



drishti

**Current  
Affairs  
(CONSOLIDATION)**

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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

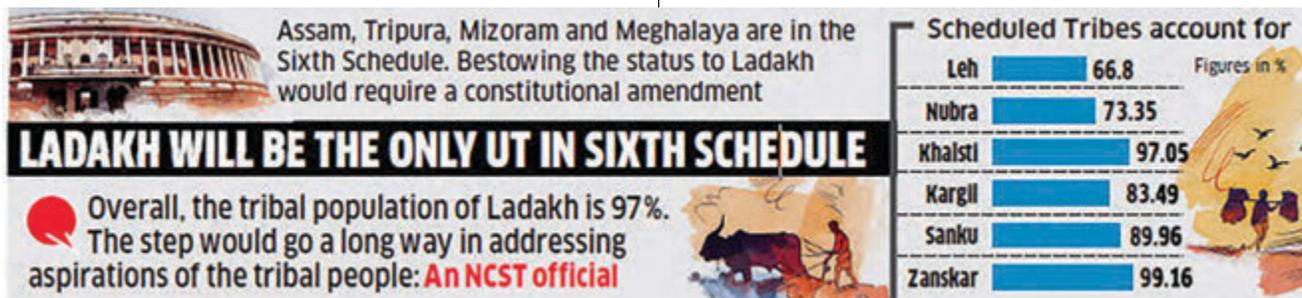
- It is estimated that **more than 90% of Ladakh's population is tribal**. The primary **Scheduled Tribes (STs)** in Ladakh are **Balti Beda, Bot (or Boto), Brokpa (or Drokpa, Dard, Shin), Changpa, Garra, Mon and Purigpa**.
  - Thereby several distinct cultural heritages of these communities in Ladakh 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:



- 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:

### 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:



- 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 Soochna Portal

The **State Government of Rajasthan** has recently launched the **first-ever public information** portal named "**Jan Soochna 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 Sookhna 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:



- 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:

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%)
<small>Shishu: loans up to Rs 50,000; Kishor: Rs 50,000-5 lakh; Tarun: Rs 5 lakh - 10 lakh *Sample beneficiaries who took loans</small>	

- 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 **GAFATax** & 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'.

### GAFATax

- "GAFATax" 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:



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- 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 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:

## 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**.

Note:





- 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**.



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)

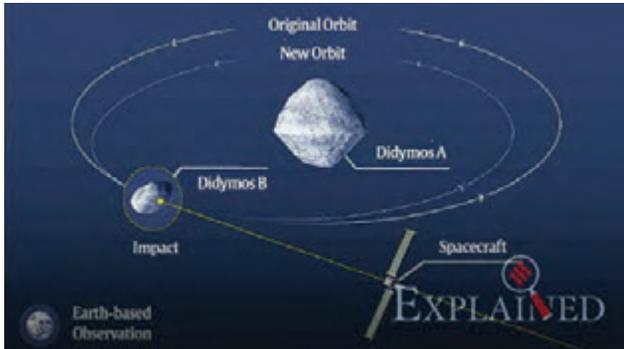
The Asteroid Impact and Deflection Assessment (AIDA) mission is the proposed experiment (by 2022) to **demonstrate asteroid impact hazard mitigation by using a kinetic impactor to deflect an asteroid.**

- 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.

Note:



- 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**

Note:

**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

Note:



them strategically in programs to **end Tuberculosis (TB), Acquired Immuno-Deficiency Syndrome (AIDS) and Malaria as epidemics.**

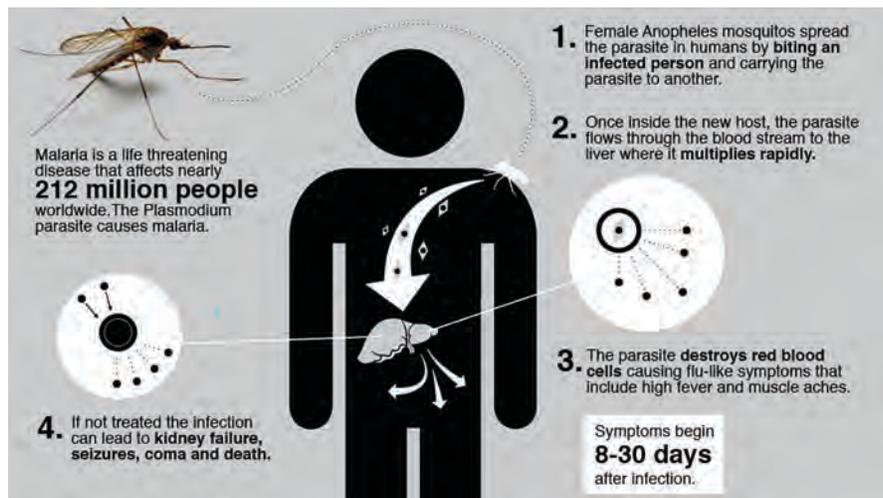
- It is a partnership of governments, civil society, technical agencies, the private sector and people affected by the diseases.

### 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:

- 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**.

Note:

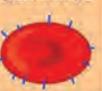
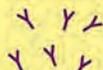
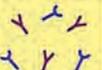


- **Eradication:** If the infection is detected in animals, a policy of culling infected and contact animals is normally used in an effort to rapidly contain, control and eradicate the disease.

## 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
<b>Antigen (on RBC)</b>	Antigen A 	Antigen B 	Antigens A + B 	Neither A or B 
<b>Antibody (in plasma)</b>	Anti-B Antibody 	Anti-A Antibody 	Neither Antibody 	Both Antibodies 
<b>Blood Donors</b>	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:

## EQUINOX

- 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 EQUINOX 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).

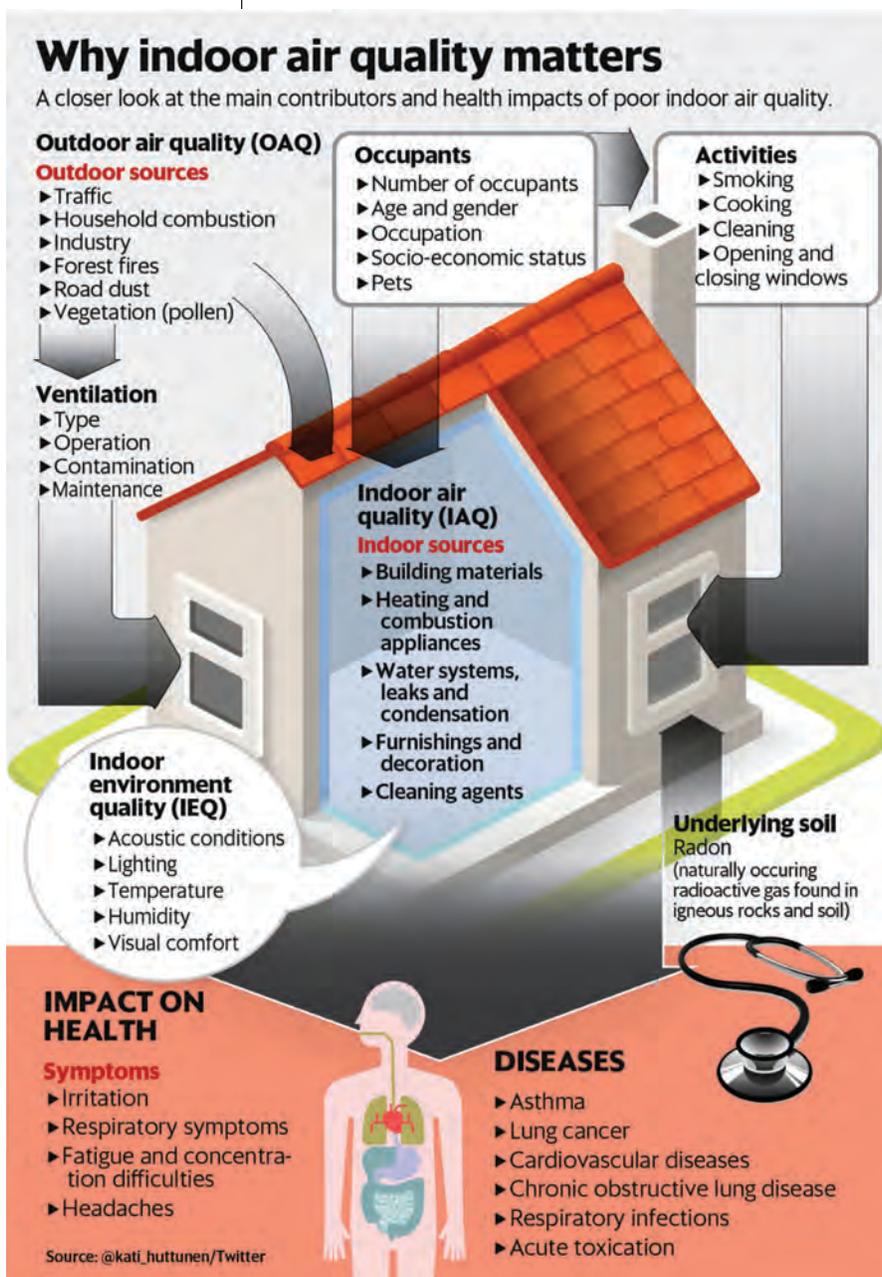
- Though the number of days with severe PM 2.5 levels have come down since 2015, Delhi still needs to cut pollution levels by 65% to meet global air quality standards.

### 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:

- 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

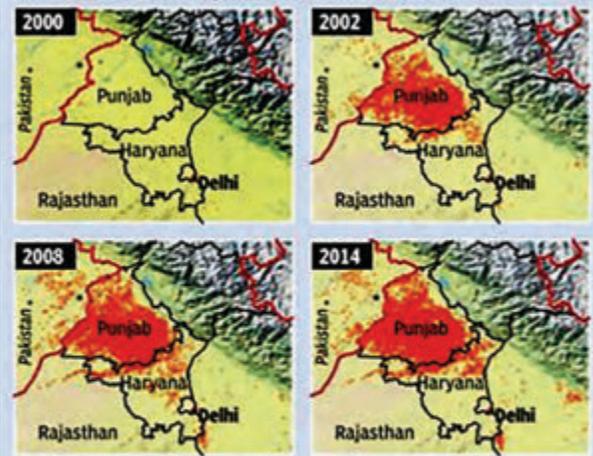
National Conference on Crop Residue Management was held **for the farmers from the states of Punjab, Haryana, Uttar Pradesh & Delhi**.

- 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:



- 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:





- 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:



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# 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.

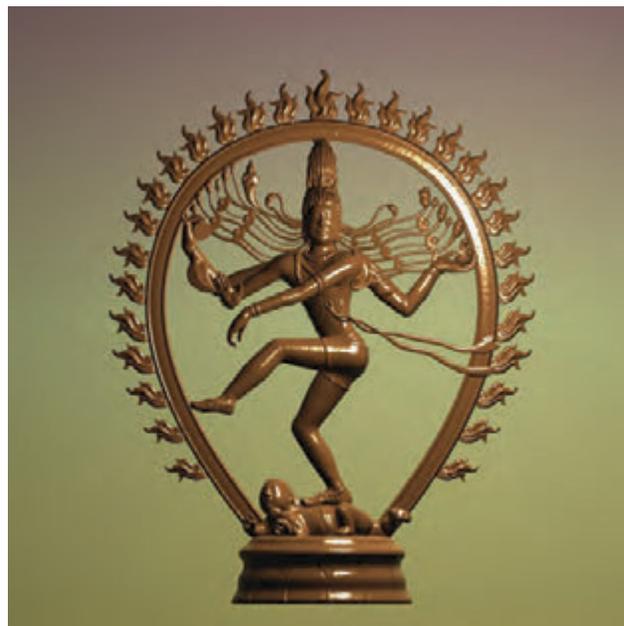
### Indus Valley Civilization

- 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:



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- 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:



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# 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
Kuruksheetra	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:



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# 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:



<b>Soil</b>	➤ <b>Fertile, saline soil with high water-retention capacity</b> is ideal for cotton cultivation. Loamy soil with <b>high calcium carbonate</b> is best for cotton cultivation.
<b>Relief</b>	➤ The <b>slight slope of the land drains</b> 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:

- 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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