparison to 2017

- The 2019 survey has found an increase of 5,188 sq km in total forest and tree cover in the country.
- **Tree and forest cover** together made up **24.56% (8,07,276 sq km)** of India's area. In the **last assessment** it was **24.39%**.
- The nation's tree and forest cover has largely hovered from 21-25% and is short of the **National Forest Policy, 1988**, which envisages 33% to be under such cover.

- Mangrove cover in the country has increased by 54 sq km (1.10%) as compared to the previous assessment.

### ➤ Carbon Stock

- The total carbon stock of the country was estimated at **7124 million tons**, which is an **increase of 42.6 million tons** from the last assessment.
- It implies that India is on the right track to achieve its Paris Agreement commitment of 2.5 -3 billion carbon sinks.

### ➤ Wetlands

- The total number of wetlands located within the RFA/GW is 8.13%.
- Amongst the States, **Gujarat** has the largest area of wetlands within RFA in the country followed by **West Bengal**.

### ➤ Forest Produce

- Dependence of fuelwood on forests is the highest in the State of Maharashtra, whereas, for fodder, small timber and bamboo, dependence is highest in Madhya Pradesh.
- The analysis reveals that 21.40% of the forest cover of the country is highly to extremely fire prone.

#### National Forest Policy, 1988

- The policy aims at maintaining of environmental stability.
- It looks at conserving the natural heritage of the country by preserving the remaining natural forests.
- Increasing forest/tree cover in the country through massive afforestation and social forestry programmes.
- Creating a massive people's movement for achieving these objectives and to minimise pressure on existing forests.

Note:

## SDG India Index by NITI Ayog

### Why in News

NITI Aayog has released the **second edition of the Sustainable Development Goals (SDG) India Index (SDG Index 2.0)**.

- The index documents the **progress made by India's States and Union Territories** towards achieving the **2030 SDG targets**.
- The Index spans 16 out of 17 SDGs which marks an **improvement over the 2018 Index**, which covered only 13 goals.
- The SDG India Index has been developed in **collaboration** with the Ministry of Statistics and Programme Implementation (MoSPI), the United Nations, and the Global Green Growth Institute.
- The year **2020 will be the 5<sup>th</sup> anniversary** of the adoption of SDGs by 193 countries at the UN General Assembly.

### Key Points

- **Methodology Followed**
  - A **composite score** for SDG Index (2019) was computed in the **range of 0–100** for each State/UT based on its aggregate performance across 16 SDGs.
    - The **higher the score** of a State/UT, the **closer it** is towards **achieving the 2030 national targets**.
  - States /UTs are classified based on the SDG India Index Score as follows:
    - **Aspirant:** 0–49
    - **Performer:** 50–64
    - **Front Runner:** 65–99
    - **Achiever:** 100
- **National Analysis**
  - India's composite score improved from 57 in 2018 to 60 in 2019-20 with major success in **water and sanitation, power and industry**.

#### TOP 12, THE STATES

Kerala	70
Himachal	69
Andhra	67
Tamil Nadu	67
Telangana	67
Karnataka	66
Goa	65
Sikkim	65
Gujarat	64
Maharashtra	64
Uttarakhand	64
Punjab	62

#### BOTTOM 5, THE STATES

Bihar	50
Jharkhand	53
Arunachal	53
Meghalaya	54
UP, Assam	55

#### TOP 5, THE UTs

Chandigarh	70
Puducherry	66
Dadra & NH	63
Lakshadweep	63
Delhi, A&N Islands, Daman & Diu	61

- However, **nutrition and gender equality continue to be problem areas** for India, requiring a more focused approach from the government
- The ranks of **14 states have dropped** in the index compared to 2018.
- All states and union territories **except for Delhi** have scored **above 65**.

### ➤ State/UT Wise Analysis

- **States:**
  - **Kerala** has the **top rank** with a score of 70 followed by **Himachal Pradesh with 69 points**. Further, Andhra Pradesh, Tamil Nadu and Telangana shared the third spot with each state scoring 67 on the Index.
  - **Bihar** has emerged as the **worst performer** with the **lowest** score of **50**. Jharkhand, Arunachal Pradesh, Meghalaya and Uttar Pradesh are also some of the worst-performing states on the index.
  - **Uttar Pradesh** has shown **maximum improvement** followed by Odisha and Sikkim.
- **Union Territories:**
  - **Chandigarh** has **topped** the list with the score of 70 followed by **Puducherry with 66**.



Note:

# Economic Scenario

## Highlights

- GST Council Meet
- National Company Law Appellate Tribunal
- Operation Twist
- Locust Invasion in Gujarat
- Fund Raising Through Initial Public Offer
- MGNREGA Trends
- Financial Stability Report: RBI

## GST Council Meet

### Why in News

Recently, **GST Council** held its **38<sup>th</sup> meeting** to decide on range of issues like taxation on lotteries, waiver on late fees, setting of industrial parks etc.

### Key Points

- **Taxation on Lotteries:** The vote in this issue went in favour (**21 states voted for and 7 states voted against**) of the proposal and a uniform tax rate will come into effect from **March 1, 2020**.
  - At present, there is a dual rate regime for lotteries, with **state-run lotteries taxed at 12%**, while state-authorized lotteries (run by **private players**) face a **28% tax rate**.
- The Council also **decided to waive the late fee for GSTR-1 (monthly return that summarizes all sales/outward supplies of a taxpayer) taxpayers** who have not filed returns from July 2017 to November 2019 if all the returns are filed by January 10, 2020.
  - If this deadline is missed, then e-way bills will be blocked for defaulters.
- In **Jammu and Kashmir and the northeastern states, tax filing deadline** for November has been extended to the end of the year keeping in mind the situation.
- The Council has decided that all entities with **20% ownership by central or state governments** will be exempt from GST payable for long-term land leases (from January 1, 2020) to **facilitate the setting up industrial parks**.

- **Earlier**, only entities with a 50% government stake were exempt.
- It also imposed a **uniform tax rate of 18% on woven and non-woven bags** from **January 1, 2020**.

### GST Council

- It is a **constitutional body** under **Article 279A** for making recommendations to the Union and State Government on issues related to **Goods and Service Tax** and was introduced by the Constitution (One Hundred and First Amendment) Act, 2016.
- The GST Council is **chaired by the Union Finance Minister** and other members are the Union State Minister of Revenue or Finance and Ministers in-charge of Finance or Taxation of all the States.
- It is **considered as a federal body** where both the centre and the states get due representation.
- Every decision of the Goods and Services Tax Council shall be taken at a meeting by a **majority of not less than three-fourths of the weighted votes of the members present and voting**, in accordance with the following principles, namely:
  - the vote of the Central Government shall have a weightage of one third of the total votes cast, and
  - the votes of all the State Governments taken together shall have a weightage of two-thirds of the total votes cast, in that meeting.
- Economic Survey 2017-18 also hailed the GST Council for its cooperative federalism which brings together the Center and States and can be applied to many other policy reforms.

Note:



## National Company Law Appellate Tribunal

### Why in News

The **National Company Law Appellate Tribunal (NCLAT)** has held that the **removal of Cyrus Pallonji Mistry** from the **post of Executive Chairman** of Tata Sons in 2016 was **illegal**.

- The Tribunal has set aside a July 2017 order by the Mumbai bench of the **National Company Law Tribunal (NCLT)**, which had upheld Mistry's removal from his position.
- The NCLAT also declared the conversion of the 'Tata Sons Limited' from '**Public Limited Company**' to '**Private Limited Company**' by Registrar of Companies **illegal**. It remarked that the decision to convert the company to private was 'prejudicial' and 'oppressive' to the minority shareholders.
- In general, this decision by NCLAT will **empower the minority shareholders**, and will force Independent Directors to take their objections more seriously.
  - The Code for **Independent Directors**, which is part of the Companies Act, 2013, says that one of their functions is to "**safeguard the interests of all stakeholders, particularly the minority shareholders**".

### National Company Law Appellate Tribunal

- The NCLAT was constituted under **Section 410 of the Companies Act, 2013** to hear appeals against the **orders of the National Company Law Tribunal (NCLT)**.
  - NCLT is the outcome of the Eradi Committee which is quasi-judicial body to deal with corporate disputes that are of civil nature arising under the Companies Act, 2013.
- It is also the appellate tribunal for orders passed by the **NCLT(s) under Section 61 of the Insolvency and Bankruptcy Code (IBC), 2016**, and for orders passed by the **Insolvency and Bankruptcy Board of India (IBBI) under Sections 202 and 211 of the IBC**.
- Any person aggrieved by any order of the NCLAT may file an **appeal to the Supreme Court**.

### Note:

- **Minority shareholders:** They are the equity holders of a firm who does not enjoy the voting power of the firm by virtue of his or her below 50% ownership of the firm's equity capital.
- **Independent Director: An independent director** is a non-executive director of a company who helps the company in improving corporate credibility and governance standards. He/ She does not have any kind of relationship with the company that may affect the independence of his/ her judgment.
- **Public and Private Companies**
  - Under the Companies Act, 2013, a company may be formed for any lawful purpose by—
    - Seven or more persons, where the company to be formed is to be a public company;
    - Two or more persons (limited to 200), where the company to be formed is to be a private company;
    - One person, where the company to be formed is to be One Person Company (a private company).
  - **Suffix after the Name of the Company:** 'Limited' in the case of a public limited company and 'Private Limited' in the case of a private limited company.
- **Registrars of Companies (ROC):** These appointed under Section 609 of the Companies Act are vested with the primary duty of registering companies and Limited Liability Partnerships (LLPs) floated in the respective states and the Union Territories and ensuring that such companies and LLPs comply with statutory requirements under the Act.

## Operation Twist

### Why in News

The **Reserve Bank of India** has announced that it will carry out **US-style 'Operation Twist'** to bring down long term interest rates.

- **Need of Operation Twist:** Despite a cumulative reduction of 135 basis points in repo rate since January 2019, banks have not been able to pass on the benefits to consumers.

Note:

**'Operation Twist'**

- 'Operation Twist' is when the **central bank uses the proceeds from the sale of short-term securities to buy long-term government debt papers**, leading to **easing of interest rates on the long term papers**.
- Operation Twist first appeared in 1961 as a way to strengthen the U.S. dollar and stimulate cash flow into the economy.
- In June 2012, Operation Twist was so effective that the yield on the 10-year U.S. Treasury dropped to a 200-year low.

**Key Points**

- RBI will conduct **simultaneous purchase and sale of government securities under Open Market Operations (OMO)** for ₹10,000 crore each.
- It will purchase the long-term maturities (i.e government bonds maturing in 2029), and simultaneously sell the shorter duration ones (i.e. short-term bonds maturing in 2020).
- The eligible participants can bid or submit offers in electronic format on **RBI's Core Banking Solution (E-Kuber)**.

**Open Market Operations**

- Open Market Operations (OMO) is one of the quantitative (to regulate or control the total volume of money) monetary policy tools which is employed by the central bank of a country to control the money supply in the economy.
- OMOs are conducted by the RBI by way of sale or purchase of government securities (g-secs) to adjust money supply conditions.
- The central bank sells g-secs to remove liquidity from the system and buys back g-secs to infuse liquidity into the system.
- These operations are often conducted on a day-to-day basis in a manner that balances inflation while helping banks continue to lend.
- RBI carries out the OMO through commercial banks and does not directly deal with the public.
- The RBI uses OMO along with other monetary policy tools such as repo rate, cash reserve ratio and statutory liquidity ratio to adjust the quantum and price of money in the system.

**Benefits**

- This simultaneous purchase and sale will bring down interest on long term loans which can lead to increase in economic spending.
- OMOs are primarily done to maintain ample liquidity in the system, which reflects that the **RBI is keen that banks should transmit lower rates to borrowers**.
- The action of Operation Twist by the RBI is encouraging for the market. This step may become a driving factor for long-term economic activity and the addition of new investment stock.

**Locust Invasion in Gujarat****Why in News**

The **migratory insect – locust** has swarmed the northern parts of Gujarat, causing significant damage to agriculture.

- The **locusts**, known as **tiddis locally**, destroyed standing crops of castor, cumin, jatropha, cotton, and potato, and fodder grass in around 20 talukas.
- **Gujarat has not witnessed such an invasion of locusts since 1993-94.**
- The locusts emerged in February 2019 from Sudan and Eritrea in Africa's Red Sea Coast and travelled through Saudi Arabia and Iran to enter Pakistan, where they invaded the Sindh province and from there they moved into Rajasthan and Gujarat, where south western monsoon had prolonged this time.
  - The **UN Food and Agriculture Organisation (FAO)** had issued an alert of a massive locust attack in South Asia covering Pakistan and India.



Note:



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- The **Locust Warning Organization (LWO)** in Jodhpur also noticed the swarms and predicted their trajectory across the international border.

### Locust

- A locust is a large, mainly **tropical grasshopper** with strong powers of flight. They **differ from ordinary grasshoppers** in their ability to change behaviour (gregarize) and form swarms that can migrate over large distances.
- Locusts are generally seen during the months of June and July as the insects are active from summer to the rainy season.
- Locusts have a high capacity to multiply, form groups, migrate over relatively large distances (they can fly up to 150 km per day). They can rapidly reproduce and increase some 20-fold in three months.
- **Threat to Vegetation:** Adults Locust can eat their own weight every day, i.e. about two grams of fresh vegetation per day. A very small swarm eats as much in one day as about 35,000 people, posing a devastating threat to crops and food security.
- **FAO** provides information on the general locust situation to the global community and gives timely warnings and forecasts to those countries in danger of invasion.
- **Locust Warning Organisation (LWO)**, Directorate of Plant Protection Quarantine and Storage, **Ministry of Agriculture & Farmers Welfare**, is responsible for monitoring, survey and control of Desert Locust in Scheduled Desert Areas mainly in the States of Rajasthan and Gujarat.

## Fund Raising Through Initial Public Offer

### Why in News

Fund raising through **Initial Public Offer (IPO)** in 2019 stood at Rs. 12,362 crore, lowest since 2014 when companies raised Rs 1,201 crore through IPOs.

- However, fund-raising through **Offers-For-Sale (OFS)** and **Qualified Institutional Placements (QIPs)** remained higher in 2019 as compared to 2018.
- The overall amount raised through **Infrastructure Investment Trusts (InvITs)** and **Real estate Investment Trusts (REITs)** was 127% more than in previous year.

### Initial Public Offer

- An Initial Public Offer (IPO) is the **selling of securities to the public in the primary market**.
  - **Primary market** deals with **new securities being issued for the first time**. It is also known as the new issues market.
  - It is different from secondary market where existing securities are bought and sold. It is also known as the stock market or stock exchange.
- It is when an unlisted company makes **either a fresh issue of securities or an offer for sale of its existing securities** or both for the first time to the public.
  - **Unlisted companies** are companies that are not listed on the stock exchange.
- It is generally used by new and medium-sized firms that are looking for funds to grow and expand their business.

### Offer For Sale

- Under this method, **securities are not issued directly to the public but are offered for sale through intermediaries** like issuing houses or stock brokers.
- In this case, a company sells securities enbloc at an agreed price to brokers who, in turn, resell them to the investing public.

### Qualified Institutional Placements

- A Qualified Institutional Placements (QIP) is a way for **listed companies** to raise capital without having to submit legal paperwork to market regulators.
  - These are more cost-efficient and were introduced in India to reduced the dependence of foreign capital in Indian economy.
- It is a **method of private placement** whereby a listed company can issue shares or convertible securities to a select group of investors.
- But unlike in an IPO, only institutions or **Qualified Institutional Buyers (QIBs)** can participate in a QIP issuance.
  - QIBs include mutual funds, domestic financial institutions such as banks and insurance companies, venture capital funds, foreign institutional investors, and others.

### Infrastructure Investment Trust

- InvIT is a collective investment scheme **similar to a mutual fund**, which enables direct investment of

Note:



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money from individual and institutional investors in infrastructure projects to earn a small portion of the income as return.

- The InvITs are regulated by the **SEBI (Infrastructure Investment Trusts) Regulations, 2014**.

### Real estate Investment Trust

- REITs are securities linked to real estate that can be traded on stock exchanges once they get listed.
- The structure of REITs is **similar to that of a mutual fund**. Just like mutual funds, there are sponsors, trustees, fund managers and unit holders in REITs.
- However, unlike mutual funds, where the underlying asset is bonds, stocks and gold, **REITs invest in physical real estate**.
- The money collected is deployed in income-generating real estate. This income gets distributed among the unit holders. Besides regular income from rents and leases, gains from capital appreciation of real estate also form an income for the unit holders.

## MGNREGA Trends

### Why in News

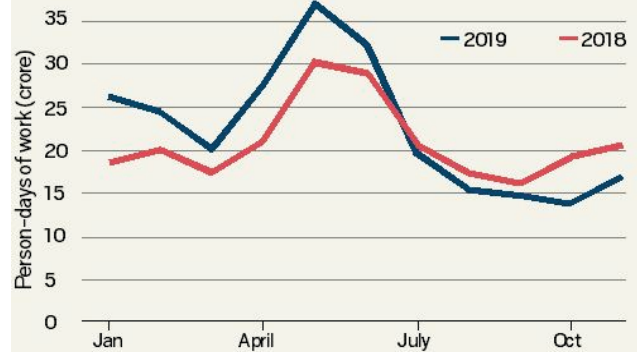
After July 2019, the number of jobs generated under the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** has gone down compared to 2018.

### Key Points

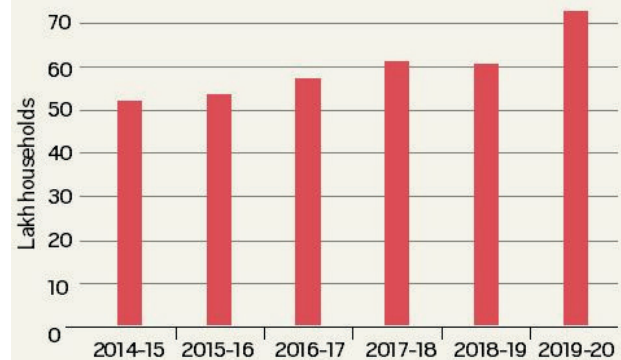
- There has been a decrease in the number of people who were actually provided work out of the total number of households whose demand for work was registered by the gram panchayat authorities concerned. In 2018-19, demand was registered from 5.88 crore households, and 5.27 crore of them were provided work.
- The year 2019 has witnessed a dip in the person-days of employment under MGNREGA, which is visible after July.
  - In the period before July 2019, the work provided exceeded the corresponding levels for 2018.
  - The fall in MGNREGA employment after July has been **largely due to the onset of the southwest monsoon**.

- The gap between the number of households demanding MGNREGA work and the number who were provided work has been the highest in 2019-20. This indicates that even if demand fell, supply of work fell even more.

### WORK PROVIDED, LAST YEAR & THIS YEAR



### DEMAND-SUPPLY GAP



### Lack of Funds

- The cost of providing a day's work to a single person has been taken at an average of ₹249.86 for 2019-20. For 270.21 crore people, the MGNREGA budget worked out to roughly ₹67,514.67 crore.
- But the total budgetary allocation has been only ₹60,000 crore, which also includes provision towards material and administrative expenses.
  - Adding to the problem, ₹55,829.62 crore was already spent as on December 24, 2019.
- Apart from this, the Centre has revised upwards its original plan of providing 260 crore person-days of work for 2019-20 to 316.73 crore person-days.
  - This move came after a decision to augment the number of days of employment per household under MGNREGA from 100 to 150 in flood-affected districts of states such as Karnataka.

Note:



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## Challenges with Other Schemes

- **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)**
  - In the first instalment (December 2018 to March 2019), 8.05 crore farmers were covered, with each of them receiving ₹2,000. Those numbers fell to 7.43 crore in the second instalment (April-July 2019) and further to 5.91 crore in the third (August-November).
  - In all, the total amount disbursed under the scheme for 2019-20 is ₹32,320.86 crore, which is significantly short of the ₹75,000 crore budgeted for it.
  - Further, of the total ₹95,000 crore allocated for the scheme since its inception in 2018, ₹48,421.65 crore (roughly half of the total amount) has been spent up to December 2019.
- **PM Awas Yojana-Gramin**
  - The number of rural houses built under the scheme has seen a drop to 7.2 lakh in 2019-20 from 47.33 lakh in 2018-19.

## Financial Stability Report: RBI

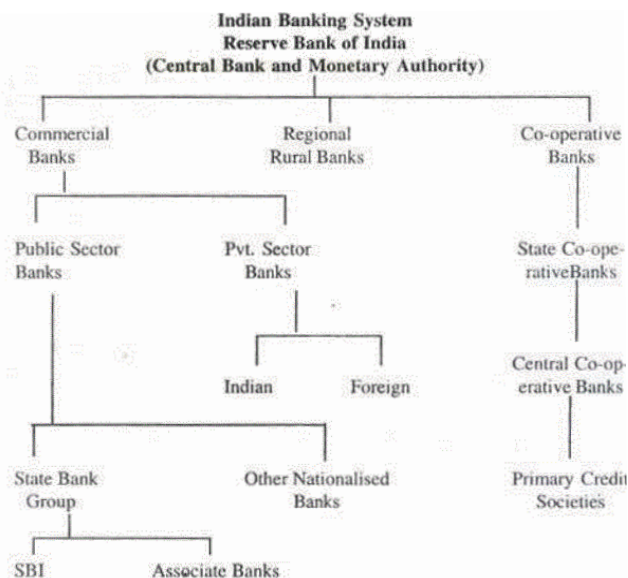
### Why in News

The Reserve Bank of India has released the 20<sup>th</sup> issue of the Financial Stability Report (FSR).

- The FSR reflects the collective assessment of the **Sub-Committee of the Financial Stability and Development Council (FSDC)** on risks to financial stability and the resilience of the financial system.
- The Report also discusses issues relating to development and regulation of the financial sector.

### Key Points

- **Credit Growth**
  - Bank credit is the total amount of funds a person or business can borrow from a bank.
  - Scheduled Commercial Banks' (SCBs) credit growth remained subdued at 8.7% year-on-year (y-o-y) in September 2019, down from 13.2% in March 2019.
  - Private Sector Banks (PSBs) registered double digit credit growth of 16.5% in September 2019.
- **Expected Increase in Gross Non-Performing Asset (GNPA) Ratio**
  - SCB's Gross Non-Performing Asset (GNPA) ratio of banks may increase to 9.9% by September 2020 from 9.3% in September 2019.



- Public Sector Banks' (PSB) GNPA ratios may increase to 13.2% by September 2020 from 12.7% in September 2019.
- For private banks, the ratio may climb to 4.2% from 3.9%, under the stress scenario.
- Foreign banks' (FB) GNPA ratio may increase to 3.1% from 2.9% in September 2019.

### Non-Performing Asset

- Non-Performing Assets (NPA) refer to a classification for loans or advances that are in default or are in arrears on scheduled payments of principal or interest.
- In most cases, debt is classified as non-performing, when the loan payments have not been made for a minimum period of 90 days.
- Gross non-performing loans are the sum of all the loans that have been defaulted by the individuals who have acquired loans from the financial institution.
- Net non-performing assets are the amount that is realized after provision amount has been deducted from the gross non-performing assets.
- All banks' **Capital to Risk-weighted Assets Ratio (CRAR)** improved to 15.1% in September 2019 from 14.3% in March 2019, following the recapitalisation of PSBs by the government.
  - CRAR is a measurement of a bank's available capital expressed as a percentage of a bank's risk-weighted credit exposures. It is also known as the Capital Adequacy Ratio (CAR).

Note:

- $CAR = (\text{Tier 1 Capital} + \text{Tier 2 Capital}) / \text{Risk weighted Assets}$
- Tier-1 capital, or core capital, consists of equity capital, ordinary share capital, intangible assets and audited revenue reserves. Tier-1 capital is the capital that is permanently and easily available to cushion losses suffered by a bank without it being required to stop operating.
- Tier-2 capital comprises unaudited retained earnings, unaudited reserves and general loss reserves. This capital absorbs losses in the event of a company winding up or liquidating
- **Provision Coverage Ratio (PCR)** of all SCBs rose to 61.5% in September 2019 from 60.5% in March 2019 implying increased resilience of the banking sector.
- Provisioning Coverage Ratio (PCR) refers to the

prescribed percentage of funds to be set aside by the banks for covering the prospective losses due to bad loans.

### **Way Forward**

- The global economy confronted a number of uncertainties – a delay in the Brexit deal, trade tensions, protectionism, oil-market disruptions and geopolitical risks – leading to significant deceleration in growth.
- As regards the domestic economy, aggregate demand slackened in second quarter of 2019-20 further extending the growth deceleration.
- Reviving the twin engines of consumption and investment while being vigilant about spillovers from global financial markets remains a critical challenge going forward.



Note:

# International Relations

## Highlights

- Britain Elections
- Global Refugee Forum
- Indo – US 2+2 Dialogue
- Afghanistan First Country to Recognise Indian Pharmacopoeia

## Britain Elections

### Why in News

Britain elected Boris Johnson of the Conservative Party as its Prime Minister in the recently concluded elections. This victory gives Boris Johnson a clear mandate to take the United Kingdom out of the **European Union** without any delay.

### Key Points

- Johnson called for an early election after reaching a new divorce deal with the EU. He turned the poll into a de facto **Brexit referendum**.
  - His strategy was to consolidate the pro-Brexit vote, get a fresh mandate in Parliament and then quicken the Brexit process.

The Brexit Financial Settlement (Divorce Bill) is a sum of money UK needs to pay to the EU for settling all shares of the financial obligations undertaken while being a member of the EU, i.e., it sets out how UK and EU will settle their outstanding financial obligations.

- **Brexit:** In 2016, a referendum was held by the U.K. government and the nation voted to leave the EU. Now the process is under the U.K. Parliament for formal withdrawal from the EU.
- **Brexit** supporters wanted Britain to take back full control of its borders and reduce the number of people coming here to live and/or work.
- **Impact on Britain:**
  - It will give a boost to the nationalism with tougher laws on immigration.
  - Britain will also have to deal with Brexit's effect on its economy, including the long process of new bilateral trade agreements with many other countries, including India.

### Challenges

- The road ahead is not smooth even after a timely exit. The **Brexit agreement** itself is **controversial** and it could **erect an effective customs border** between **Britain** and the **island of Ireland** after implementation.
  - It raises the concern on Brexit's impact on the **Good Friday Agreement**.

**The Good Friday Agreement or the Belfast Agreement (1998):** It was a peace agreement between the British and Irish governments and most of the political parties in Northern Ireland, on how Northern Ireland should be governed.

- **Negotiating an agreement** on the U.K.'s future relationship with the EU is an equally challenging task.
- The **Scottish National Party** swept Scotland's seats which might revive pro-independence sentiments in Scotland.
  - Scotland had a **referendum in 2014** on whether it should stay in the U.K. or be independent of it. The referendum **rejected independence** and the Scottish population was in favour of remaining in the European Union.
  - Scotland rejected independence by **55% to 45%**.

## Global Refugee Forum

### Why in News

Recently, the **Global Refugee Forum meeting** was held in Geneva, Switzerland.

- It was the first ever meeting of global refugee forum.

### Key Points

- **Global Refugee Forum** is guided by the **Global Compact on Refugees**.

Note:

- The **compact** calls for greater support to refugees and the countries that host them, often among the poorest in the world, and also aims to help refugees become more self-reliant so that they can contribute more to their own future and to that of the host community.
- The compact emerged from the **New York Declaration for Refugees and Migrants in 2016**.
- The **United Nations General Assembly** unanimously adopted the declaration in 2016. It reaffirms the importance of the international refugee regime and contains a wide range of commitments by Member States to strengthen and enhance mechanisms to protect people on the move.
- It is part of the **United Nations High Commissioner for Refugees (UNHCR)**.

#### United Nations High Commissioner for Refugees

- It is a **UN Refugee Agency** and a global organization dedicated to saving lives, protecting the rights and building a better future for refugees, forcibly displaced communities and stateless people.
- It was **created in 1950** to help millions of Europeans who had fled or lost their homes.
- It is headquartered at **Geneva, Switzerland**.

## Indo – US 2+2 Dialogue

### Why in News

India and the US have recently concluded **second 2+2 ministerial dialogue** in **Washington**.

- Several landmark agreements in both defence and Civilian sectors were signed. Few of the important agreements are:
- **Industrial Security Annex (ISA)**
  - ISA to the **General Security Of Military Information Agreement (GSOMIA)** will provide a framework for exchange and protection of **classified** military information **between the U.S. and Indian defence industries**.
  - Currently, under GSOMIA, such information is exchanged between the Government authorities of the two countries but **not** between **private parties**.
  - This will further promote **“Make in India”** in the defence sector. In accordance with the budget announcement (2018-19), the government has

decided to set up two Defence Industrial Corridors in the Country, one in Uttar Pradesh and another in Tamil Nadu.

#### ➤ Peacekeeping for Indo-Pacific

- Cooperation in **capacity-building** of UN peacekeepers from Indo-Pacific countries, based on demands from the countries concerned.
- Counter-terrorism efforts were also discussed including dangers of cross border terrorism.

#### ➤ Tiger Triumph Exercise

- To hold the **India-U.S. joint tri-services ‘Tiger Triumph’** on an **annual** basis.
- **The first edition** was held in **November 2019** as a **Humanitarian Assistance and Disaster Relief (HADR)**.

#### ➤ Coalition for Disaster Resilient Infrastructure (CDRI)

- The **CDRI** was launched at the **UN Climate Action Summit** in **New York, USA** in September 2019. It is **headquartered in New Delhi, India**.
- The US is now part of it.

#### ➤ Water Resource Management

- Memorandum of understanding (MoU) was signed between Ministry of **Jal Shakti** and the **U.S. Geological Survey** to promote **technical cooperation** in water resources management and water technology.

#### ➤ Space Situational Awareness (SSA)

- Cooperation for exchange of information including **space debris and space traffic management**.
- It ensures **navigational safety of our space assets**.

#### ‘2+2’ Dialogue

- It is a format of dialogue where the **defense and foreign ministers or secretaries** meet with their counterparts from another country. 2+2 Ministerial is the highest-level institutional mechanism between the two countries
- India holds such talks with **Australia**, at the foreign secretary and defense secretary level but with **Japan** and the **US** at the ministerial level.
- With the US this was the second 2+2 meeting (Washington), First was held in New Delhi in September 2018.
- US holds such ministerial dialogues with **Australia and Japan** also.

Note:



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- **The Young Innovators Internship Programme (YIIP)**
  - Create **internship** opportunities in **key areas of science and economy**.
  - New opportunities for **young entrepreneurs**.
- **Parliamentary Exchange and Judicial cooperation**
  - **Reciprocal visits** by Parliamentarians from both countries.
  - The U.S. Federal Judicial Center and **India's National Judicial Academy in Bhopal** to cooperate in the area of **counter-terrorism jurisprudence to new areas of criminal jurisprudence** including **money laundering, drug trafficking** etc.

## **Afghanistan First Country to Recognise Indian Pharmacopoeia**

### **Why in News**

The Islamic Republic of Afghanistan has formally recognised the Indian Pharmacopoeia (IP), recently.

- It is a reputable book of standards for drugs. Now it will be used in Afghanistan to ensure quality of health products.

### **Indian Pharmacopoeia**

- It is an officially recognized book of standards as per the Drugs and Cosmetics Act, 1940 and Rules 1945 thereunder.
- As per the Second Schedule of the Drugs and Cosmetics Act, IP is designated as the official book of standards

for drugs imported and/or manufactured for sale, stock or exhibition for sale or distribution in India.

- It specifies the standards of drugs manufactured and marketed in India in terms of their identity, purity and strength.
- Standards prescribed in the IP are authoritative in nature and are enforced by the regulatory authorities for quality control of medicines in India.
- It is being published as an official document for improving quality of medicines by way of adding new and updating existing monographs by the Indian Pharmacopoeia Commission.

### **Indian Pharmacopoeia Commission**

- It is an **autonomous institution** under the **Ministry of Health and Family Welfare** which is responsible to set standards of drugs in the country.
- It promotes public and animal health in India by bringing out authoritative and officially accepted standards for quality of drugs including active pharmaceutical ingredients, excipients and dosage forms, used by health professionals, patients and consumers.
- It also develops IP Reference Substances (IPRS) that act as fingerprints for identification of an article under test and its purity as prescribed in the IP monographs.

### **The Drugs and Cosmetics Act, 1940**

- It is an act of Parliament which regulates the import, manufacturing and distribution of drugs in India.
- Its objective is to ensure that the drugs and cosmetics sold in India are safe, effective and fulfils the safety standards and parameters.



Note:

# Science and Technology

## Highlights

- Fuel Cell Electric Vehicle
- Water Hyacinth Helps Detect Herbicide Pollution
- Electro-Kinetic Streaming to Tap Energy from Water
- Strand Hogg
- Space Force by USA
- CST-100 Starliner

## Fuel Cell Electric Vehicle

### Why in News

Recently, the **Supreme Court** of India has directed the government to look into the feasibility of **Fuel Cell Electric Vehicle (FCEV)** to deal with air pollution.

- Research is ongoing at the **International Research Center for Hydrogen Energy at Kyushu University, Japan** on FCEVs based on **hydrogen cell technology**, also known as 'fuel cells'.
- In this context the Indian government is studying the research closely as it readies a hydrogen-fuelled blueprint.

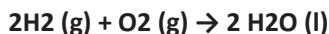
### Fuel Cell

- Fuel cells and batteries **convert chemical energy into electrical energy** and are very useful forms of galvanic cell.
- A galvanic or voltaic cell is an electrochemical cell that converts chemical energy into electrical energy through the **redox reactions** that occur within the cell.
- Galvanic cells that are designed to convert the energy of combustion of fuels like hydrogen, methane, methanol, etc. directly into electrical energy are called fuel cells. One of the most successful fuel cells uses the reaction of hydrogen with oxygen to form water.

### Key Points

- **Mechanism:** The **Fuel Cell Electric Vehicle (FCEV)** combines hydrogen and oxygen to generate an electric current and **water is the only byproduct**.

**Hydrogen + Oxygen = Electricity + Water Vapour**



- **Fuel Cell Electric Vehicle (FCEV)** engines are **similar to the conventional internal combustion engines** because they also **rely on a constant supply** of fuel (hydrogen) and oxygen.
  - However, there are **no moving parts** in the fuel cell, so they are **more efficient and reliable**.
- **Stationary fuel cells are the largest and most powerful** fuel cells. These are being designed to provide a cleaner, reliable source of on-site power to hospitals, banks, airports and homes.
- The successful development of the technology would **provide energy for transportation and electric power**.
- **Hydrogen fuel tanks** are made from **highly durable carbon fibre**. Some FCEVs have a triple-layer hydrogen tank made of woven carbon fibre.

### Advantages

- FCEVs produce much **smaller quantities of greenhouse gases** and none of the air pollutants that cause health problems.
- Fuel cells **emit only heat and water as a byproduct** and are **far more energy-efficient** than traditional combustion technologies.
- FCEVs **do not need to be plugged in for charging**, like battery-powered EVs.
- There is a **wide availability of resources for producing hydrogen**.

### Disadvantages

- The **process of making hydrogen needs energy**, often from **fossil fuel** sources, which raises questions over hydrogen's green credentials.
- Handling of hydrogen is a safety concern because it is **more explosive** than petrol.

Note:

- These vehicles are expensive and fuel dispensing pumps are scarce.

### Status in India

- In India, so far, the definition of **Electric Vehicles** only covers **Battery Electric Vehicles (BEVs)**.
  - BEVs have **no internal combustion engine or fuel tank** and run on a **fully electric drive train powered by rechargeable batteries**.
- The Government of India has launched **FAME India Scheme** with the objective to support hybrid/electric vehicles market development and manufacturing ecosystem. It also covers Hybrid & Electric technologies like Mild Hybrid, Strong Hybrid, Plug in Hybrid & BEVs.
- The **Ministry of New and Renewable Energy, under its Research, Development and Demonstration (RD&D) Programme**, has been supporting various projects on hydrogen and fuel cells.
- The **Ministry of Science and Technology** has supported two networked centres on **hydrogen storage** led by IIT Bombay and Nonferrous Materials Technology Development Centre, Hyderabad.

## Water Hyacinth Helps Detect Herbicide Pollution

### Why in News

Researchers have used **invasive plant water hyacinth** to produce **carbon nanoparticles** which can be used for **detecting** a commonly used **herbicide — pretilachlor**.

- The nanoparticles were found to be **selective and sensitive** for the **detection of the herbicide**.

### Key Points

- **Carbon Dots:**
  - The water hyacinth without chlorophyll is powdered and heated at 150 degree Celsius to **convert it to carbon dots**.
    - When a nanoparticle is **less than 10 nanometre** it is known as a **dot or nanodot**.
- **Working Principle:**
  - The **carbon dots** gives a green fluorescence under **UltraViolet (UV) light**, due to the presence of **oxygen functional groups** on the surface of the dot.
  - The fluorescence intensity of carbon dot **increases** in the **presence** of the **herbicide**.



- The electron transfer between the dot and the herbicide enables the fluorescence enhancement.
  - The carbon dot is **extremely sensitive** to **pretilachlor** and could detect even very small quantity of it.
- **Advantages:**
    - The detection of herbicides through carbon dots is a **commercially viable option** compared to the currently available sensors in the market as the raw material i.e. water hyacinth is readily available.
    - It will help to convert waste material like the water hyacinth to produce useful technology.

### Water Hyacinth

- Water hyacinth is a free-floating aquatic plant native to **South America**. It is considered as an **invasive alien species**.
- Single plant of water Hyacinth is capable of duplicating itself every **nine** days.
- It is also referred to as the **terror of Bengal** given its effect on the local ecology and lives of the people.
- It has an effect on irrigation, hydroelectric generation and navigation.
- It also leads to a drastic reduction in fish production, aquatic crops and an increase in diseases caused by mosquitoes.

## Electro-Kinetic Streaming to Tap Energy from Water

### Why in News

The Indian Institute of Technology-Guwahati (IIT-G) researchers have developed materials that can **produce energy from flowing or stagnant water** in households.

Note:

- The decentralised energy model involves a large number of small generation devices which can generate energy in every household and the excess energy can be transferred to energy-deficient areas nearby.

### Key Points

- The generation of energy from water in various forms like river flow, ocean tides, stagnant water and even raindrops is now known as "**Blue Energy**".
  - These are the traditional form of blue energy and there have been efforts to harness the power of water in other ways. One such out-of-the-box blue source is electrokinetic energy.
- Two different methods have been employed to harvest energy from the flowing water and the stagnant waters.
- **Electro-Kinetic Streaming Potential:**
  - By this method, energy can be harvested from flowing tap water.
  - When fluids stream through tiny channels that are charged, they can generate an electrical voltage, which may be harnessed through miniaturised generators.
  - Although the exploration of such electrokinetic phenomena and their possible use for energy conversion have been known for over half a century, they have not been harnessed because of low efficiency arising from the unsuitability of channels for the fluid stream.
- **Contrasting Interfacial Activities:**
  - These entail different types of semiconducting materials to generate power from stagnant water.
  - Devices were fabricated with doped graphene flakes for generating power by dipping in a bucket of water in the stagnant water source to "complementary charge transfer activities".
    - Graphene is the sheet produced by oxidation followed by reduction of natural graphite flakes.
    - Graphene was modified to manipulate its electron density so that even stagnant water in contact with this form of graphene can produce energy.

### Streaming Potential

- It is the potential difference at zero current produced by the convective flow of charge due to a pressure gradient (flow of liquid) through a charged capillary, membrane, plug, or diaphragm.

## StrandHogg

### Why in News

The Union Home Ministry has alerted States, warning them about the vulnerability of the **Android operating system** to a bug called 'StrandHogg'.



### About StrandHogg

- It is a vulnerability in android which allows **real-time malware applications** to pose as genuine applications and access user data of all kinds.
- It can **listen** to the conversations, access photo album, read/send messages, **make calls**, **record** conversations, **get login credentials** to various accounts, access private images, files, contact details, call logs and location information without being apparent to the affected users.

## Space Force by USA

### Why in News

Recently, the US President signed the **National Defense Authorization Act, 2020** directing the establishment of the **U.S. Space Force (USSF)** as the **sixth branch of the armed forces**.

- The establishment of USSF comes after the launch of a new Pentagon Command named **Spacecom** (Sept, 2019).

### Key Points

- The USSF will be the **sixth formal force** of the U.S. military, after the Army, Air Force, Navy, Marines, and Coast Guard and will be headquartered at the **Pentagon**.
- **Objectives:**
  - Maintaining and enhancing the competitive edge of the **Department of Defense (DOD)** in space.
  - Developing military space professionals, acquiring military space systems, maturing the **military doctrine** for space power and organizing space forces, etc.
  - Effectively organizing the defence for US interests in space, especially related to satellites used for navigation and communication.

Note:



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- **Concerns: China and Russia** have apprehensions regarding this development. It is being perceived as increasing **weaponization of outer space** and turning cosmos into a battlefield.

## **CST-100 Starliner**

### **Why in News**

**CST-100 Starliner** is a space capsule which failed its first test flight. Its objective was to **ferry astronauts to the International Space Station (ISS)**.

### **Key Points**

- The capsule **CST-100 Starliner** was built by **Boeing**.
- **National Aeronautics and Space Administration (NASA)** relies on Russia to get its astronauts on the space station. This failure is likely to **push back** further **NASA's attempt at resuming human spaceflight** from the United States.
- **NASA** has contracts with **Boeing and SpaceX** to build spacecraft to ferry astronauts to and from the ISS.
  - SpaceX's **Crew Dragon** capsule is scheduled to launch in 2020. It will be a crewless flight, and if

it succeeds, SpaceX could be in a position to send astronauts into space.

### **International Space Station**

- The International Space Station (ISS) is a habitable artificial satellite - the single **largest man-made structure in the low earth orbit**.
- It circles the Earth in roughly **92 minutes** and completes **15.5 orbits per day**.
- The ISS programme is a **joint project** between **five** participating space agencies: **NASA (United States), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada)** but its ownership and use has been established by intergovernmental treaties and agreements.
- Its first component was launched into orbit in **1998** and its development and assembly still continues.
- It serves as a microgravity and space environment research laboratory in which crew members conduct experiments in biology, human biology, physics, astronomy, meteorology, and other fields.
- It is expected to operate until 2030.



Note:

# Environment and Ecology

## Highlights

- COP 25 Ends Without Concrete Outcome
- EU Green Deal
- First Meeting of National Ganga Council
- Rhinos to be Re-introduced in Uttarakhand
- Bar-headed Goose Spotted in Kerala
- Hoolock Gibbon
- Amur Falcon
- Annual Flamingo Festival at Pulicat Lake

## COP 25 Ends Without Concrete Outcome

### Why in News

The 25<sup>th</sup> edition of the **Conference of the Parties, Madrid (COP25)** to the **United Nations Framework Convention on Climate Change (UNFCCC)** ended without any outcome on the **creation of a system of credits for reduction of emissions** for the second year in a row.

- Earlier, **COP24 at Katowice (Poland) 2019** also couldn't decide on issues like the creation of new carbon markets, emission reduction targets, etc.
- This was the **longest climate COP meeting** ever in 25 nearly annual editions.

### Key Points

- **"Chile-Madrid Time for Action" declaration:**
  - The summit passed the declaration calling on countries to **improve** their current pledges to **reduce greenhouse gas emissions**.
  - It also endorsed to help poor countries that are suffering the effects of climate change, although **any new funds were not allocated for the purpose**.
  - It called on the **"urgent need" to cut planet-heating greenhouse gases** in line with the goals of the **2015 Paris climate change accord**.
    - The Paris Accord established the common goal of **avoiding a temperature increase of more than 1.5 degrees Celsius** by the end of the century.
    - So far, the world is on **course for a 3 to 4 degree Celsius rise**, with potentially dramatic consequences for many countries, including rising sea levels and fiercer storms.

### Disagreements:

- The Summit **couldn't** reach a **final agreement** on **Carbon markets**.
  - Carbon markets allow for buying and selling of carbon emissions with the objective of reducing global emissions.
- On the definition and composition of **Climate finances**.
  - Climate finances refer to local, national or transnational financing—drawn from public, private and alternative sources of financing to support mitigation and adaptation actions that will address climate change.
- The **voluntary commitments** to be made by nations towards emission reductions.
- The key **polluting countries** responsible for **80% of the world's emissions** **did not make any substantial announcement** while smaller countries announced their targets to reduce emissions in the coming years.
  - It backtracks on a principle of the **1992 convention of the Earth Summit (Rio de Janeiro, Brazil)** that states that rich countries have the biggest historical responsibility for emissions and should pay to help the poor to fix the problem.
- The **next Climate Summit will be held in Glasgow (Scotland) in 2020** which will decide about the liability for damages caused by rising temperatures.

## EU Green Deal

### Why in News

In the background of the failure of the global community to reach any agreement in the recently concluded **COP 25**,

Note:

the **European Union (EU)** has come up with a climate action plan known as the **European Green Deal**.

- The European Union is the **third-largest emitter of greenhouse gases** in the world after **China** and the **United States**.

### Major Decisions under Green Deal

- **Achieving Climate Neutrality**
  - To become **"climate neutral" by 2050** and to achieve this, a law will be brought which will be binding on all member countries. A law will turn the political commitment into a legal obligation and will trigger the investments as well.
  - The **EU is now the first major emitter** to agree to the 2050 climate neutrality target laid down in the **Paris Agreement**.
    - **Climate neutrality** is achieved when a **country's emissions are balanced by absorptions and removal of greenhouse gases** from the atmosphere. It is also expressed as a state of net-zero emissions.
    - **Absorption** can be increased by creating more carbon sinks like forests, while **removal** involves technologies like carbon capture and storage.

**Note:** Bhutan and Suriname are the only carbon neutral countries in the world.

- **Increasing 2030 Emission Reduction Targets**
  - **Increase the reduction in its emissions to at least 50%** and work towards 55% in the near future.
    - Earlier, the EU had committed to reduce its emissions by 40% by 2030 from 1990 levels under the Paris Agreement. This was already the most ambitious emission reduction targets among developed countries.
    - For example, USA had agreed to cut emissions by 26-28% by 2030 from 2005 levels but after withdrawing from the Paris Agreement, it is under no obligations now.
    - The EU is one of the major emitters to retain the 1990 baseline for emission cuts which were originally mandated under the **Kyoto Protocol** for all developed countries. Most other countries have shifted their baselines to 2005 or even later under the 2015 Paris Agreement.
- **Sectoral Plans:** It includes **sectoral plans** to achieve these targets which include making the steel industry

carbon-free by 2030, new strategies for transport and energy sectors, a revision of management of railway and shipping to make them more efficient and more stringent air pollution emission standards for vehicles.

### Achievements

- The EU has been **doing better than other developed countries on reducing emissions**.
- In terms of emission reductions, it probably is on track to meet the **target of 20% by 2020**, unlike any developed country outside the EU.
  - Canada reported a 4% reduction from 2005 levels. Japan reported an 8% reduction from the 2013 baseline.

### Concerns

- The **EU has not been fulfilling all its climate obligations** because Kyoto Protocol requires rich and developed countries to provide finance and technology to developing countries to help them fight climate change. EU is **helping very less, especially for adaptation needs of developing countries**.
  - This is the main reason why developing countries like India and China, have been repeatedly raising the issue of unfulfilled obligations of developed countries.
- The Green Deal is **inadequate** for achieving the emission reductions because big emitters and large developing countries like China and India are not immediately scaling up their climate actions. Withdrawal of the USA has also negatively impacted the step towards climate change mitigation.

### Way Forward

- Other countries need to raise their ambitions and the reduction targets and their policies should be in line with the global environmental agreements.
- EU should be more helpful towards developing nations so that its efforts do not get wasted and every nation is equally contributing towards conservation of the planet.

## First Meeting of National Ganga Council

### Why in News

Recently, the Prime Minister chaired the **first meeting of the National Ganga Council at Kanpur, Uttar Pradesh**.

Note:



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### National Ganga Council

- The National Ganga Council is **chaired** by **Prime Minister**.
- The National Ganga Council is formed under the **Environment (Protection) Act (EPA), 1986**.
- It has been given overall responsibility for the superintendence of pollution prevention and rejuvenation of River Ganga Basin, including Ganga and its tributaries.
- National Mission for Clean Ganga (NMCG) acts as an implementation arm of the National Ganga Council.
  - NMCG was established in the year 2011 as a registered society.
  - It has a two-tier management structure and comprises of Governing Council and Executive Committee.
  - The aims and objectives of NMCG are:
    - To ensure effective control of pollution and rejuvenation of the river Ganga by adopting a river basin approach to promote inter-sectoral coordination for comprehensive planning and management.
    - To maintain minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development.

- The **first meeting** of the Council was aimed at reinforcing the importance of a **'Ganga-centric' approach** in all departments of the concerned states as well as relevant Central Ministries.
- The National Ganga Council, also known as the National Council for Rejuvenation, Protection, and Management of River Ganga was set up in **2016**. It **replaced** the **National River Ganga Basin Authority (NRGBA)**.

### Key Points

- The **'Namami Gange'** should holistically evolve to **'Arth Ganga'** i.e. a sustainable development model with a focus on **economic activities related to Ganga**.
- **Setting up of a digital dashboard** where data from villages and urban bodies to be **monitored** on a daily basis by **Niti Ayog and Ministry of Jal Shakti**.
- The need to increase the efficiency of **district Ganga committees** for effective implementation of the **Namami Gange Programme**.

- The **potential of religious and adventure tourism** in the Ganga river basin area to be explored in future. As the income generated from tourism activities would help to generate sustainable income for cleaning the Ganga.
- It also encouraged zero budget farming and to build plant nurseries on the banks of Ganga.

## Rhinos to be Re-introduced in Uttarakhand

### Why in News

Recently, the **Uttarakhand State Wildlife Board** has cleared a proposal by the **Wildlife Institute of India (WII)** to introduce rhinoceroses in the **Corbett Tiger Reserve (CTR)**.

- Around **10 rhinos** will be brought in CTR in the **first phase** and 10 more would be added subsequently. A proposal will be sent to the Center for transporting rhinos from either Assam or West Bengal or both.

### Key Points

#### Reason for translocation

- This has been done to boost tourism and revive the habitats of species that survive on low-height grass.
  - Rhinos reduce the size of elephant grass by eating it which would encourage species thriving on lower-height grass like- Hog Deer, Cheetal, Sambar and Swamp Deer.
- **Geographical terrain and environmental conditions** in CTR are suitable for rhinos.
  - Valley habitats bounded on either side by the lower Himalayas (north), Shivalik Hills (south) and the Ramganga Reservoir (east) are the ideal sites. They would act as natural barriers to rhino movement and will minimise **man-animal conflict**.
- The rhino's range, **once continuous** across the **flood plains of the Indus, Ganges and the Brahmaputra**, now limited to small fragmented pockets in India and Nepal as a result of anthropogenic pressures and poaching, as per the WII experts.
  - Re-introduction into habitats in the historic range would create safety-net populations for the species and also restore their ecological role in these faunally-degraded habitats.

Note:



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**Wildlife Institute of India**

- It is an autonomous institution under the **Ministry of Environment, Forest and Climate Change**.
- It was established in **1982**.
- It is based in **Dehradun, Uttarakhand**.
- It offers training programs, academic courses, and advisory in wildlife research and management.

**Corbett Tiger Reserve**

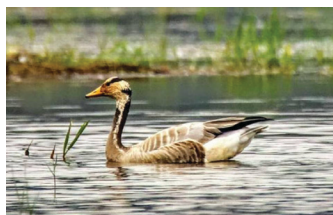
- It is located in **Nainital district of Uttarakhand**.
- The **Project Tiger** was launched in 1973 in **Corbett National Park**, which is part of Corbett Tiger Reserve.
- **Ramganga, Sonanadi, Mandal, Palain and Kosi** are the major rivers flowing through the Corbett National Park.
- There are **50 Tiger Reserves** in India as of August, 2019.

- Rhinos are poached because their **horns are considered an aphrodisiac**.
- Every translocated animal would be fitted with a **GPS radio-collar** for monitoring their **ranging patterns, foraging habits, demography and habitat use**.
  - The data will be shared with the Forest Department which would be responsible for the safety of these re-introduced rhinos.

## Bar-headed Goose Spotted in Kerala

**Why in News**

A **Bar-headed Goose** has been spotted in the **wetlands of Karingali Puncta** in Pathanamthitta District of **Kerala**.



- In general, large flocks visit the **Koonthankulam bird sanctuary at Tirunelveli in Tamil Nadu**. It is very rare that the bird is **spotted in Kerala**.
- The **wetlands of Karingali Puncta** is a major birding spot in the district. It reported the **highest bird count in the Asian Waterbird Census of 2015**.

**Bar-headed Goose**

- **Scientific Name:** Anser Indicus
- **Habitat**

- Bar-headed geese are found in **central China and Mongolia** and they breed there.
- They start migration to the **Indian sub-continent** during the winter and stay till the end of the season.

**Special Feature**

- They are one of the birds which can **fly even at very high altitude**. They come to India and return to their homes by **crossing the Himalayan ranges** - one of the most high-altitude migrations in the world.
- The capacity of bar-headed geese to **transport and consume oxygen** at high rates in **hypoxia distinguishes this species** from similar lowland waterfowl.

**IUCN Status:** Least Concern**Note:**

**Hypoxia:** It is a condition of the body in which the tissues are starved of oxygen.

**Asian Waterbird Census**

- Every January, thousands of **volunteers** across Asia and Australasia visit wetlands in their country and count waterbirds. This citizen science programme is the Asian Waterbird Census (AWC).
  - Australasia comprises of Australia, New Zealand and some neighbouring Islands.
- The AWC was **initiated in 1987** in the Indian subcontinent. The census covers the **entire East Asian – Australasian Flyway** and a **large part of the Central Asian Flyway**.
- The main **objective** is to obtain annual information of waterbird populations at wetlands in the region, the status of wetlands, and encourage interest in waterbirds and wetlands among the public and thereby promote conservation.
- The AWC is an **integral part** of the global waterbird monitoring programme, the **International Waterbird Census (IWC)**, coordinated by Wetlands International.

**Koonthankulam Bird Sanctuary**

- Situated in Tamil Nadu, it was **declared as a sanctuary in 1994**.
- It is an important protected area known for the **congregation of migratory and local water birds** – the grey pelican, the painted stork, the greater flamingo, the bar-headed goose, the open bill stork, the black ibis and other common species like egrets, cormorants and herons, among others.

Note:



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## Hoolock Gibbon

- The tailless Hoolock Gibbon is the **only ape found in India**.
- The primate is native to eastern Bangladesh, Northeast India and Southwest China.
- The Hoolock Gibbon is categorised into **two types**:
  - **Western Hoolock Gibbon**:
    - It inhabits in **all the states of the north-east, restricted between the south of the Brahmaputra river and east of the Dibang river**. And outside India, it is found in eastern Bangladesh and north-west Myanmar.
    - It is listed as **Endangered** under the **International Union for Conservation of Nature (IUCN) Red List**.
  - **Eastern Hoolock Gibbon**:
    - It inhabits specific pockets of **Arunachal Pradesh** and **Assam** in India, and in southern China and north-east Myanmar outside India.
    - It is listed as **Vulnerable** under the IUCN Redlist.
- In India, both the species are listed on **Schedule 1 of the Indian (Wildlife) Protection Act, 1972**.



## Amur Falcon

- Amur falcons, the **world's longest travelling raptors** start travelling with the onset of winters.
- The raptors breed in southeastern Siberia and northern China, and migrate in millions across India and then over the Indian Ocean to southern Africa before returning to Mongolia and Siberia. Their **22,000 kilometre migratory route** is one of the longest amongst all avian species.



- They get their name from the **Amur River** that forms the **border between Russia and China**.
- **Doyang Lake in Nagaland** is better known as a **stopover for the Amur falcons** during their annual migration from their breeding grounds to warmer South Africa. Thus, **Nagaland** is also known as the **"Falcon Capital of the World"**.
- The birds are the **least concern** under the **International Union for Conservation of Nature (IUCN) Red List**, but the species is **protected** under the **Indian Wildlife Protection Act, 1972**, and the **Convention on Migratory Species**, to which India is a signatory (which means it is mandatory to protect the birds).

## Annual Flamingo Festival at Pulicat Lake

### Why in News

The **annual Flamingo Festival** is to be held in January at **Pulicat lake**.

- The Pulicat lake supports **rich biodiversity and high biomass of fishes and planktons** which is utilised as food resources by visiting birds. Thus, about 75 aquatic and terrestrial bird species visit the sanctuary every year.
- The number of birds is much higher than usual due to abundant rains in 2019.

### Pulicat Lake

- It is the **second-largest brackish water** ecosystem in the country **after the Chilika Lake** (Odisha).
- It is **located** on the **border of Andhra Pradesh and Tamil Nadu** with over **96%** of it in Andhra Pradesh and **4%** in Tamil Nadu.
- The large varieties of birds like grey pelicans, painted storks, visit the site annually.
  - **Grey Pelican and Painted Stork** both are **near-threatened** species under **IUCN Red List of Threatened Species**.

■ ■ ■

Note:

# Art & Culture

## Highlights

- *Earliest Sanskrit Inscriptions in South India Found in A.P.*
- *Ajanta and Ellora Caves*
- *Madan Mohan Malaviya Jayanti*
- *Sahitya Akademi Awards 2019*
- *Hunar Haat*
- *Kalka - Shimla Heritage Route*
- *Belum Caves Festival*
- *Kalaripayattu*

## Earliest Sanskrit Inscriptions in South India Found in A.P.

### Why in News

The **Archaeological Survey of India (ASI)** has discovered the **earliest Sanskrit inscription in South India** which is also an **earliest epigraphic evidence** (Epigraphy is the study of ancient inscriptions) for the **Saptamatrika cult**.

- Saptamatrikas are a group of **seven female deities** worshipped in **Hinduism** as personifying the energy of their respective consorts.
- Another inscription in **Prakrit language and of Brahmi characters** belonging to the **1<sup>st</sup> century A.D.** was also found.

### Key Points

- **Inscriptions related to Saptamatrika:** The found inscription records the **construction of a Prasada (temple), a mandapa and consecration of images** by a person named Kartika at the temple of **Goddess Saptamatrika** at Tumbhake.
- **Location:** Tumbhake is the **ancient name of Chebrolu, Andhra Pradesh**.
- **Earlier References to Saptamatrika:** Earlier references to Saptamatrika worship have been found in the early Kadamba copper plates and the early **Chalukyas and Eastern Chalukya** copper plates **dated around 600 A.D.**
- **Language and Characters:** All the available records proved that the found inscription (also known as **Chebrolu inscription**) is in **Sanskrit and in Brahmi characters**.
- **Issued by:** Satavahana king **Vijaya in 207 A.D.**

- So far the **Nagarjunakonda inscription of Ikshavaku king Ehalala Chantamula** issued in the 4<sup>th</sup> century A.D. was considered the earliest Sanskrit inscription in South India.

### Satavahanas

- In the Deccan, the Satavahanas established their independent rule after the decline of the Mauryas. Their rule lasted for about **450 years**.
- They were also known as the **Andhras**.
- The Puranas and the **Nasik and Nanaghad inscriptions** remain important sources for the history of Satavahanas.
- The **founder** of the Satavahana dynasty was **Simuka**. The greatest ruler of the Satavahana dynasty was **Gautamiputra Satakarni**.
- There was remarkable progress in the fields of trade and industry during the Satavahana rule. The greatest port of the Satavahanas was **Kalyani on the western Deccan and Gandakasela, Ganjam on the east coast** were the other important seaports.
- The Satavahanas **patronized Buddhism and Brahmanism**. Brahmanism was revived by the Satavahanas along with the performance of asvamedha and rajasuya sacrifices.
- They also **patronized the Prakrit language and literature**.

## Ajanta and Ellora Caves

### Why in News

Two tourist visitor centres set up at Ajanta and Ellora caves by the Maharashtra government have been shut due to their pending water and electricity dues worth ₹5 crore.

Note:



### Ajanta Caves

- **Location:** Ajanta is a series of rock-cut caves in the **Sahyadri ranges (Western Ghats)** on Waghora river near Aurangabad in **Maharashtra**.
- **Number of Caves:** There are a total of 29 caves (all buddhist) of which 25 were used as Viharas or residential caves while 4 were used as Chaitya or prayer halls.
- **Time of Development**
  - The caves were developed in the period between **200 B.C. to 650 A.D.**
  - The Ajanta caves were inscribed by the Buddhist monks, under the patronage of the **Vakataka kings** – Harishena being a prominent one.
  - Reference of the Ajanta caves can be found in the travel accounts of **Chinese Buddhist travellers Fa Hien** (during the reign of Chandragupta II; 380- 415 CE) and **Hieun Tsang** (during the reign of emperor Harshavardhana; 606 - 647 CE).



- **Painting**
  - The figures in these caves were done using **fresco painting**.
  - The outlines of the paintings were done in red colour. One of the striking features is the **absence of blue colour** in the paintings.
  - The paintings are generally **themed around Buddhism** – the life of Buddha and Jataka stories.
- **UNESCO Site:** The caves were designated a **UNESCO World Heritage site** in **1983**.

### Ellora Caves

- **Location:** It is located nearly 100 Kms away from Ajanta caves in the **Sahyadri range of Maharashtra**.
- **Number of Caves:** It is a group of **34 caves** – **17 Brahmanical, 12 Buddhist** and **5 Jain**.



- **Time of Development**
  - These set of caves were developed during the period between the **5<sup>th</sup> and 11<sup>th</sup> centuries A.D.** (newer as compared to Ajanta Caves) by various guilds from Vidarbha, Karnataka and Tamil Nadu.
  - That is why the caves reflect a natural diversity in terms of theme and architectural styles.
- **UNESCO Site:** The Ellora complex was designated a UNESCO World Heritage site in **1983**.
- The most remarkable of the cave temples is Kailasa (**Kailasanatha; cave 16**), named for the mountain in the Kailasa Range of the Himalayas where the Hindu god Shiva resides.

### Sahyadri Range

- Western Ghats are locally known by different names such as **Sahyadri in Maharashtra, Nilgiri hills in Karnataka and Tamil Nadu and Anaimalai hills and Cardamom hills in Kerala**.
- The Western Ghats are a north-south chain of mountains or hills that mark the western edge of the Deccan plateau region.
- Western Ghats are comparatively higher in elevation and more continuous than the Eastern Ghats. Their average elevation is about 1,500 m with the height increasing from north to south.
- **Anaimudi (2,695 m)**, the highest peak of Peninsular plateau is located on the Anaimalai hills of the Western Ghats followed by Dodabetta (2,637 m) on the Nilgiri hills.
- Most of the Peninsular rivers such as **Krishna and Cauvery** have their origin in the Western Ghats.

Note:



## Madan Mohan Malaviya Jayanti

### Why in News

The Prime Minister of India paid tribute to **Pt. Madan Mohan Malaviya** on his **158<sup>th</sup> birth anniversary (25<sup>th</sup> Dec, 2019)**.

### Pt. Madan Mohan Malaviya

- Born on 25<sup>th</sup> December 1861, in **Allahabad (now Prayagraj)** in Uttar Pradesh, Malviya played a key role in the Indian independence struggle against British rule and **founded the Banaras Hindu University (BHU) in 1916**.
- He is also remembered for his role in **ending the Indian indenture system**, especially in the **Caribbean**.
  - Indentured labour was a system of bonded labour that was instituted following the abolition of slavery in 1833.
  - Indentured labour were recruited to work on sugar, cotton and tea plantations, and rail construction projects in British colonies in West Indies, Africa and South East Asia.
- He **popularized the term 'Satyamev Jayate'**. However, the phrase originally belongs to the **Mundaka Upanishad**. The term now is the **national motto of India**.
- He was given the **title of 'Mahamana'** by **Mahatma Gandhi** and the second President of India, **Dr. S.Radhakrishnan** gave him the status of a '**Karmayogi**'.
- **Devnagri** was introduced in the British-Indian courts because of Malviya's efforts with the British government. This is still considered as one of his greatest achievements.
- Madan Mohan Malviya was expelled from the Brahmin community for expressing his views on caste discrimination and Brahmanical patriarchy. He worked immensely for Hindu-Muslim unity. He is known to have given famous speeches on **communal harmony**.



- He helped establish the **Hindu Mahasabha (Great Society of Hindus) in 1906**, which brought diverse local Hindu nationalist movements together.
- Malaviya's consciousness toward the public led to the launch of his own Hindi-language weekly, the **Abhyudaya (1907)**; the **Leader of Allahabad**, an English-language daily (1909); and the Hindi monthly the **Maryada (1910)**. He also served as the chairman of the board of Hindustan times and facilitated the launch of its Hindi edition.
- He died on 12<sup>th</sup> November, 1946, at the age of 84.
- In **2014**, he was posthumously **conferred with Bharat Ratna**, the country's highest civilian award.

## Sahitya Akademi Awards 2019

### Why in News

Recently, Sahitya Akademi has announced its **annual Sahitya Akademi Awards in 23 languages**.

- The awardees will receive an **engraved copper-plaque**, a shawl and an amount of **Rs. 1 lakh**.
  - Indian film-maker Satyajit Ray is the **designer of this plaque**.

### Sahitya Akademi Awards

- Sahitya Akademi award was established in **1954**. It is a literary honour that is conferred **annually** by Sahitya Akademi – **India's National Academy of letters**.
- Award is presented to the most outstanding books of literary merit published in any of the **23 major Indian languages recognized by the Akademi (including English)**.
- Sahitya Akademi award is the **second-highest literary honour** by the Government of India, **after Jananpith award**.
- **Criteria:**
  - The author must be of **Indian Nationality**.
  - Book/work eligible for the award must be an outstanding contribution to the language and literature to which it belongs.
  - When equal merit for books of two or more are found, certain criteria like total literary contribution and standing of authors shall be taken into consideration for declaring award.

Note:

## Hunar Haat

### Why in News

Recently, the Governor of Maharashtra inaugurated a Hunar Haat in Mumbai.

- Hunar Haat is an **exhibition of handicrafts and traditional products** made by artisans from the **minority communities**.
- These are organised by the **Ministry of Minority Affairs** under **USTTAD (Upgrading the Skills & Training in Traditional Arts/Crafts for Development)** scheme.
  - The USTTAD scheme aims to promote and preserve the **rich heritage of the traditional arts & crafts of the minority communities**.
- These Haat aim to **provide market exposure and employment opportunities** to artisans, craftsmen and traditional culinary experts.
- It envisages boosting the skills of craftsmen, weavers and artisans who are already engaged in the traditional ancestral work.
- 'Hunar Haat' has proved to be an "Empowerment Exchange" for master artisans and craftsmen.
- The next 'Hunar Haat' will be organised at Lucknow from 10<sup>th</sup> to 20<sup>th</sup> January 2020.

## Kalka - Shimla Heritage Route

### Why in News

The Indian Railways has started a **seven coach glass-enclosed vistadome train** (Him Darshan Express) on the **heritage Kalka-Shimla route**. The train will provide passengers a panoramic view of the hilly region.

- Luxurious coaches with glass ceiling are termed as Vistadome coaches. These have see-through window screens.



- The Kalka Shimla railway line was declared a **UNESCO World Heritage** in 2008 and was listed under "**Mountain Railways of India**". It has been a great tourist attraction since then.
  - The Mountain Railway of India, besides Kalka - Shimla Railway, consists of two other railways:
    - The **Darjeeling Himalayan Railway** located in the foothills of the Himalayas in West Bengal (Northeast India)
    - The **Nilgiri Mountain Railways** located in the Nilgiri Hills of Tamil Nadu (South India).
- The Kalka Shimla Railway is a **96.6 kilometer long**, single track working rail link built in the mid-19<sup>th</sup> century to connect Shimla.

## Belum Caves Festival

### Why in News

Andhra Pradesh Government will be hosting the Belum Caves festival in January 2020 to popularise the Belum caves.

- The name '**Kandanavolu Sambaralu**' has been proposed for the festival. **Kandanavolu** was the **ancient name of Kurnool** district.

### Key Points

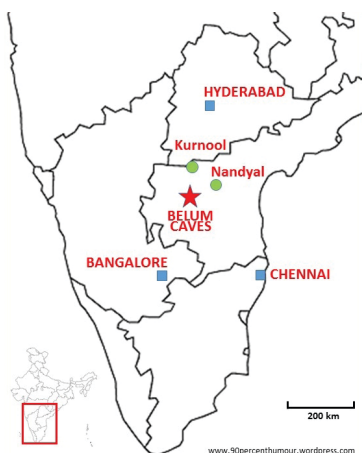
- **Location:** Belum Caves, also known as Belum Guhalu in Kurnool district of **Andhra Pradesh** is the **second-longest** cave in the **Indian subcontinent open to the public**.
  - The **longest natural cave** in the Indian subcontinent is **Krem Liat Prah caves in Meghalaya**.
- **Formation:** The cave is **more than a thousand year old**, and was formed by the **constant flow of underground water** over a period of time.
- **Geographical Features:** These caves are renowned for their **speleothem structures** (Speleothems are secondary mineral deposits formed in a cave), such as **stalactite and stalagmite** formations.

### Stalactites and Stalagmites

- **Stalactites** hang as icicles of different diameters. Normally they are broad at their bases and taper towards the free ends showing up in a variety of forms.

Note:

- **Stalagmites** rise up from the floor of the caves. In fact, stalagmites form due to dripping water from the surface or through the thin pipe, of the stalactite, immediately below it.
- The stalagmites and stalactites eventually fuse to give rise to columns and pillars of different diameters.
- **Historical Background:** The caves were occupied by **Jain and Buddhist monks** many centuries ago. The presence of 4500 years old vessels from the pre-Buddhism era ensures the same.



## Kalaripayattu

- Kalaripayattu is a **martial art** based on the **ancient knowledge of the human body**.
- It originated in **Kerala** during **3<sup>rd</sup> century BC to the 2<sup>nd</sup> century AD**. It is now practised in **Kerala** and in some parts of **Tamil Nadu**.
- The place where this martial art is practised is called '**Kalari**'. It is a Malayalam word that signifies a **kind of gymnasium**. Kalari literally means '**threshing floor**' or '**battlefield**'. The word Kalari first appears in the **Tamil Sangam literature** to describe both a battlefield and combat arena.
- It is considered to be one of the **oldest fighting systems** in existence.
- It is also considered as the **father of modern Kung - Fu**.



Note:

# Social Issues

## Highlights

• Maternity Scheme Exclusionary: PMMVY

• Global Gender Gap Index 2020

## Maternity Scheme Exclusionary: PMMVY

### Why in News



The **Pradhan Mantri Matru Vandana Yojana (PMMVY)** which is a pan-India maternity benefit programme has been criticised for its exclusionary nature. It has led to single women and young brides being left out of its purview.

### Issues with the Scheme


- Registration for the scheme requires an applicant to **provide her husband's Aadhaar details** along with her own. It **affects single women, including unwed mothers, deserted wives and widows.**

### Tedious documentation

#### HOW PMMVY EXCLUDES

- |   |  |
|---|--|
| <p><b>1</b> Only for the first born</p> <p><b>2</b> Provided after meeting several conditionalities -registration of pregnancy, at least one ante-natal check-up, registration of child birth and vaccinations</p> <p><b>3</b> Proof of address of marital home</p> | <p><b>4</b> Husband's Aadhaar card </p> <p><b>5</b> Minimum age of 19 years</p> <p><b>6</b> Father and mother need to give separate undertaking that the child is the first living child for both of them </p> |
|---|--|

#### LIST OF DOCUMENTS

- Total 6 application forms to be filled, with total 30 of 32 pages to be filled by the beneficiary
- As many as 9 IDs to be produced: copy of Aadhaar card (or enrolment slip), copy of Identity proof, copy of Voter ID card (as age proof) for both husband and wife, copy of ration card (as proof of address of marital home), copy of passbook, Mother and Child Protection Card 

- The form also requires **separate undertakings** on **"the first living child"** from the woman and her husband.
- A mother seeking benefits needs to **provide address proof of her marital home.** It is **challenging for a newlywed expecting a child** and often **residing in her natal home** during pregnancy.
- The scheme requires an **applicant to be at least 19 years old** which **leaves out younger brides**, who get married at the legal age of 18 years but hesitate in getting their marriages registered.
  - **30-35% of first-time mothers are under the age of 18 years.**
- The documentation work leaves out many women living on the margins such as **sex workers, women in custody, migrant and those living in post-conflict situations.** They all are unable to claim benefits even though they are most in need of monetary compensation.
- Women have to pay a **hefty bribe** during the application process. It goes as high as ₹500/- for each of the three forms so it is **not easy for the women coming from financially weaker sections.**

### Suggestions

- There is a need for **reviewing the scheme** and **making it universal** by **removing restrictions** on the number of children as well as including all women, whether they are in the formal or informal sector, engaged in paid or unpaid work.
- The **sum promised should be at least on par with minimum wages** for women in self-employment, unpaid work, or working for less than minimum wages.
- Activists and grassroots workers must make a **formal representation to the government** highlighting their concerns so that corrective actions can be taken.

Note:



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## Global Gender Gap Index 2020

### Why in News

India has been ranked **112<sup>th</sup>** among 153 countries in the annual **Global Gender Gap Index** for 2020, published by the **World Economic Forum (WEF)**.

- The WEF published its first gender gap index in 2006.
- The Global Gender Gap Index benchmarks 153 countries on their progress towards gender parity in **four dimensions**:
  - Economic Participation and Opportunity,
  - Educational Attainment,
  - Health and Survival and
  - Political Empowerment
- The Index aims to serve as a compass to track progress on relative gaps between women and men on health, education, economy and politics. Through this annual yardstick, the stakeholders within each country are able to set priorities relevant in each specific economic, political and cultural context.
- Over the Index, the highest possible score is 1 (equality) and the lowest possible score is 0 (inequality).

### Key Findings

- Globally, the average (population-weighted) distance completed to gender parity is at 68.6%, which is an improvement since the last edition (2018). It will **take 99.5 years** to achieve full parity between men and women at the current rate of change.
- The **largest gender disparity is in political**

GLOBAL GENDER GAP INDEX RANKINGS 2020

Rank	Country	Score
1	Iceland	0.877
2	Norway	0.842
3	Finland	0.832
4	Sweden	0.820
5	Nicaragua	0.804
6	New Zealand	0.799
7	Ireland	0.798
8	Spain	0.795
9	Rwanda	0.791
10	Germany	0.787
21	United Kingdom	0.767
50	Bangladesh	0.726
53	United States	0.724
81	Russian Federation	0.706
92	Brazil	0.691
101	Nepal	0.680
102	Sri Lanka	0.680
106	China	0.676
<b>112</b>	<b>India</b>	<b>0.668</b>
121	Japan	0.652
151	Pakistan	0.564
153	Yemen	0.494

**empowerment**. Only 25% of the 35,127 seats in parliaments around the world are occupied by women, and only 21% of the 3,343 ministers are women.

- **Iceland** has been the **frontrunner** on the Global Gender Gap Index for 11 years in a row. It has closed almost 88% of its gender gap, followed by Nordic neighbours Norway, Finland and Sweden.
- **Yemen is ranked the worst** (153<sup>rd</sup>), while Iraq is 152<sup>nd</sup> and Pakistan 151<sup>st</sup>.

### India- Specific Findings

- India has **slipped to the 112<sup>th</sup> spot from its 108<sup>th</sup> position** in 2018. India was ranked relatively higher at 98<sup>th</sup> place in 2006 Report.
  - India has been ranked below countries like China (106<sup>th</sup>), Sri Lanka (102<sup>nd</sup>), Nepal (101<sup>st</sup>), Brazil (92<sup>nd</sup>), Indonesia (85<sup>th</sup>) and Bangladesh (50<sup>th</sup>).
- **Performance on Four Indicators:** India has improved to 18<sup>th</sup> place on political empowerment but it has slipped to 150<sup>th</sup> on health and survival, to 149<sup>th</sup> in terms of economic participation and opportunity and to 112<sup>th</sup> place for educational attainment.
- **Economic**
  - Among the 153 countries studied, **India is the only country where the economic gender gap (35.4%) is larger than the political gender gap (41.1%)**.
  - India is among the countries with very low women representation on company boards (13.8%), while it was even worse in China (9.7%).
- **On health and survival**, four large countries – Pakistan, India, Vietnam and China – fare badly with millions of women there not getting the same access to health as men.

### World Economic Forum

- The World Economic Forum is the International Organization for Public-Private Cooperation.
- It was established in **1971** as a not-for-profit foundation and is headquartered in **Geneva, Switzerland**. It is independent, impartial and not tied to any special interests.
- The Forum strives in all its efforts to demonstrate entrepreneurship in the global public interest while upholding the highest standards of governance.



Note:

# Security

## Highlights

- Destruction of Public Property
- Sashastra Seema Bal
- Chief of Defence Staff
- AFSPA Extended in Nagaland
- Apache Helicopters for Indian Army

## Destruction of Public Property

### Why in News

Recently, the **Supreme Court of India** has expressed displeasure over rioting and destruction of public property. In India, the **Prevention of Damage to Public Property Act, 1984** deals with such issues mainly.

- Despite a law against the destruction of property, incidents of rioting, vandalism, and arson have been common during protests across the country.
- The SC had **suo motu** laid down **10-point guidelines** for the **assessment of damages and liability** in its judgment in **Destruction of Public and Private Properties Vs State of A.P and others on April 16, 2009**.

### Prevention of Damage to Public Property Act, 1984

- It punishes anyone **“who commits mischief by doing any act in respect of any public property”** with a **jail term of up to five years and a fine or both**. Provisions of this law can be coupled with those under the Indian Penal Code.
- Under this Act, **public property includes** “any building, installation or other property used in connection with the production, distribution or supply of water, light, power or energy; any oil installation; any sewage works; any mine or factory; any means of public transportation or of telecommunications, or any building, installation or other property used in connection therewith”.
- In **2007**, the Supreme Court took **suo motu cognizance** on the issue of public and private properties’ destruction and **set up two committees** to suggest changes to the law.

### Thomas Committee

- It was headed by former apex court judge **Justice K T Thomas**.
- It suggested that the **prosecution should be required to prove that public property had been damaged in direct action** called by an organisation and that the accused also participated in such direct action.
  - The court accepted the suggestion and added that the law must be amended to give the court the power to draw a presumption that the accused is guilty of destroying public property and it would then be open to the accused to rebut such presumption.
- Such a reversal of the burden of proof is applicable in **cases of sexual violence**, among others. Generally, the law presumes that the accused is innocent until the prosecution proves its case.

### Nariman Committee

- It was headed by a **senior advocate Fali Nariman**.
- The recommendations of this committee **dealt with extracting damages for destruction**.
- The court accepted them and ruled that the rioters should be made strictly liable and compensation must be collected for the damage done.
- Apart from this, the Supreme Court **directed High Courts to order suo motu action** and to set up a machinery to investigate the damage caused and award compensation wherever mass destruction to the property takes place due to protests.

### Key Points

- The assessment of exemplary damages for property destroyed in incidents of violence should be based on **electronic media/private video evidence**.

Note:



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- The prosecution has to separately prove that the damage occurred during protests was the result of “**direct actions**” of the persons concerned.

### Process

- If mass destruction to the property takes place due to protests, the **High Court may issue suo motu action** and set up a machinery to investigate the damage caused and award compensation.
  - **Supreme Court** should take over cognisance if **multiple states are involved** and have suffered damage.
- In each case, the court involved should appoint a sitting or retired High Court judge or a sitting or retired district judge as a **Claims Commissioner** to estimate the damages and investigate liability.
  - An **assessor** is appointed to **assist** the Claims Commissioner.
- The Claims Commissioner and the assessor may summon video or other recordings from private and public sources to pinpoint the damage and establish nexus with the perpetrators of the damage.
- The principles of absolute liability shall apply once the nexus with the event that precipitated the damage is established. The liability will be borne by the actual perpetrators of the crime as well as organisers. Their shares would be decided by the court.
- Exemplary damages **should not be greater than twice the amount of the damages liable to be paid**. Damages should be assessed for **destruction to public or private property, injury or death and cost of the actions by the authorities and police to prevent and contain the violence**.
- The Claims Commissioner would finally make a report to the High Court or Supreme Court, which would determine the liability after hearing the parties.

### Way Forward

- Even though guidelines have been issued by the Supreme Court, they have a **limited impact** because the **identification of protesters** remains **difficult** especially in protests without leaders.
- Even if a person has been identified, he/she could not be held liable for loss of property unless there is **evidence of him/her calling for violence**.

## Sashastra Seema Bal

### Why in News

Recently, the **56<sup>th</sup> Raising Day Parade** of Sashastra Seema Bal (SSB) was held in **New Delhi**.

### Key Points

- SSB comes under the aegis of the **Ministry of Home Affairs** and a part of the **Central Armed Police Forces (CAPF)**, along with **six other central security forces in India** (Assam Rifles, Border Security Force, Central Industrial Security Force, Central Reserve Police Force, Indo Tibetan Border Police and National Security Guard).
- It was established as **Special Service Bureau in May 1963**, in the aftermath of the **Chinese aggression in 1962**.
- It was declared a **lead intelligence agency for Indo Nepal** in June 2001 and assigned the **Indo Nepal border**. In 2004, it was also assigned **Indo Bhutan border**.
- In **2004**, SSB received the **President's Colours** in recognition of the keystone role in national security, since its inception.
- **Responsibilities:**
  - To promote a sense of security among the people living in the border areas.
  - To prevent trans border crimes and unauthorized entry into or exit from Indian territory.
  - To prevent smuggling and other illegal activities on Indian frontiers.
- It is headquartered in **New Delhi** and three frontier headquarters are at **Lucknow (UP)**, **Patna (Bihar)** and **Guwahati (Assam)**.
- It is spread out on **Indo Nepal and Indo Bhutan borders** across the states of **Uttarakhand, Uttar Pradesh, Bihar, West Bengal, Sikkim, Assam and Arunachal Pradesh**.

**President's Colours:** It is the highest honour bestowed upon a regiment in recognition of their contribution to the security of the nation.

## Chief of Defence Staff

### Why in News

The government has modified the Service Rules of the Army, Navy and Air Force to enable the appointment

Note:

of the **Chief of Defence Staff (CDS)** and fix the upper age limit at 65 if a service chief is appointed to the post of CDS.

- The service (Army, Navy and Indian Air Force) chiefs, when appointed, are usually given a tenure of three years or till they attain the age of 62 years, whichever is earlier.
- However, the tenure of the CDS has not been fixed yet.

### Chief of Defence Staff

The **Cabinet Committee on Security** approved the creation of the CDS on 24<sup>th</sup> December 2019.

- **Role**
  - The CDS will act as the **principal military adviser to the defence minister** on all matters relating to tri-services. He will be appointed in a **four-star rank** at par with the three service chiefs.
  - The CDS will also serve as the **permanent chairman of the Chiefs of Staff Committee (CoSC)** which comprises the three service chiefs.
    - So far, the chairmanship of the CoSC has not been permanent and is held in rotation by the senior-most service chief, which has caused problems of inadequate attention and short tenures as Chairman, CoSC.
  - The tri-service agencies, organisations and commands relating to cyber and space will be under the command of the CDS.
  - The CDS will also function as the **Military Adviser to the Nuclear Command Authority**.
- **Major Responsibilities**
  - The key mandate of the CDS will be to facilitate the restructuring of military commands for optimal utilisation of resources by bringing about jointness in operations, including through the establishment of joint/theatre commands.
    - To achieve jointness in operation, logistics, transport, training, support services, communications, repairs and maintenance of the three services within three years of assuming office.
  - The CDS will not be eligible to hold any government post after demitting office. The CDS will also not be allowed to take up any private employment, without prior approval, for a period of five years after demitting (resigning) the office.

## AFSPA Extended in Nagaland

### Why in News

The **Ministry of Home Affairs (MHA)** has declared the **entire State of Nagaland** as a “**disturbed area**” for six more months, under the **Armed Forces (Special Powers) Act, 1958 (AFSPA)**.

- According to the **Ministry of Home Affairs**, the area comprising the whole of State of Nagaland is in a **disturbed and dangerous condition** and the use of armed forces in aid of civilian power is necessary.

### Armed Forces (Special Powers) Act, 1958 (AFSPA)

- The Act came into force in the context of **increasing violence in the North-eastern States** decades ago, which the State governments found difficult to control.
- AFSPA gives armed forces the **power to maintain public order in “disturbed areas”**. They have the authority to **prohibit a gathering of five or more persons** in an area, can use force or even open fire after giving due warning if they feel a person is in contravention of the law.
- If reasonable suspicion exists, the army can also **arrest a person without a warrant**; enter or search premises without a warrant; and ban the possession of firearms.

### Disturbed Areas

- A disturbed area is the one which is declared by notification under **Section 3 of the AFSPA**. It can be invoked in places where the use of armed forces in aid of civil power is necessary.
- An area can be considered to be disturbed due to differences or disputes between members of different religious, racial, language or regional groups or castes or communities.
- The **Central Government or the Governor of the State or administrator of the Union Territory** can declare the **whole or part of the State or Union Territory** as a **disturbed area**.
- Once declared ‘disturbed’, the region is maintained as disturbed for a **period of three months** straight, according to **The Disturbed Areas (Special Courts) Act, 1976**. The government of the state can suggest whether the Act is required in the state or not.

Note:



### States under AFSPA, Act

- It is effective in the whole of Jammu and Kashmir, Nagaland, Assam, Manipur (excluding seven assembly constituencies of Imphal) and parts of Arunachal Pradesh.
- In Arunachal Pradesh, the impact of AFSPA has been reduced to eight police stations.

## Apache Helicopters for Indian Army

### Why in News

The deal for six **AH-64E Apache attack helicopters** for the **Indian Army** is likely to be signed.

- Currently, the Army Aviation Corps operates only smaller **Cheetah and ALH (Advanced Light Helicopters)** that weigh **less than five tonnes**.
- These are in addition to 22 Apaches being inducted by the **Indian Air Force (IAF)**, which will **replace** the **Russian Mi-35** attack helicopters in service.

### AH-64E Apache Attack Helicopter

- Better known as an attack helicopter are received from the **Boeing production facility in Mesa, Arizona, USA**.
- These are all-weather capable, easily maintainable and have high agility and survivability against battle damage.
- The **capabilities** of the AH-64E Apache Attack Helicopter includes:



- It can shoot **fire and forget** anti-tank guided missiles, air to air missiles, rockets while providing versatility to helicopter in network-centric aerial warfare.
- It also carries **fire control radar**, which has a 360° coverage and nose-mounted sensor suited for target acquisition and night vision systems.
- The addition of the Apache Attack Helicopter is a significant step towards modernisation of Indian Air Force helicopter fleet and the Indian Army.

### Cheetah Helicopters

- The Cheetah Helicopter is a **high-performance** helicopter designed by **Hindustan Aeronautics Limited (HAL)**.
- It is **identical to LAMA SA 315B** Helicopter of Eurocopter, **France**.
- It holds the **world record in high altitude flying** among all categories of Helicopters.
- The helicopter is suitable for commuting, observation, surveillance, logistics support, rescue operations and high altitude missions.



### Advanced Light Helicopter (ALH-DHRUV)

- The **indigenously designed and developed** Advanced Light Helicopter (ALH-DHRUV) is a **twin-engine**, multi-role, multi-mission new generation helicopter in the **5.5-ton weight class**.
- The major variants of Dhruv are classified as Dhruv Mk-I, Mk-II, Mk-III & Mk-IV.



Note:

# Miscellaneous

## Highlights

- Government Instant Messaging System
- Vijay Diwas
- Rare Earth Metal Mining in DR of Congo
- Indian Peacekeepers in South Sudan
- Tripura Gets Its First SEZ
- Onion Varieties
- Macau to Celebrate 20th Anniversary
- Goa Liberation Day
- Spandana: An Andhra Pradesh Initiative
- Konda Reddy Tribe
- Chillai-Kalan
- National Consumer Day
- Typhoon Phanfone
- Second Edition of Eat Right Mela
- SnowEx
- National Institute of Mountaineering and Allied Sports
- Cyclone Sarai

## Government Instant Messaging System

### Why in News

Government Instant Messaging System (GIMS) is a prototype of an **Indian equivalent** of popular messaging platforms, such as WhatsApp and Telegram for secure internal use.

- GIMS seeks to replace existing platforms like WhatsApp, Telegram and Signal which are being used by a majority of government departments and organisations.
- It will be used by **employees of Central and state government departments and organisations for secure intra and inter organisation communications**.
  - It employs **end-to-end encryption for one-to-one messaging**.
  - The **server** hosting GIMS is installed **within the country** and the information stored would be in the government-based cloud — NIC-operated data centres that are only meant for use by the government and its departments.
  - **GIMS Portal** will **administer and monitor** the working of an app.
  - Besides, **one-to-one messaging and group messaging**, it also provides for **documents and media sharing**.
  - GIMS is designed and developed by the **Kerala unit of National Informatics Centre (NIC)**.

- The launch of the new app comes after the recent controversy over the **WhatsApp breach of some Indian users' mobile devices due to Pegasus**. Pegasus is a spyware developed by Israeli firm in 2016.

## Vijay Diwas

### Why in News

Vijay Diwas is observed on **16<sup>th</sup> December every year** to mark India's victory over Pakistan in 1971 war.

- **On 16<sup>th</sup> Dec 1971**, the chief of the Pakistani forces had surrendered unconditionally to the allied forces consisting of Indian Army and Mukti Bahini in Dhaka.
- The **end of the 14-day war** resulted in subsequent **secession of East Pakistan into Bangladesh**.
- To mark the event, Indian Air Force has also felicitated a team of 25 Air Warriors to undertake a running expedition from **Kargil to Kohima** — aptly named as **K2K Ultra Marathon-Glory Run**.

## Rare Earth Metal Mining in DR of Congo

### Why in News

The **International Rights Advocates (IRA)** has filed a lawsuit against US tech giants over the **death of child labourers** in cobalt mines in the **Democratic Republic of Congo**.

Note:



- **DR Congo produces 60% of the world's supply of cobalt** and is the **world's largest producer of the rare metal**, which is crucial for **making batteries** used in **mobile phones and electric vehicles**.

### Rare Earth Minerals

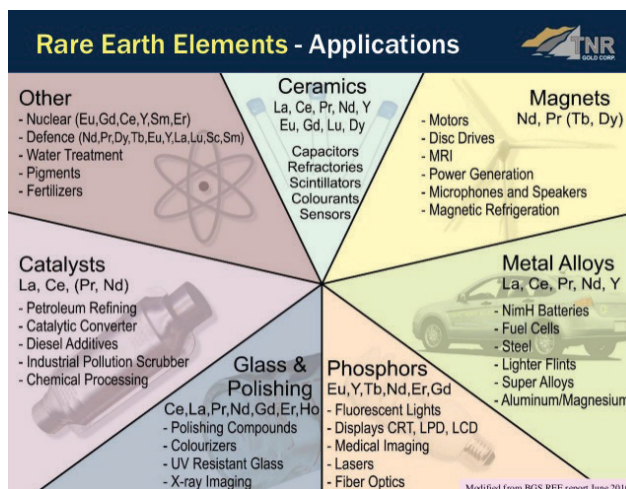
- Rare Earths are a series of **chemical elements** found in the **Earth's crust**.
- These minerals have **unique magnetic, luminescent, and electrochemical** properties and are thus used in many modern technologies, including consumer electronics, computers and networks, communications, health care, national defence, etc.
- They are called '**rare earth**' because earlier it was **difficult to extract them from their oxides forms technologically**.
- They occur in **many minerals** but typically in **low concentrations** to be refined in an **economical manner**.

#### Cobalt

- Cobalt makes up only **0.001% of Earth's crust**.
- It is similar to **iron and nickel** in its **physical properties**.
- It is found in plants and animals, air, water, soil and rocks.
- Cobalt is used in many alloys & superalloys to make parts in aircraft engines, gas turbine, high-speed steels, corrosion-resistant alloys, cemented carbides. It is also used in magnets and magnetic recording media.
- The **radioactive isotope, Cobalt-60**, is used in medical treatment and also to irradiate food.

#### International Rights Advocates

- It is a non-governmental organisation that promotes human rights and corporate accountability through legal advocacy and capacity building.



## Indian Peacekeepers in South Sudan

### Why in News

The Indian peacekeepers serving in **South Sudan** have been awarded the **United Nations (UN) medal for their service and contribution to building peace** in the country.



### UN Peacekeeping

- UN Peacekeeping helps countries navigate the difficult path from conflict to peace.
- It deploys troops and police from around the world, integrating them with civilian peacekeepers to address a range of mandates set by the UN Security Council (UNSC) and the General Assembly.

### UN Peacekeeping and India

- Currently, there are more than **6,700 troops** and police from India who have been deployed to UN peacekeeping missions, the **fourth highest** amongst troop-contributing countries.

Note:

- More than 200,000 Indians have served in 49 of the 71 UN peacekeeping missions established around the world since 1948. Indian peacekeepers have served in UN peacekeeping missions **around the world**.
- India has a long tradition of sending **women on UN peacekeeping missions**.
- In 2007, **India** became the **first country** to deploy an **all-women contingent** to a **UN peacekeeping mission**.

## Tripura Gets Its First SEZ

### Why in News

Recently, the Ministry of Commerce and Industry has notified setting up of Tripura's first ever Special Economic Zone (SEZ).

- It will be developed by **Tripura Industrial Development Corporation (TIDC) Ltd.** for the industries based on rubber, textile and apparel, bamboo and agri-food processing.

### Significance

- The setting up of a SEZ will open up **new avenues to attract private investment** because of its **close proximity to the Chittagong Port (Bangladesh)**.

### Special Economic Zone

- A Special Economic Zone is an area in a country that is subject to unique economic regulations that differ from the other regions.
- With a view to overcome the shortcomings experienced on account of the multiplicity of controls and clearances; absence of world-class infrastructure, and with a view to attract larger foreign investments in India, the **Special Economic Zones (SEZs) Act was passed in 2005**.
- SEZs work as an engine for economic growth supported by quality infrastructure complemented by an attractive fiscal package, both at the Centre and the State level, with the minimum possible regulations.

## Onion Varieties

### Why in News

The Punjab Agricultural University (PAU) has developed a '**Processing-grade White Onion (PWO-2)**

variety for commercial cultivation by farmers from the 2020-21 rabi cropping season.

- Punjab's farmers now mainly grow red coloured varieties of onion, that is, PRO-6 and Punjab Naroya.
- The average yield of PWO-2 is 165 quintals per acre and it matures in roughly 140 days. Its **biggest advantage is that the bulbs are processable** and can be used to make dehydrated products such as flakes, powder, rings and granules.
- The University in 1994 also released a **processing-grade white onion variety called Punjab White**. However, its average yield was only 135 quintals per acre and did not interest farmers.
- Punjab produces 2-2.1 lakh tonnes of onions, which meets hardly a third of the state's requirement. And given rising onion prices, there is probably need for varieties such as PWO - 2 whose bulbs can be converted and stored in processed form.

## Macau to Celebrate 20<sup>th</sup> Anniversary

### Why in News

Macau celebrated the **20<sup>th</sup> anniversary** since the **former Portuguese colony was returned to China**.



- The Macau Special Administrative Region (MSAR) is an **integral part of China** and example of China's "**one country, two systems**" model.
  - "One country, two systems" is a Constitutional principle describing the governance of Hong Kong and Macau since they became regions of China in 1997 and 1999, respectively.
- **Administration:** It **does not practice** China's socialist economic system. Also, it enjoys a **high degree of autonomy** in all matters **except foreign and defence affairs**.
- **Location:** It is situated on the south-east coast of China near the mouth of **Pearl River**. It is 60 kilometres from Hong Kong.
  - Macau consists of the **Macau peninsula** and the two islands of **Taipa and Coloane**.

Note:



- **Population:** It is one of the most densely populated areas in the world.
- Macau is heavily dependent on the gambling industry with its casinos contributing about 80% of the government's income.

## Goa Liberation Day

### Why in News

Goa Liberation Day is observed on 19<sup>th</sup> December every year in India. The occasion marks the day when Indian armed forces freed Goa in 1961 from 450 years of Portuguese rule.

- The Portuguese colonised several parts of India in 1510 but by the end of the 19<sup>th</sup> century Portuguese colonies in India were limited to Goa, Daman, Diu, Dadra, Nagar Haveli and Anjediva Island.
- The Goa liberation movement, which sought to end Portuguese colonial rule in Goa, started off with small scale revolts, but reached its peak between 1940 to 1960, ending when India invaded Goa in 1961.
  - After the failure of diplomatic efforts with Portuguese, military operation code-named 'Operation Vijay' was conducted by the Indian Navy, Airforce and Army and Goa was liberated on 19<sup>th</sup> December, 1961.

## Spandana: An Andhra Pradesh Initiative

### Why in News

- **Spandana**, an Andhra Pradesh Government initiative to make **police stations more approachable for the public, especially women**, is winning awards.
- Spandana (means response) centres have been established within the premises of all District Collector offices and police stations.
- These centres mostly have a female receptionist and other staff members who are trained, briefed and sensitised in handling women victims and complainants.
- There are two broad reasons why Spandana initiative has succeeded:
  - One is the **use of technology**. With Spandana centres spread across the district, each having video

conferencing facility, it is **easier and cheaper** for people to lodge complaints. They no longer have to travel to the district headquarters for follow up.

- The second reason is the **special attention to women complainants**.

## Konda Reddy Tribe

- It is **one of the most backward tribal groups** in the states of **Andhra Pradesh and Telangana**.
- They inhabit on both the banks of the Godavari River (East and West Godavari districts), in the hilly-forest region of Khammam (Telangana) and Srikakulam (Andhra Pradesh).
- They live in the **interior forest areas largely cut-off from the mainstream**. Traditionally, they were **shifting cultivators** and recently, some of them have adopted **settled agriculture and horticulture**.
  - Collection of non timber forest products and basket-making supplement the sources of their livelihood.
- Their mother tongue is Telugu with a unique accent.
- Konda Reddis have also been recognized as **Primitive Tribal Group** (now **Particularly Vulnerable Tribal Groups**).
- The Konda Reddis are known for their **eco-friendly practices** such as use of household articles made of bamboo, bottle gourd, and seed.

## Chillai-Kalan

- Chillai-Kalan, a **traditional 40-day long period of extreme cold in Kashmir**, began on December 21 and will continue till January 31 followed by **Chillai-Khurd** and **Chillai-Bachha**.
  - **Chillai-Khurd (small cold)**, a **20-day** long period which starts from January 31 to February 19.
  - **Chillai-Bachha (baby cold)**, a **10-day** long period which occurs between February 20 and March 2.
- As per **India Meteorological Department (IMD)**, the period mostly remains wet as the upper part of the Kashmir Valley receives heavy snowfall and the maximum temperature drops considerably.
- During this period, water bodies like lakes, rivers and streams get frozen with a thick layer of ice.

Note:

### India Meteorological Department

- It was established in **1875** as an agency of the **Ministry of Earth Sciences**.
- It is the principal agency responsible for meteorological observations, weather forecasting and seismology.

## National Consumer Day

- Every year, **24<sup>th</sup> of December** is observed as **National Consumer Day** in India. The theme of **2019** is **"Alternate consumer grievance/dispute redressal"**.
- On this day the **Consumer Protection Act, 1986** had received the assent of the President and came into effect.
- It is observed to highlight the **importance of the consumer movement** and the need to make every consumer **more aware of their rights and responsibilities**.
- The **World Consumer Rights Day** is observed every year on **15<sup>th</sup> March**.
- The **Consumer Protection Act, 2019** was passed by the Parliament in August 2019 to replace the Consumer Protection Act, 1986.

CONSUMER PROTECTION ACT 1986	PROVISIONS	CONSUMER PROTECTION ACT 2019
No separate regulator	<b>Regulator</b>	Central Consumer Protection Authority (CCPA) to be formed
Complaint could be filed in a consumer court where the seller's (defendant) office is located	<b>Consumer court</b>	Complaint can be filed in a consumer court where the complainant resides or works
No provision. Consumer could approach a civil court but not consumer court	<b>Product liability</b>	Consumer can seek compensation for harm caused by a product or service
District: up to ₹20 lakh State: ₹20 lakh to ₹1 cr National: above ₹1 cr	<b>Pecuniary jurisdiction</b>	District: up to ₹1 cr State: ₹1 cr to ₹10 cr National: Above ₹10 cr
No provision	<b>E-commerce</b>	All rules of direct selling extended to e-commerce
No legal provision	<b>Mediation cells</b>	Court can refer settlement through mediation

## Typhoon Phanfone

### Why in News

The Philippines was hit by typhoon Phanfone on 25<sup>th</sup> December 2019.

- Typhoon Phanfone is known as **Ursula** in the **local language in the Philippines**.



- It is the second typhoon after **typhoon Kammuri** which hit the Philippines recently.
- Phanfone is following a similar path as **Super Typhoon Haiyan**, which had hit the country in **2013**.
  - Typhoon is a **region-specific** name of the **Tropical Cyclone** (swirling system of clouds and thunderstorms that originates over tropical or subtropical oceans).
- The Philippines is the **first major landmass** facing the **Pacific cyclone belt**. It is hit by about 20 storms and typhoons each year.

### Tropical Cyclone

- **Cyclone** is the formation of a very low-pressure system with very high-speed winds revolving around it. Factors like wind speed, wind direction, temperature and humidity contribute to the development of cyclones.
- Cyclones are called 'Hurricanes' in the North Atlantic and Eastern Pacific, 'Typhoons' in South-East Asia and China and 'Tropical Cyclones' in the South-West Pacific and Indian Ocean Region.

## Second Edition of Eat Right Mela

### Why in News

Recently, Union Minister of Health & Family Welfare inaugurated the **2<sup>nd</sup> edition of Eat Right Mela** in New Delhi.

### Key Points

- **Eat Right Mela** is organised by **Food Safety and Standards Authority of India (FSSAI)**.
  - It is an outreach activity for citizens to nudge them towards eating right. It is organised to make

Note:

citizens aware of the health and nutrition benefits of different types of food.

- **The PURPLE Book**, a handbook on diets for diseases was also launched.
  - It provides general guidelines for hospitals on suitable diets for common medical conditions such as diabetes, hypertension, cancer, gut disorders etc. in a simple format and has been developed and vetted by experts in the field of food and nutrition.
- **Network for Scientific Co-operation for Food Safety and Applied Nutrition (NetSCoFAN)** was also launched.
  - It is a network of research & academic institutions working in the area of food & nutrition along with the NetSCoFAN directory. It covers detailed information of various heads/Directors and scientists of leading and associated partnering institutions.
  - It would comprise of **eight groups of institutions** working in different areas viz. **biological, chemical, nutrition & labelling, food of animal origin, food of plant origin, water & beverages, food testing, and safer & sustainable packaging.**
  - It would **identify research gaps** in respective areas and collect, collate and develop database on food safety issues for risk assessment activities.
- The importance of **'Save Food Share Food'** was emphasised.
  - In this context, **Indian Food Sharing Alliance (IFSA)** seeks to reduce food waste and hunger and to feed the needy and hungry with surplus food through structured systems.

## SnowEx

### Why in News

Recently, **NASA** has launched a **seasonal campaign** to understand how much water is contained in each winter's snowfall and how much will be available when it melts in the spring.

- This campaign is **part of a five-year programme called SnowEx** which was initiated in **2016-17**.

### Key Points

- The geographical focus of SnowEx is North America but NASA's **overall target** is optimal strategies for **mapping global Snow Water Equivalent (SWE)** with remote sensing and models leading to **"Earth System Explorer" mission**.

- NASA currently has no global satellite mission to track and study SWE.
- Snow is a vital source of water for **drinking, agriculture and electrical power** in the western United States and other locations around the world.

**Remote sensing:** It is the science of obtaining information about objects or areas from a distance, typically from aircraft or satellites.

## Cyclone Sarai

**Tropical Cyclone Sarai** hit Fiji on December 28, 2019, causing widespread damage.

- It is a **category two tropical cyclone** and is moving east towards the Tongan waters at nearly 10 kmh speed.
- It is expected to have average winds of up to 110km/hr with momentary gusts to 150km/hr close to its centre.



### Fiji and Tonga

- Fiji is a country and archipelago in the South Pacific Ocean. It surrounds the Koro Sea about 1,300 miles north of Auckland, New Zealand.
- Tonga, officially the Kingdom of Tonga (also called Friendly Islands), is located in the southwestern Pacific Ocean. It lies east of Fiji.

### Saffir-Simpson Hurricane Wind Scale

- The Saffir-Simpson Hurricane Wind Scale is a 1 to 5 rating based on a hurricane's sustained wind speed. This scale estimates potential property damage.

Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	119-153 km/h	Very dangerous winds will produce some damage
2	154-177 km/h	Extremely dangerous winds will cause extensive damage

Note:

3 (major)	178-208 km/h	Devastating damage will occur
4 (major)	209-251 km/h	Catastrophic damage will occur
5 (major)	252 km/h or higher	Catastrophic damage will occur

## **National Institute of Mountaineering and Allied Sports**

### **Why in News**

A cycling expedition consisting of staff from the **National Institute of Mountaineering and Allied Sports (NIMAS)** reached **Yangon (Myanmar)** on 25<sup>th</sup> Dec 2019.

It will be cycling through Myanmar, Thailand and Malaysia up to the Malaysia-Singapore border.

- **Ministry of Defence is funding** the expedition.

### **National Institute of Mountaineering and Allied Sports**

- It is an **advanced sports training institute** located in the **West Kameng district of Arunachal Pradesh**.
- It **operates under** the control and superintendence of the **Ministry of Defence**.
- The institute offers training across land, air and water. It is a first of its kind initiative that allows civilians to experience challenges across a variety of outdoor surfaces as well as pursue a career in adventure sports. It provides structured training to defence personnel as well.



Note:



**Key Points**

**Details**


**Summary**

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**Summary**