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Current Affairs
(Consolidation)

November 2022
(Part – I)

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Polity and Governance

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'Eat Right Station' Certification

Why in News?

Recently, Bhopal Railway Station has been **awarded a 4- star 'Eat Right Station' certification** for providing high-quality, nutritious food to passengers.

➤ The 4-star rating indicates **full compliance by the station to ensure safe and hygienic food is available to passengers.**

What is 'Eat Right Station' Certification?

➤ **About:**
  ○ The 'Eat Right Station' certification is awarded by **Food Safety and Standards Authority of India (FSSAI)** to railway stations that set benchmarks in providing safe and wholesome food to passengers.
  ○ The station is **awarded a certificate upon a conclusion of an FSSAI-**empanelled third-party audit agency with ratings from 1 to 5.
  ○ The certification is part of the **'Eat Right India' movement.**
➤ **Other Railway Stations with this Certification:**
  ○ Anand Vihar Terminal Railway Station; (Delhi), Chhatrapati Shivaji Terminus; (Mumbai), Mumbai Central Railway Station; (Mumbai), Vadodara Railway Station, Chandigarh Railway Station.

Certification Process

01 Identification of Railway Stations & FSSAI Licensing/Registration
02 Pre-Audit of Railway Stations by the State Food Safety Department representatives from local bodies and an FSSAI-empanelled auditing agency
03 FoSTaC Training of food handlers in railway stations and Infrastructure Improvement
04 Final Audit by same FSSAI empaneled agency within six months and Certification by FSSAI and the State Food Safety Department
05 Regular Inspections and Renewal of Certificate after 2 years

What is the Eat Right Movement?

➤ It is an **initiative of FSSAI to transform the country's food system** in order to ensure safe, healthy and sustainable food for all Indians. Its tagline is **'Sahi Bhojan, Behtar Jeevan'.**

➤ It is aligned to the **National Health Policy 2017** with its focus on preventive and promotive healthcare and flagship programmes like **Ayushman Bharat**, **POSHAN Abhiyaan**, **Anaemia Mukt Bharat** and **Swachh Bharat Mission**.

- Eat Right India **adopts a judicious mix of regulatory, capacity building, collaborative, and empowerment approaches** to ensure that our food is suitable both for the people and the planet.

What are the Related Initiatives?

- **State Food Safety Index:**
  - FSSAI has **developed it to measure the performance of States on five parameters of food safety** - Human Resources and Institutional Data, Compliance, Food Testing - Infrastructure and Surveillance, Training & Capacity Building and Consumer Empowerment.
- **Eat Right Awards:**
  - Instituted by FSSAI to recognize the contribution of food companies and individuals to empower citizens to choose safe and healthy food options.
- **Eat Right Mela:**
  - Organised by FSSAI, it is an outreach activity for citizens to nudge them towards eating right.

What is the Importance of Food Safety?

- **Access to sufficient amounts of safe food is key to sustaining life** and promoting good health.
  - **Foodborne illnesses are usually infectious or toxic in nature** and often invisible to the plain eye, caused by bacteria, viruses, parasites or chemical substances entering the body through contaminated food or water.
  - An estimated 4,20,000 people around the world die every year after eating contaminated food and children under 5 years of age carry 40% of the foodborne disease burden, with 1,25, 000 deaths every year.
- **Food safety has a critical role in assuring that food stays safe at every stage** of the food chain - from production to harvest, processing, storage, distribution, all the way to preparation and consumption.
  - Food production is responsible for up to 30% of global **greenhouse-gas** emissions contributing to **global warming.**

What is FSSAI?

- It is an autonomous body under the Ministry of Health and Family Welfare, Government of India. It has been established under Food Safety and Standards Act, 2006 which consolidates various acts and orders that have hitherto handled food related issues in various Ministries and Departments.

- The Food Standards and Safety Act, 2006 replaced several Acts and Orders like the Prevention of Food Adulteration Act, 1954; Fruit Products Order, 1955; etc.
- FSSAI is headed by a non-executive Chairperson, appointed by the Central Government, either holding or have held a position, not below the rank of Secretary to the Government of India. It is not under the charge of Director General of Health Services.
- FSSAI has been created for laying down science-based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption.

Rising Illegal, Unreported and Unregulated (IUU) Fishing

Why in News?

During the first half of this year, **Indian Navy** vessels **monitored more than 200 Chinese fishing vessels in the Indian Ocean**, **despite growing Illegal, Unreported and Unregulated (IUU) fishing beyond the Exclusive Economic Zone (EEZ).**

- Most of the illegal activity is found in the **Northern Indian Ocean Region (IOR).**
- International Day for the Fight against Illegal, Unreported and Unregulated Fishing is organized every year on 5th June.

What is Illegal, Unreported and Unregulated (IUU)?

- IUU fishing is a **broad term that captures a wide variety of fishing activity.**
- IUU fishing is **found in all types and dimensions of fisheries**; it occurs both on the high seas and in areas within national jurisdiction.
- It concerns all aspects and stages of the capture and utilisation of fish, and it may sometimes be associated with organized crime.
- **IUU fishing undermines national and regional efforts to conserve and manage fish stocks** and, as a consequence, inhibits progress towards achieving the goals of long-term sustainability and responsibility.

Note:

What is the State of India's Fisheries Sector?

➤ **Indian Scenario:**
- ○ **India is the second largest fish producing country** in the world accounting for 7.56% of global production and contributing about 1.24% to the country's Gross Value Added (GVA) and over 7.28% to the agricultural GVA.
- ○ India aims to achieve a target of producing 22 million metric tonnes of fish by 2024-25.
- ○ The sector is recognized as a powerful engine for providing **employment to 14.5 million people** and sustaining livelihood for the 28 million fishermen community of the country.
- ○ The **fisheries sector has witnessed three major transformations in the last few years:**
  - The growth of inland aquaculture, specifically freshwater aquaculture.
  - The mechanization of capture fisheries.
  - The successful commencement of brackish water shrimp aquaculture.

➤ **Related Initiatives:**
- ○ **Fishing Harbours:**
  - The development of five major Fishing Harbours (Kochi, Chennai, Visakhapatnam, Paradip, Petuaghat) as hubs of economic activity.
- ○ **Seaweed Park:**
  - Multipurpose seaweed park in Tamil Nadu would be the center of production for quality **seaweed**-based products, developed on a hub and spoke model.
- ○ **Pradhan Mantri Matsya Sampada Yojana:**
  - It strives to create direct employment to 15 lakh fishers, fish farmers, etc. and about thrice this number as indirect employment opportunities.
  - It also aims to double the incomes of fishers, fish farmers and fish workers by 2024.
- ○ **Palk Bay Scheme:**
  - The Scheme, "Diversification of Trawl Fishing Boats from Palk Straits into Deep Sea Fishing Boats" was launched in 2017 as a **Centrally Sponsored Scheme.**
    - It was launched as part of the umbrella **Blue Revolution Scheme.**
- ○ **Marine Fisheries Bill, 2021:**
  - The Bill proposes to only grant licenses to vessels registered under the Merchant Shipping Act, 1958, to fish in the **Exclusive Economic Zone (EEZ).**

What are the Initiatives taken to tackle the Issue of Illegal Mining?

➤ **Indo-Pacific Maritime Domain Awareness (IPMDA):**
- ○ In May, 2022, recognising the **impact of IUU fishing which can lead to the depletion of fish stocks affecting marine ecology**, the **Quad** members announced a major regional effort under the ambit of **Indo-Pacific Maritime Domain Awareness (IPMDA).**
- ○ It aims to **provide a more accurate maritime picture of "near-real-time" activities in the region.**
- ○ It (IPMDA) is **expected to catalyse joint efforts of India and other Quad partners** towards addressing IUU in the Indo-Pacific region.

➤ **IFC-IOR:**
- ○ The Indian Navy's **Information Management and Analysis Centre (IMAC)** in Gurugram and the **Information Fusion Centre-Indian Ocean Region (IFC-IOR)** co-located with it monitor all vessel movements on the high seas.
- ○ IFC-IOR has been **collaborating with other regional monitoring centres across the globe to enhance maritime safety** and security, including efforts to monitor IUU.

➤ **UNCLOS:**
- ○ As per **United Nations Convention on the Law of the Sea (UNCLOS), coastal nations are responsible for addressing IUU fishing issues within their respective EEZ.**
- ○ Under UNCLOS, regional fisheries management organizations such as the Indian Ocean Tuna Commission and Southern Indian Ocean Fisheries Agreement monitor IUU fishing on the high seas.

➤ **The Cape Town Agreement:**
- ○ The 2012 Cape Town Agreement is an **internationally-binding instrument that sets minimum requirements** on the design, construction, equipment, and inspection of fishing vessels of 24 meters in length and over or equivalent in gross tons.
  - India is not a signatory of the agreement.

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➢ **Agreement on Ports State Measures:**
  ○ The objective of this Agreement is to **prevent, deter and eliminate IUU fishing through the implementation of effective port State measures**, and thereby to ensure the long-term conservation and sustainable use of living marine resources and marine ecosystems.
    ● India is not a signatory of the agreement.
➢ **International Day for the Fight against IUU Fishing:**
  ○ The **General Assembly of the United Nations (UNGA)** declared 5th June the International Day for the Fight against IUU Fishing at its seventy-second session in November 2017.

All Employees can Opt for PF Pensions Scheme

Why in News?

In a significant ruling, the **Supreme Court** has upheld the **Employees' Pension (Amendment) Scheme, 2014 but quashed the threshold limit of Rs 15,000 monthly salary for joining the pension fund.**

What is the Employees' Pension Scheme?

➢ **About:**
  ○ EPF Pension, which is technically known as Employees' Pension Scheme (EPS), is a social security scheme provided by the **Employees' Provident Fund Organisation (EPFO).**
    ● The scheme was first launched in 1995.
  ○ The scheme, provided by EPFO, makes provisions for pensions for the employees in the organized sector after the retirement at the age of 58 years.
  ○ Employees who are **members of EPF automatically become members of EPS.**
    ● Both employer and employee contribute 12% of employee's monthly salary (basic wages plus dearness allowance) to the Employees' Provident Fund (EPF) scheme.
    ● EPF scheme is mandatory for employees who draw a basic wage of Rs. 15,000 per month.
    ● Of the employer's share of 12 %, 8.33 % is diverted towards the EPS.
    ● Central Govt. also contributes 1.16% of employees' monthly salary.

➢ **EPS (Amendment) Scheme, 2014:**
  ○ The EPS amendment of 2014, had raised the **pensionable salary cap to Rs 15,000 a month from Rs 6,500 a month,** and allowed only existing members (as on September 1, 2014) along with their employers exercise the option to contribute **8.33% on their actual salaries (if** it exceeded the cap) towards the pension fund. This was extendable by another six months at the discretion of the Regional Provident Fund Commissioner.
  ○ It, however, excluded **new members who earned above 15,000** and joined after September 2014 from the scheme completely.
  ○ The amendment, however, **required such members** to contribute an additional 1.16% of their salary exceeding ₹ 15,000 a month towards the pension fund.

What is the SC's Judgement?

➢ Under Article 142, the Supreme Court ruling gives EPFO members, who have availed of the EPS, another opportunity over the next four months to opt and contribute up to **8.33% of their actual salaries as against 8.33% of the pensionable salary** capped at Rs 15,000 a month towards pension.
  ○ Under the pre-amendment scheme, the pensionable salary was computed as the **average of the salary drawn during the 12 months** prior to exit from membership of the Pension Fund. The amendments raised this to **an average of 60 months prior to exit** from the membership of the Pension Fund.
➢ The court held the amendment requiring members to contribute an additional **1.16 % of their salary exceeding Rs 15,000 a month** as ultra vires the provisions of the Employees' Provident Funds and Miscellaneous Provisions Act, 1952.

What are the Implications?

➢ People who have subscribed to EPF will be able to get pension on their full salary instead of Rs. 15000 cap.
➢ Employees and Employers, who have contributed to the EPF without any approval from Assistant Provident Commissioner, may not get the benefit of judgment.
➢ Amendment done in 2014 may remain applicable to the companies which manage their EPF corpus through trusts.

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Governor's Role in the Universities

Why in News?

Recently, the Kerala High Court **restrained the Governor of the state in his capacity as Chancellor of universities**, from passing final orders on the show cause notices he issued to Vice-Chancellors of eight universities.

➢ The Governor **had issued the notices to the Vice-Chancellors citing violation of University Grants Commission (UGC) norms** in their appointment.

What are the Governor's Powers related Universities?

➢ **State Universities:**
  ○ In most cases, the **Governor of the state is the ex-officio chancellor of the universities in that state.**
  ○ While as Governor he functions with the aid and advice of the Council of Ministers, as Chancellor he acts independently of the Council of Ministers and takes his **own decisions on all University matters**.

➢ **Central Universities:**
  ○ Under the **Central Universities Act, 2009,** and other statutes, the **President of India shall be the Visitor of a central university.**
  ○ With their role limited to presiding over convocations, Chancellors in central universities are titular heads, who are appointed by the President in his capacity as Visitor.
  ○ The **Vice Chancellor too are appointed by the Visitor from panels** of names picked by search and selection committees formed by the Union government.
  ○ The **Act adds that the President, as Visitor, shall have the right to authorise inspections of academic** and non-academic aspects of the universities and also to institute inquiries.

What is the Original Intent of Making Governors hold the Office of Chancellor?

➢ The original intent of making Governors hold the office of Chancellor and vesting some statutory powers on them was to **insulate universities from political influence.**

➢ **Recommendations of Commission:**

○ **Sarkaria Commission:**
  ● **Justice R.S. Sarkaria Commission** **noted the use of discretion** by some Governors in some university appointments had come in for criticism.
  ● It **acknowledged the distinction between the Governor's constitutional role and the statutory role** performed as a Chancellor, and also underlined that the Chancellor is not obliged to seek the government's advice.
○ **M.M. Punchhi Commission:**
  ● Noting that the **Governor should not be "burdened with positions and powers,** which may expose the office to controversies or public criticism, it advised against conferring statutory powers on the Governor.

What is the UGC's role in this?

➢ Education comes under the **Concurrent List**, but entry 66 of the Union List — "coordination and determination of standards in institutions for higher education or research and scientific and technical institutions" gives the Centre substantial authority over higher education.

➢ The **University Grants Commission plays that standard-setting role**, even in the case of appointments in universities and colleges.

➢ According to the **UGC (Minimum Qualifications for Appointment of Teachers and other Academic Staff in Universities and Colleges and other Measures for the Maintenance of Standards in Higher Education) Regulations, 2018,** the "Visitor/Chancellor" — mostly the **Governor** in states — **shall appoint the VC out of the panel of names** recommended by search-cum-selection committees.

➢ **Higher educational institutions,** particularly those that **get UGC funds, are mandated to follow its regulations**.

➢ These are usually followed without friction in the case of central universities but are sometimes resisted by the states in the case of state universities.

Amendments in Electoral Bond Scheme

Why in News?

Weeks ahead of elections in certain states, the Central Government has amended the **Electoral Bond Scheme.**

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What is the Electoral Bond Scheme?

➢ **Electoral Bonds:**
- ○ **Electoral bonds** are money **instruments like promissory note**s, which can be bought by companies and individuals in India from the State Bank of India (SBI) and donated to a political party, which can then encash these bonds.
- ○ The bonds are only redeemable in the designated account of a **registered political party.**
- ○ A person being an individual can buy bonds, **either singly or jointly with other individuals.**

➢ **Electoral Bond Scheme:**
- ○ Electoral Bonds Scheme was launched in 2018 to to cleanse the political funding in India.
- ○ The central idea behind the electoral bonds scheme is to **bring about transparency in electoral funding in India.**
  - ● The government had described the scheme as an "electoral reform" in a country moving towards a "cashless-digital economy".

The lowdown on a vexed issue

What are electoral bonds?
Sold four times a year (in January, April, July and October), electoral bonds allow political parties to accept money from donors whose identities are kept anonymous. They are sold in multiples of ₹1,000, ₹10,000, ₹1 lakh, ₹10 lakh, and ₹1 crore. The scheme was first floated in 2017 and implemented in 2018

Who can sell them?
SBI is the sole authorised bank to sell and redeem the bonds. Customers of other banks can also purchase the bonds via different payment channels provided to them. However, a political party can only redeem the bond from one of the 29 authorized branches of the bank.

Which parties can receive donations via electoral bonds?
A political party must also have at least 1% vote share in most recent general elections or assembly elections to receive donations via electoral bonds.

What is the controversy around them?
The scheme has been challenged on the grounds that it lacks transparency. Those opposed to it have also asserted that a large chunk of the donations have gone to the BJP, the ruling party. In 2019-20, the BJP received over 75% of the electoral bonds, according to the Election Commission data. Critics have also argued that since the bonds are sold through a government-owned bank there is a possibility that the party in power can find out who is funding their political rivals

What are the Amendments Made to the Scheme?

➢ **Additional Period of 15 Days:**
- ○ Introduced a new para, stating that an additional period of **fifteen days** shall be specified by the Central Government in the year of general elections to the Legislative Assembly of States and Union territories with Legislature.
- ○ In 2018, when the Electoral Bond Scheme was introduced, these bonds were made available for a period of 10 days each in January, April, July and October, as may be specified by the central government.
  - ● An additional period of 30 days was to be specified by the Central Government in the year of the General election to the House of People.

➢ **Validity:**
- ○ The Electoral Bonds **shall be valid for fifteen calendar days from the date of issue** and no payment shall be made to any payee Political Party if the Electoral Bond is deposited after expiry of the validity period.
- ○ The Electoral Bond deposited by an eligible Political Party in its account shall be credited on the same day.

➢ **Eligibility:**
- ○ Only the political parties registered under **Section 29A of the Representation of the People Act, 1951** which secured at least **1% of votes polled in the last General Election** to the Lok Sabha or the State Legislative Assembly are **eligible to receive Electoral Bonds.**

What are the Concerns Regarding Electoral Bonds?

➢ **Contradicting its Basic Idea:**
- ○ The central criticism of the electoral bonds scheme is that it does the exact opposite of what i**t was meant to do: bring transparency to election funding.**
- ○ For example, critics argue that the anonymity of electoral bonds is only for the broader public and opposition parties.

➢ **Possibility of Extortion:**
- ○ The fact that such bonds are sold via a government-owned bank (SBI) **leaves the door open for the government to know exactly who is funding its opponents**.
- ○ This, in turn, allows the possibility for the **government of the day to either extort money, especially from the big companies**, or victimise them for not funding the ruling party — either

Note:

way providing an unfair advantage to the party in power.

➢ **A Blow to Democracy:**
   ○ Through an amendment to the **Finance Act 2017,** the Union government has exempted political parties from disclosing donations received through electoral bonds.
   ○ This means the voters will not know which individual, company, or organization has funded which party, and to what extent.
   ○ However, in a representative democracy, citizens cast their votes for the people who will represent them in Parliament.

➢ **Compromising Right to Know:**
   ○ The **Supreme Court of India** has long held that the "right to know", especially in the context of elections, is an integral part of the **right to freedom of expression (Article 19)** under the Indian Constitution.

➢ **Against Free & Fair Elections:**
   ○ The bonds provide no details to the citizens but said anonymity does not apply to the government, which can **always access the donor details by demanding the data from the State Bank of India (SBI).**
   ○ This implies that the government in power can leverage this information and disrupt free and fair elections.

➢ **Crony Capitalism:**
   ○ The electoral bonds scheme **removes all pre-existing limits on political donations** and effectively allows well-resourced corporations to fund elections, subsequently paving the way for crony capitalism.
     ● Crony Capitalism is an economic system characterized by close, **mutually advantageous relationships between business leaders and government** officials.

National Population Register (NPR)

Why in News?

The Ministry of Home Affairs (MHA) has recently highlighted the need to update the **National Population Register (NPR)** database across the country.

➢ This is to incorporate the changes due to birth, death, and migration for which demographic and other particulars of each family and individual are to be collected.

What is NPR?

➢ **About:**
   ○ NPR is a **database** containing a list of all **usual residents** of the country.
     ● A usual resident for the purposes of NPR is **a person who has resided in a place for six months or more** and intends to reside there for another six months or more.
   ○ Its **objective** is to have a comprehensive identity database of people residing in the country.
     ● It is **generated through house-to-house enumeration** during the "house-listing" phase of the **Census.**
     ● The NPR was **first collected in 2010** and then **updated in 2015.**

➢ **Legal Backing:**
   ○ The NPR is prepared under the provisions of the **Citizenship Act 1955** and the **Citizenship (Registration of Citizens and Issue of National Identity Cards) Rules, 2003**.
   ○ It is **mandatory for every "usual resident of India"** to register in the NPR.

➢ **Significance:**
   ○ It will **streamline data of residents** across various platforms.
     ● For instance, it is common to find a different date of birth of a person on different government documents. NPR will help eliminate that.
   ○ It will help the government formulate its **policies better** and also aid national security.
   ○ It will help **to target government beneficiaries in a better way** and also further cut down paperwork and red tape in a similar manner that Aadhaar has done.
   ○ It will help in implementing the idea of **'One Identity Card'** that has been recently floated by the government.
     ● 'One Identity Card' seeks to replace duplicate and siloed documentations of Aadhaar card, voter ID card, banking card, passport, and more.

➢ **NPR and NRC:**

Note:

○ According to Citizenship Rules 2003, **NPR is the first step towards compilation of a National Register of Citizens (NRC).** After a list of residents is created (i.e., NPR), a nationwide NRC **could go about verifying the citizens from that list.**

○ However, unlike the NRC, the **NPR is not a citizenship enumeration drive** as it records even a foreigner staying in a locality for more than six months.

What is the National Register of Citizens?

➤ **National Register of Citizens (NRC)** is a register prepared after the conduct of the Census of 1951 in respect of each village, showing the houses or holdings in a serial order and indicating against each house or holding the number and names of persons staying therein.

➤ The **NRC was published only once in 1951** and since then, it has not been updated for the nation until recently.

○ It has been **updated in Assam only** for now and the **government plans to update it** nationally as well.

What is the Difference between NPR and Census?

➤ **Objective:**

○ The **census** involves a **detailed questionnaire** - there were 29 items to be filled up in the 2011 census - aimed at **eliciting the particulars of every person,** including age, sex, marital status, children, occupation, birthplace, mother tongue, religion, disability and whether they belonged to any Scheduled Caste or Scheduled Tribe.

○ On the other hand, the **NPR collects basic demographic data and biometric particulars.**

➤ **Legal Basis:**

○ The census is legally backed by the **Census Act, 1948.**

○ The NPR is a mechanism **outlined in a set of rules** framed under the **Citizenship Act, 1955.**

What is the Citizenship Act, 1955?

➤ **About:**

○ **The Citizenship Act,1955 provides various ways in which citizenship may be acquired.**

● It provides for **citizenship by birth, descent, registration, naturalisation and by incorporation of the territory into India.**

○ In addition, it regulates the registration of **Overseas Citizen of India Cardholders (OCIs)** and their rights.

● An OCI is entitled to some benefits such as a multiple-entry, multipurpose lifelong visa to visit India.

➤ **CAA 2019:** The **Citizenship (Amendment) Act (CAA)** was **introduced in 2019 to amend the Citizenship Act, 1955.**

○ It provides citizenship on the basis of religion to six undocumented non-Muslim communities **(Hindus, Sikhs, Buddhists, Jains, Parsis and Christians)** from Pakistan, Afghanistan and Bangladesh who entered India on or before 31st December, 2014.

○ It exempts the members of the six communities from any criminal case under the **Foreigners Act, 1946 and the Passport Act, 1920.**

● The two Acts specify punishment for entering the country illegally and staying here on expired visas and permits.

Voting Rights for Under-trial Prisoners

Why in News?

Recently, the **Supreme Court** has decided to examine a petition challenging a provision in the election law that **imposes a blanket ban on under trials, persons confined in civil prisons** and convicts serving their sentence in jails from casting their votes.

What are the Associated Implications?

➤ **Disenfranchises a Large Segment of the Population:**

○ The latest **National Crime Reports Bureau (NCRB)** report of 2021 shows that a total of 5,54,034 prisoners were confined as on 31th December, 2021 in various jails across the country.

○ The number of convicts, undertrial inmates and detenues were reported as 1,22,852, 4,27,165 and 3,470, respectively, accounting for 22.2%, 77.1% and 0.6% respectively at the end of 2021.

○ There was a hike of 14.9% in the number of undertrial prisoners from 2020 to 2021.

➤ **Undermine Respect for Law and Democracy:**

○ Denying penitentiary (a prison) inmates the right to vote is **more likely to send messages that undermine respect for the law and democracy** than messages that enhance those values.

Note:

➢ **Deprive from Right:**
  ❍ Denying the right to vote does not comply with the requirements for legitimate punishment.
  ❍ If a convicted person can vote if she is out on bail, why is the **same right denied to an under trial** who is not yet found guilty of a crime by a court of law.
  ❍ Even a judgment-debtor (a person who has not paid his debt despite a court verdict) who has been arrested and detained as a civil person is deprived of her right to vote. Detainment in civil prisons **is unlike imprisonment for crimes.**
➢ **Lacks Reasonable Classification:**
  ❍ The ban lacks reasonable classification based on the nature of the crime or duration of the sentence imposed unlike in countries like South Africa, United Kingdom, France, Germany, Greece, Canada, etc.
  ❍ This lack of classification is anathema to the fundamental right to equality under **Article 14 (right to equality).**

What are the Provisions related to Prisoners' right to cast their vote?

➢ The right to vote is a **constitutional right under Article 326** of the Constitution.
➢ Under **Section 62(5) of the Representation of the People Act, 1951,** individuals in the lawful custody of the police and t**hose serving a sentence of imprisonment after conviction cannot vot**e. Undertrial prisoners are also excluded from participating in elections even if their names are on the electoral rolls.
➢ Only those under **preventive detention** can cast their vote through postal ballots.

Nutrient Based Subsidy Rates Approved

Why in News?

Recently, the Union Cabinet **approved Nutrient Based Subsidy (NBS) rates** for **Phosphatic and Potassic (P&K) fertilisers** for Rabi season 2022-23 from 1st October, 2022 to 31st March, 2023.
➢ All Non-Urea based fertilisers are regulated under **NBS Scheme.**

What is NBS Regime?

➢ Under the NBS regime – **fertilizers are provided to the farmers at the subsidized rates based on the nutrients** (N, P, K & S) contained in these fertilizers.
➢ Also, the fertilizers which are **fortified with secondary and micronutrients** such as molybdenum (Mo) and zinc are **given additional subsidy.**
➢ The **subsidy on P&K fertilizers is announced by the Government on an annual basis** for each nutrient on a per kg basis – which are determined **taking into account** the international and domestic prices of P&K fertilizers, **exchange rate,** inventory level in the country etc.
➢ NBS policy intends to increase the consumption of P&K fertilizers so that **optimum balance (N:P:K= 4:2:1) of NPK fertilization** is achieved.
  ❍ This would improve soil health and as a result the yield from the crops would increase, resulting in enhanced income to the farmers.
  ❍ Also, as the government expects rational use of fertilizers, this would also ease off the burden of fertilizer subsidy.
➢ It is **being implemented** from April 2010 by the Department of Fertilizers, **Ministry of Chemicals & Fertilizers.**

What are the Issues Related with NBS?

➢ **Imbalance in Price of Fertilisers:**
  ❍ Urea is left-out in the scheme and hence it remains under price control as NBS has been implemented only in other fertilisers. The MRP of urea is today officially fixed at Rs 5,628 per tonne. There is technically no price control in other fertilisers. The prices of the other fertilizers which were decontrolled have gone up that has led the farmers to use more urea than before. This has further worsened fertilizer imbalance.
➢ **Costs on Economy and Environment:**
  ❍ Fertilizer subsidy is the second-biggest subsidy after food subsidy, the NBS policy is not only damaging the fiscal health of the economy but also proving detrimental to the soil health of the country.
➢ **Black Marketing:**
  ❍ Subsidised urea is getting diverted to bulk buyers/ traders or even non-agricultural users such as plywood and animal feed makers.
    ● It is being **smuggled to** neighbouring countries like **Bangladesh** and **Nepal.**

Note:

Social Media and Elections

Why in News?

Recently, the **Chief Election Commissioner** addressed an international conference for Election Management Bodies (EMBs) hosted by the **Election Commission of India (ECI)** under the aegis of the United States' 'Summit for Democracy' platform.

➢ While inaugurating the conference, the **commissioner urged social media sites to use their "algorithm power" to flag fake news proactively.**

What are the Concerns Regarding the Spread of False Information?

➢ **Red-Herring:** The content moderation-driven approach to disinformation by all major social media platforms is a red herring **designed to distract from the far larger problem of amplified distribution of disinformation as part of business models.**

➢ **Opacity of Social Media Platforms:** Social media platforms are increasingly becoming the primary ground for public discourse over **which a handful of individuals have inordinate control.**

  ○ One of the biggest hurdles in being able to curb misinformation is the lack of transparency by social media platforms.

➢ **Inadequate Measures:** Various social media platforms have been **unable to evolve a coherent framework to stop misinformation** and have instead responded erratically to events and public pressure.

  ○ The absence of a uniform baseline approach, enforcement, and accountability vitiated the information ecosystem.

➢ **Weaponization of False Information:** Social media platforms have **adopted design choices that have led to a mainstreaming of misinformation** while allowing themselves to be weaponized by powerful vested interests for political and commercial benefit.

  ○ The consequent free flow of disinformation, hate and targeted intimidation has led to real-world harm and degradation of democracy in India.

    ● Misinformation spread through social media applications has been linked to **minority hate**, entrenched social polarisation, **vaccine hesitancy**, and real-life violence.

➢ **Digital Media Illiteracy among Children:** The **National Education Policy 2020** is a missed opportunity to insert **media literacy** in the curriculum.

  ○ Although 'digital literacy' is mentioned once in the document, social media literacy is entirely neglected.

  ○ This is a serious gap as social media is the primary source of students' literacy.

➢ **Threats due to Anonymity:** The **most famous reason for anonymity is to be able to speak the truth against vindictive governments** or to not let the views be tagged to the real person being spoken about, in the offline world.

  ○ While on one hand, this is helpful for someone in sharing their views without any insecurity, it does more harm in the aspect that the user may spread false information up to any extent without being held accountable.

What are the Pros and Cons of Social Media in Elections?

➢ **Pros:**

  ○ **Planning Manifestos:**

    ● Digital strategies have become increasingly important in the planning of political rallies and party manifestos in recent years.

    ● And so far, anyone wanting to read the sentiment of the people, the pre-election survey has been replaced by a tweet survey.

  ○ **Influence Public Opinion:**

    ● Social media helps the political parties in influencing the opinion of undecided voters, in giving the apathetic middle class a reason to go and vote.

    ● It also helps in garnering the support base to vote in large numbers and influencing others to vote.

  ○ **Disseminating Information:**

    ● Politicians are **increasingly adopting the new social media for campaigning,** disseminating or retrieving information, or contributing to rational and critical debate.

  ○ **Addressing People Problems:**

    ● Social media makes it easy for people to stay up to date on upcoming events, party schedules, and election agendas.

Note:

drishti

- Assign a tech-savvy candidate to manage social media and use it to reach out to people and hear their concerns.

➢ **Cons:**

❍ **Polarisation:**

- Social media has become an **instrument for politicians that is utilized to create more noise and even is made a way to promote polarization.**

❍ **Growing Misrepresentation:**

- Social media is greatly utilized t**o blame and criticize the opposition parties** and the information is misrepresented by misleading and incorrect facts.

- The number of political minorities is growing, and they are using social media to create a political logjam.

❍ **Influence Voters Opinion:**

- Social media presence and advertising requires a lot of spending. Only affluent parties can spend that much and they can influence the majority of the voter base.

- During elections, the spread of fake news on Social Media Platforms **influences the people's preferences.**

How is Media regulated during Elections?

➢ The Election Commission does not regulate media. It has however, the responsibility to enforce the provisions of law or Court directions, which might have linkages with media or certain aspects of media functioning. These laws are mentioned below:

❍ **Section 126 of the Representation of the People Act, 1951:** It **prohibits** displaying any election matter by **mean of cinematograph, television or other similar apparatus**, **during the period of 48 hours** ending with the hour fixed for conclusion of poll.

❍ **Section 126A** of the Representation of the People Act, 1951: It prohibits **conduct of exit poll and dissemination of their results** during the period mentioned therein, i.e., the hour fixed for commencement of polls in the first phase and half hour after the time fixed for close of poll for the last phase in all the States and Union Territories.

❍ **Section 127A** of the Representation of the People Act, 1951: The **printing and publication of election pamphlets, posters, etc. is governed by its provisions**, which make it mandatory to bear on its face the names and addresses of the printer and the publisher.

❍ **Section 171H** of the **Indian Penal Code**: It prohibits incurring of expenditure on, inter alia, advertisement without the authority of the contesting candidate.

Decentralising MGNREGS

Why in News?

An internal study by the Ministry of Rural Development has suggested decentralisation of the **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)**, allowing for more "flexibility" at the ground level.

What are the Findings of the Study?

➢ **Issues:**

❍ In the past few years, the fund management has been centralized instead of paying the **Gram Sabhas** an advance enabling them to decide the work they want to undertake.

❍ There is a chronic problem of delay **in fund disbursal,** where beneficiaries end up buying the construction material themselves to complete the projects.

- In Himachal Pradesh and Gujarat, the delay in wages was by three or four months and the **material component was delayed by six months.**

❍ MGNREGS wages were **far below the market rate in many States,** defeating the purpose of acting as a safety net.

- At present, the minimum wage of a farm labourer in Gujarat is RS 324.20, but the MGNREGS wage is Rs 229.

- The private contractors pay far more.

➢ **Suggestions:**

❍ There should be **a greater diversification of permissible works** instead of listing the types of permissible works, broad categories of works may be listed out and flexibility should be given

Note:

at ground level to select the type of works as per broad categories.

○ The gram sabhas can take into account the **local conditions and the community's requirements** instead of chasing a target set for them.

○ For making disbursal on time there should be **revolving funds (an extra internal monetary pool) that can be utilised** whenever there is a delay in the Central funds.

What is MGNREGA?

➢ **About:**

○ MGNREGA, which was launched in 2005, is one of the **largest work guarantee programmes** in the world.

○ The primary objective of the scheme is to guarantee 100 days of employment in every financial year to adult members of any rural household willing to do public work-related unskilled manual work.

➢ **Legal Right to Work:**

○ Unlike earlier employment guarantee schemes, the act aims **at addressing the causes of chronic poverty** through a rights-based framework.

○ At least one-third of beneficiaries have to be women.

○ Wages must be paid according to the statutory minimum wages specified for agricultural labourers in the state under the **Minimum Wages Act, 1948.**

➢ **Demand-Driven Scheme:**

○ The most important part of MGNREGA's design is its legally-backed guarantee for any rural adult to get work within **15 days of demanding it, failing which an 'unemployment allowance' must be given.**

○ This demand-driven scheme enables the self-selection of workers.

➢ **Decentralised Planning:**

○ There is an emphasis on strengthening the process of decentralisation by giving a significant role in **Panchayati Raj Institutions (PRIs)** in planning and implementing these works.

○ The act mandates **Gram sabhas** to recommend the works that are to be undertaken and at least 50% of the works must be executed by them.

MGNREGs CONTRBUTION TO SUSTAINABLE DEVELOPMENT GOALS (SDGs)

C-295 Aircraft

Why in News?

Recently, Prime Minister of India has laid the foundation stone for the **C-295 transport aircraft manufacturing facility in Vadodara** to be set up by **Airbus Defence and Space S.A., Spain and Tata Advanced Systems Limited (TASL)**.

➢ This is the first time **a private sector company would be manufacturing a full aircraft in the country.**

What is the C-295 MW transporter?

➢ **About:**

○ The C-295 is **a transport aircraft of 5-10 tonne capacit**y with contemporary technology.

○ Robust and reliable, it is a **versatile and efficient tactical transport aircraft** which can perform a number of different missions.

➤ **Features:**
  ○ The aircraft, with a flight endurance of up to 11 hours, **can carry out multi-role operations under all weather conditions.**
  ○ It can routinely operate day as well as night combat missions from desert to maritime environments.
  ○ It has a **rear ramp door for quick reaction and para dropping of troops** and cargo. Short take-off/land from semi-prepared surfaces is another of its features.

➤ **Replacement:**
  ○ It will replace the Indian Air Force's ageing fleet of Avro-748 planes.
    ● The Avro-748 planes are a British-origin twin-engine turboprop, military transport and freighter with a 6-tonne freight capacity.

➤ **Project Execution:**
  ○ TASL will jointly execute the project to equip the air force with the new transport aircraft under the **Make-in-India** initiative in the aerospace sector.
    ● Airbus will supply the first 16 aircraft in fly away condition between September 2023 and August 2025 while the remaining 40 will be assembled in India by TASL between September 2026 and 2031 at the rate of eight aircraft per year.

What is the Significance of this Manufacturing Facility?

➤ **Employment Generation:**
  ○ The TATA Consortium has identified more than **125 in-country MSME suppliers spread over seven states.** This will act as a catalyst in employment generation in the aerospace ecosystem of the country.
  ○ It is expected to generate 600 highly skilled jobs directly, over 3000 indirect jobs, and an additional 3000 medium-skill employment opportunities with more than 42.5 lakh man hours of work within the aerospace and defence sector of India.

➤ **Boost MSMEs:**
  ○ The project will give a boost to the **aerospace ecosystem in India wherein several Micro, Small and Medium Enterprises (MSMEs)** spread over the country will be involved in manufacturing of parts of the aircraft.

➤ **Reduce Import Dependence:**

  ○ The project will augment **domestic aviation manufacturing resulting in reduced import dependence** and expected increase in exports.
  ○ A large number of detail parts, sub-assemblies and major component assemblies of aero structure are scheduled to be manufactured in India.

➤ **Infrastructure Development:**
  ○ It will involve **development of specialized infrastructure** in the form of hangars, buildings, aprons and taxiways.
  ○ Before completion of deliveries, **'D' Level servicing facility (MRO) for C-295MW aircraft are scheduled** to be set up in India.
  ○ It is expected that this **facility will act as a regional MRO (Maintenance, Repair and Overhaul)** hub for various variants of C-295 aircraft.

➤ **Offset Obligations:**
  ○ Airbus will discharge **its offset obligations through direct purchase of eligible products** and services from Indian offset partners giving further boost to the economy.
  ○ In simplest terms, the offset is an obligation by an international player to boost India's domestic defence industry if India is buying defence equipment from it.

What is the Potential of India's Civil Aviation Sector?

➤ India has a much bigger footprint in civil aviation manufacturing than defence, in addition to being a major market itself. Both Airbus and Boeing, the USA, do significant sourcing from India for their civil programmes.
  ○ Boeing's sourcing from India stands at USD 1 billion annually, of which over 60% is in manufacturing

➤ India buys manufactured parts and engineering services worth USD 650 million every year from more than 45 Indian suppliers.

➤ India, which is moving ahead with the mantra of 'Make in India' and 'Make for the Globe', continues to enhance **its potential by becoming a major manufacturer of transport planes.**

➤ Since 2007, Airbus has had a wholly domestic-owned design centre in India which has more than 650 engineers who specialise in high-tech aeronautical engineering and work across both fixed- and rotary-wing Airbus aircraft programmes.

Note:

➤ It is estimated that in the coming 10-15 years, India will need about 2000 more **passenger and cargo aircraft.**

➤ Another major growing area is MRO for which India can emerge as the regional hub.
   ○ MRO is any action that h**elps keep or restore an item to its working conditio**n.

Warehousing Development

Why in News?

Recently, a seminar on "**e-NWR – An Effective Tool for Promoting Pledge Financing**" was organised by the **Warehousing Development and Regulatory Authority (WDRA)** under the **Department of Food and Public Distribution (DFPD)** on the **foundation day of WDRA.**

What is Warehousing Development and Regulatory Authority?

➤ **About:**
   ○ It was **constituted in 2010** under the **Warehousing (Development and Regulation) Act, 2007**.
   ○ It was an **initiative of public policy** where the benefits of technology had been transferred into benefits for farmer with the objective to make **e-NWR** a prime tool of trade, increase rural liquidity, increase farmers' income, reduce post-harvest losses, etc.

➤ **Objective:**
   ○ The main objective of WDRA is to implement **Negotiable Warehouse Receipt (NWR) System** in the country.
   ○ The main functions of the Authority are to **make provisions** for the development and regulation of warehouses which interalia includes negotiability of warehouse receipts, **registration of warehouses, promotion of scientific warehousing** of goods, improving fiduciary trust of depositors and banks, **enhancing liquidity in rural areas** and promoting efficient supply chain.

➤ **Achievements:**
   ○ There had been an **increase in the number of warehouses registered** with WDRA and its outreach with banks and farmers had improved exponentially.

   ○ As of 2021-22, **123 warehouses** are registered under WDRA issuing total of **17,975 e-NWR.**

What is Negotiable Warehouse Receipt?

➤ **About:**
   ○ It was launched in **2011 by the Ministry of Consumer Affairs, Food & Public Distribution.**

➤ **Benefits:**
   ○ Farmers can **seek loans** from banks against the warehouse receipts issued to them against their storage.
   ○ These receipts issued by the warehouses registered with the WDRA would become **a fully negotiable instrument backed by a Central legislation.**

➤ **The NWR in electronic form could be issued either as:**
   ○ **Electronic Negotiable Warehouse Receipt (e-NWR):**
      ● It has negotiability and can be used for deposit and withdrawal of commodities as well as trade transactions such as **transfer and Pledge.**
      ● It was launched in 2017.
      ● It has been integrated with the **electronic National Agriculture Market (e-NAM)** platform by providing an interface between e-NAM and repositories.
   ○ **Electronic Non-Negotiable Warehouse Receipt (e-NNWR)**, which can be used **only for deposit and withdrawal of commodities** (generally issued for goods received in the warehouse with pending final assaying reports or if assaying is not desired by the applicant) **without the facility of trade / transfer.**

What is e-NWR Pledge Finance?
➤ Pledging is a process in which the holder of the eNWR will **get a loan from the financial institution** using the underlying commodity of eNWR as collateral.
➤ When a pledge is marked, the **eNWR balances will remain in the client's account** (borrower) only but the control on the balance will be with the financial institution.
➤ The client will **not be able to us**e the eNWR balances until the pledge in favour of the **financial institution is active**.

Note:

Remote Voting Facility

Why in News?

Recently, the Union government in the Supreme Court said it is considering **Remote Voting Facility** for **Non-Resident Indians (NRI)**, especially migrant laborers, to **cast their votes remotely** while ensuring the **integrity of the electoral process.**

What is the Background?

➢ In 2020, the **Election Commission officials proposed the idea of using blockchain technology** to enable remote voting. The aim is to overcome the geographical hurdles in voting.
  ○ The Commission has been considering the possibility of remote voting which will allow people to cast the ballot from their place of work.

➢ The **Representation of the People (Amendment) Bill of 2017** had proposed the removal of an **"unreasonable restriction"** posed by Section 20A of the **Representation of the People Act, 1951** requiring overseas electors to be physically present in their electoral constituencies to cast their votes.
  ○ The Bill was later passed in 2018, but lapsed with the dissolution of the **16ᵗʰ Lok Sabha.**

➢ Currently, only the following voters are allowed to cast their votes through **postal ballot**:
  ○ Service voters (armed forces, the armed police force of a state and government servants posted abroad),
  ○ Voters on election duty,
  ○ Voters above 80 years of age or Persons with Disabilities (PwD),
  ○ Voters under **preventive detention**.

What is Remote Voting?

➢ Remote voting may take place **in person somewhere other than an assigned polling station** or at another time, or votes may be sent by post or cast by an appointed proxy.
  ○ There have been demands from various political parties that the EC should ensure that migrant workers, **NRIs (Non-Resident Indians)** who miss out on voting, as they cannot afford to go home during elections to exercise their franchise, **should be allowed to vote for their constituency from the city they are working in.**

Why is there a Need for Remote Voting?

➢ **Unfavorable Conditions:**
  ○ Voters migrate from the place of their registration to cities and other places for education, employment and other purposes. It becomes **difficult for them to return to their registered polling stations** to cast their vote.
  ○ It was also noted that in villages like Dumak and Kalgoth in Uttarakhand, about **20-25% of registered voters are unable to cast their vote in their constituencies as they are required to move out of their village/state** broadly on account of their jobs or educational pursuits.

➢ **Decrease in Voting Turnout:**
  ○ During the 2019 General elections, **nearly 300 million citizens out of a total of 910 million** electors didn't cast their votes.

➢ **Concerns Regarding Metropolitan Areas:**
  ○ The ECI also noted the **concern about low voter turnout in some of the metropolitan/city areas** despite the fact that polling stations are set up within 2 km for any voter in urban areas. The need to address voting apathy in urban areas was felt.

➢ **Increasing Registrations of Unorganised Workers:**
  ○ There are **nearly 10 million migrant workers**, which is for the unorganised sector, registered with the government's **e-SHRAM portal.** If the remote voting project is implemented, it will have far reaching ramifications.

➢ **Health Concerns:**
  ○ The health concerns of **mainly the senior citizens** also need to be discussed as they're also becoming the main deliberation. In this context, the remote voting facility will result in increasing the voting percentage in urban areas as well as in rural areas.

What are the Issues Related to Remote Voting?

➢ **Security:**
  ○ Any new technology systems, including those based on blockchain technologies and others, **are vulnerable to cyber-attacks and other security vulnerabilities.**

Note:

○ Technology-based voting systems may also entail privacy risks and concerns.

➢ **Veracity and Verification:**

○ Furthermore, a **voter verification system** that uses biometric software, such as facial recognition, could lead to false positives or negatives in voter identification, thus facilitating fraud or disenfranchising citizens.

➢ **Internet Connection & Malware Security:**

○ There is a dependency o**n voters having a reliable internet connection.** Internet penetration and availability and use of e-government services in some countries are limited.

○ Software errors or malware on voters' devices may also affect vote casting.

➢ **Privacy/Secrecy:**

○ Elections always require a high level of security in order to protect voter privacy and the integrity of final results. Meeting the security needs of elections means online voting technology must overcome barriers that can invade the voter's privacy.

➢ **Preferred Environment:** It is also possible that voting takes place in an uncontrolled environment. It is difficult to ensure that the person votes freely and without coercion.

○ There is the risk that another person votes on behalf of the voter so, it is difficult to identify the voter.

What is the Current Voting Process for NRIs?

➢ It was through the **Representation of the People (Amendment) Act, 2010**, eligible NRIs who had stayed abroad beyond six months were allowed to vote, but only in person at the polling station where they have been enrolled as an overseas elector.

○ Prior to 2010, an Indian citizen who is an eligible voter and was residing abroad for more than six months, would not have been able to vote in elections. This was because the NRI's name was deleted from electoral rolls if he or she stayed outside the country for more than six months at a stretch.

➢ An **NRI can vote in the constituency in which his/her place of residence**, as mentioned in the passport, is located.

➢ He/She can only vote in person and will have to **produce her passport in original** at the polling station for establishing identity.

Removal of Governor

Why in News?

Recently, a political party called for a **proposal to remove the Tamil Nadu Governor.**

➢ In recent years, **the bitterness between states and Governors has been largely about the selection of the party to form a government,** deadline for proving majority, sitting on Bills, and passing negative remarks on the state administration

➢ Due to this, Governor is referred to with negative terms like an **agent of the Centre, Puppet and rubber stamps.**

How can the Governor be Removed?

➢ Under **Article 155 and 156 of the Constitution, a Governor is appointed by the President and holds office** "during the pleasure of the President".

○ **If this pleasure is withdrawn** before completion of the five-year term, the **Governor has to step down.**

➢ As the President works on the aid and advice of the Prime Minister and the council of ministers, in effect, the Governor **can be appointed and removed by the central government.**

What Happens in case of Disagreements between the States and Governor?

➢ **Constitutional Provisions:**

○ There are **no provisions laid down in the Constitution** for the manner in which the Governor and the state must engage publicly when there is a difference of opinion.

○ The management of differences has traditionally been **guided by respect for each other's boundaries.**

➢ **Rulings by the Courts:**

○ *Surya Narain Choudhary vs Union of India (1981)*: The Rajasthan High Court held that the **pleasure of the President was not justiciable** as the Governor had no security of tenure and can be removed at any time by the President withdrawing pleasure.
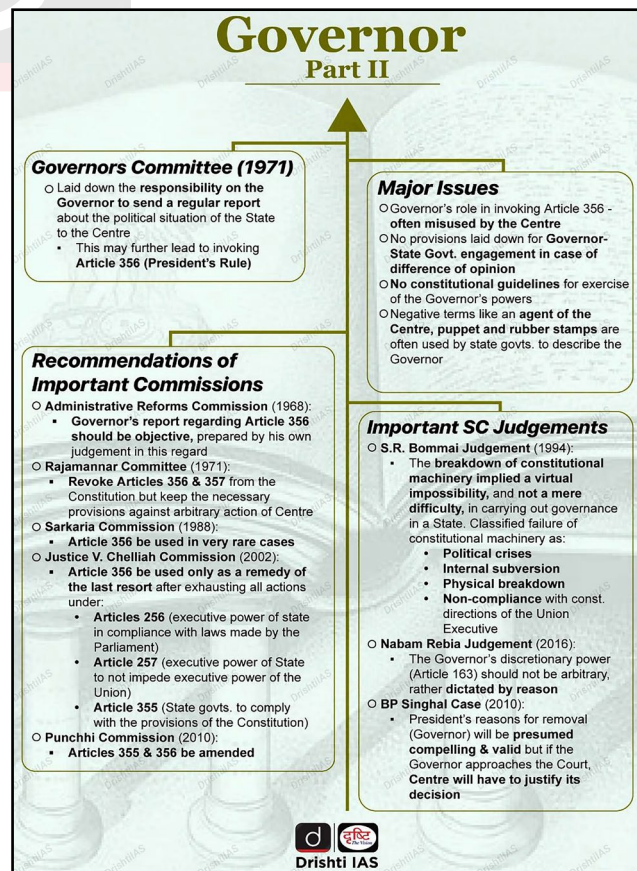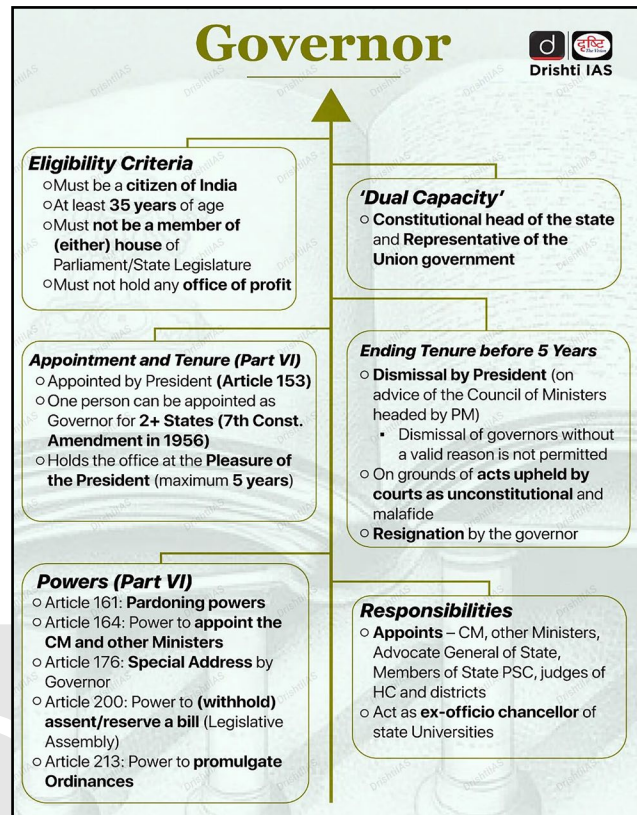
Note:

- ❍ *BP Singhal vs Union of India (2010):* The Supreme Court elaborated on the **pleasure doctrine**. It upheld that **"no limitations or restrictions are placed on the 'at pleasure' doctrine",** but that **"does not dispense with the need for a cause for withdrawal of the pleasure".**
  - The Bench held that the court will presume that the **President had "compelling and valid" reasons for the removal** but if a sacked Governor comes to the court, **the Centre will have to justify its decision.**
- ➢ **Recommendations by Various Commissions:**
  - ❍ Over the years, several panels and commissions have **recommended reforms** in **how Governors are appointed and how they function.** However, they were **never made into law by Parliament.**
    - **Sarkaria Commission (1988):**
      - ■ It recommended that **Governors are not sacked before completing their five-year tenure, except in "rare and compelling" circumstances.**
      - ■ The procedure of removal must allow the Governors **an opportunity to explain their conduct,** and the central government must give fair consideration to such explanation.
      - ■ It was further recommended that Governors should be **informed of the grounds of their removal.**
    - **Venkatachaliah Commission (2002):**
      - ■ It recommended that ordinarily **Governors should be allowed to complete their five-year term.**
      - ■ If they have to be removed before completion of their term, the **central government should do so only after consultation with the Chief Minister.**
    - **The Punchhi Commission (2010):**
      - ■ **It suggested the deletion of the phrase "during the pleasure of the President"** from the Constitution, because a Governor should not be removed at the will of the central government.
        - ◆ Instead, he or she should be removed **only by a resolution of the state legislature.**

Governor

Eligibility Criteria
- ○ Must be a **citizen of India**
- ○ At least **35 years** of age
- ○ Must **not be a member of (either) house** of Parliament/State Legislature
- ○ Must not hold any **office of profit**

'Dual Capacity'
- ○ **Constitutional head of the state** and **Representative of the Union government**

Appointment and Tenure (Part VI)
- ○ Appointed by President **(Article 153)**
- ○ One person can be appointed as Governor for **2+ States (7th Const. Amendment in 1956)**
- ○ Holds the office at the **Pleasure of the President** (maximum **5 years**)

Ending Tenure before 5 Years
- ○ **Dismissal by President** (on advice of the Council of Ministers headed by PM)
  - Dismissal of governors without a valid reason is not permitted
- ○ On grounds of **acts upheld by courts as unconstitutional** and malafide
- ○ **Resignation** by the governor

Powers (Part VI)
- ○ Article 161: **Pardoning powers**
- ○ Article 164: Power to **appoint the CM and other Ministers**
- ○ Article 176: **Special Address** by Governor
- ○ Article 200: Power to **(withhold) assent/reserve a bill** (Legislative Assembly)
- ○ Article 213: Power to **promulgate Ordinances**

Responsibilities
- ○ **Appoints** – CM, other Ministers, Advocate General of State, Members of State PSC, judges of HC and districts
- ○ Act as **ex-officio chancellor** of state Universities

Governor
Part II

Governors Committee (1971)
- ○ Laid down the **responsibility on the Governor to send a regular report** about the political situation of the State to the Centre
  - This may further lead to invoking **Article 356 (President's Rule)**

Major Issues
- ○ Governor's role in invoking Article 356 - **often misused by the Centre**
- ○ No provisions laid down for **Governor-State Govt. engagement** in case of difference of opinion
- ○ **No constitutional guidelines** for exercise of the Governor's powers
- ○ Negative terms like an **agent of the Centre, puppet and rubber stamps** are often used by state govts. to describe the Governor

Recommendations of Important Commissions
- ○ **Administrative Reforms Commission** (1968):
  - **Governor's report regarding Article 356 should be objective,** prepared by his own judgement in this regard
- ○ **Rajamannar Committee** (1971):
  - **Revoke Articles 356 & 357** from the Constitution but keep the necessary provisions against arbitrary action of Centre
- ○ **Sarkaria Commission** (1988):
  - **Article 356 be used in very rare cases**
- ○ **Justice V. Chelliah Commission** (2002):
  - **Article 356 be used only as a remedy of the last resort** after exhausting all actions under:
    - **Articles 256** (executive power of state in compliance with laws made by the Parliament)
    - **Article 257** (executive power of State to not impede executive power of the Union)
    - **Article 355** (State govts. to comply with the provisions of the Constitution)
- ○ **Punchhi Commission** (2010):
  - **Articles 355 & 356 be amended**

Important SC Judgements
- ○ **S.R. Bommai Judgement** (1994):
  - The **breakdown of constitutional machinery** implied a virtual **impossibility,** and **not a mere difficulty,** in carrying out governance in a State. Classified failure of constitutional machinery as:
    - **Political crises**
    - **Internal subversion**
    - **Physical breakdown**
    - **Non-compliance** with const. directions of the Union Executive
- ○ **Nabam Rebia Judgement** (2016):
  - The Governor's discretionary power (Article 163) should not be arbitrary, rather **dictated by reason**
- ○ **BP Singhal Case** (2010):
  - President's reasons for removal (Governor) will be **presumed compelling & valid** but if the Governor approaches the Court, **Centre will have to justify its decision**

Note:

Governor
(Part - III)

President - **Article 52 -78 in (Part V)**; Governor - **Article 153 -167 (Part VI)**

Governor and President - Similarities

Point of Similarity	Characteristics
Head	• Both are **nominal executive heads** (constitutional/titular heads) at their level
Promulgating Ordinances	• Both are empowered (under **Article 123/213 - President/Governor**)
Civil and Criminal Proceedings	• Both are **immune from any criminal proceedings during tenure**; cannot be arrested or imprisoned • **Civil proceedings can be instituted** after giving a 2-months' notice
Re-appointment/Re-election	• Both are **eligible for reappointment/re-election** to the same office
Appointing Officers	• What President appoints at National level, Governor appoints at state level (members of Public Service Commission, Judges of courts, Election Commissioners etc.)
Role in Legislature	• Power to **summon or prorogue the State/Union Legislature** and **dissolve the State LA/Lok Sabha**
Financial Powers	• Constituting **Finance Commission** at State/Union level
Situational Discretionary Power	• **Appointing PM/CM** (in case of PM/CM's death or when no party has clear majority) • **Dismissal of Council of Ministers** • **Dissolution of Lok Sabha/ State LA**

Governor v/s President - Differences

Point of Difference	President	Governor
Election	Indirectly elected	**Appointed** by President
Pleasure Doctrine	No concept of Pleasure doctrine	Serves at the **Pleasure of the President**
Declaring Scheduled Area	Can declare any area as scheduled area	Role is **limited to consultation**
Amending Constitution	His assent to the bill is required	**No role** in a Constitutional Amendment Bill
Pardoning Power	Can pardon a death sentence/punishment by a court-martial	**Can't pardon** a death sentence, no role in affairs of military
Constitutional Discretionary Power	No Constitutional Discretion	Constitutional Discretion in **reserving a bill**, imposition of **President's rule** & **administrating an adjoining UT**
Condition of Impeachment	Violation of the Constitution	**No grounds laid**

Drishti IAS

Law Commission of India

Why in News?

Retired High Court Chief Justice Rituraj Awasthi has been appointed as the chairperson of the 22nd law commission of India which was constituted in 2020.

What is the Law Commission of India?

➢ **About:**
  ○ The **Law Commission of India is a non-statutory body** constituted by the Government of India from time to time.

• Th**e first Law Commission of independent India was established in 1955** for a three-year term.
• The **first Law Commission** was established during the British Raj era in 1834 **by the Charter Act of 1833** and was **chaired by Lord Macaulay**.

➢ **Objectives:**
  ○ It works as an **advisory body to the Ministry of Law and Justice.**
  ○ The Law Commission undertakes research in law and review of existing laws in India for making reforms therein and enacting new legislations on a reference made to it by the Central Government or suo-motu.

➢ **Composition:**
  ○ Apart from having a full-time chairperson, **the commission will have four full-time members, including a member-secretary.**
  ○ Law and Legislative Secretaries in the Law Ministry will be the ex-officio members of the commission.
  ○ It will also have not more than five part-time members.
  ○ A retired Supreme Court judge or Chief Justice of a High Court will head the Commission.

What are the Important Recommendations of the Commission?

➢ **The Law Commission in its 262nd Report recommended abolition of the death penalty** for all crimes except terrorism-related offences and waging war against the state.

➢ Its report on **electoral reforms (1999) had suggested simultaneous Lok Sabha and state assembly elections** to improve governance and stability.

➢ The 21st Law commission in its recommendation in 2018 said that **Uniform Civil Code (UCC)** is **"neither necessary nor desirable at this stage".**
  ○ Now, the center has requested the 22nd Law Commission of India to undertake an examination of various issues relating to the same.

➢ **The Criminal Procedure (Identification) Act, 2022 which replace the Identification of Prisoners Act,1920** was also proposed by the Law Commission of India.

Note:

Criminalisation of Politics

Why in News?

Recently, two **Uttar Pradesh legislators were convicted on criminal charges in recent days, but only one of them has been disqualified** and his seat declared vacant by the State's Legislative Assembly secretariat.

What is Criminalisation of Politics?

➢ **About:**
  ○ The criminalization of politics means the **participation of criminals in politics which includes that criminals can contest in the elections** and get elected as members of the Parliament and the State legislature.
  ○ It takes place primarily due to the nexus between politicians and criminals.

➢ **Legal Aspects of Disqualification of Criminal Candidates:**
  ○ In this regard, **Indian Constitution does not specify as to what disqualifies a person** from contesting elections for the Parliament, Legislative assembly or any other legislature.
  ○ The **Representation of Peoples Act (RPA) 1951** mentions the criteria for disqualifying a person for contesting an election of the legislature.
    ● **Section 8 of the act**, i.e., disqualification on conviction for certain offences, according to which an individual punished with a jail term of **more than two years cannot stand in an election for six years** after the jail term has ended.

➢ **Protection against Disqualification:**
  ○ Under Section 8(4) of the RPA, **legislators could avoid immediate disqualification until 2013.**
    ● Members of Parliament or state legislators will **not be disqualified for three months**, according to the provision.
    ● If within that period, the **convicted legislator files an appeal or revision application**, it will not take effect until the disposal of the appeal or application.
  ○ In *Lily Thomas vs. Union of India, 2013,* the **Supreme Court struck down clause (4) as unconstitutional**, thus removing the protection enjoyed by lawmakers.

➢ **Related Supreme Court's Power:**

  ○ The Supreme Court has the **power to stay not only the sentence, but also the conviction of a person.** In some rare cases, conviction has been stayed to enable the appellant to contest an election.
  ○ However, the **SC has made it clear that such a stay should be very rare and for special reasons.** The RPA itself provides a remedy through the **Election Commission (EC)**. Under Sec. 11 of the Act, the EC may record reasons and either remove or reduce the period of, a person's disqualification.

What are the Reasons for Criminalization of Politics?

➢ **Lack of Enforcement:** Several laws and court judgments have not helped much, due to the lack of enforcement of laws and judgments.

➢ **Vested Interests:** Publishing of the entire criminal history of candidates fielded by political parties may not be very effective, as a major chunk of voters tend to vote through a narrow prism of community interests like caste or religion.

➢ **Use of Muscle and Money Power:** Candidates with serious records seem to do well despite their public image, largely due to their ability to finance their own elections and bring substantive resources to their respective parties.
  ○ Also, sometimes voters are left with no options, as all competing candidates have criminal records.

What are the Effects of Criminalization of Politics?

➢ **Against the Principle of Free and Fair Election:** It **limits the choice of voters to elect a suitable candidate.**
  ○ It is against the ethos of free and fair election which is the bedrock of a democracy.

➢ **Affecting Good Governance:** The major problem is that the **law-breakers become law-makers, this affects the efficacy of the democratic process** in delivering good governance.
  ○ These unhealthy tendencies in the democratic system reflect a poor image of the nature of India's state institutions and the quality of its elected representatives.

➢ **Affecting Integrity of Public Servants:** It also **leads to increased circulation of black money during and after elections**, which in turn increases corruption in society and affects the working of public servants.

Note:

➢ **Causes Social Disharmony:** It introduces a **culture of violence in society** and sets a bad precedent for the youth to follow and reduces people's faith in democracy as a system of governance.

World Cities Day

Why in News?

World Cities Day is celebrated on 31st October every year to highlight the need for international cooperation to promote global urbanisation and address its challenges.

➢ According to the United Nations, seven of every 10 people in the world will live in cities by 2050.

What is the History of World Cities Day?

➢ **Theme for 2022:**
  ○ Act Local to Go Global.
➢ **History:**
  ○ On 27th December 2013, the **United Nations General Assembly (UNGA)** established **World Cities Day through a resolution.**
  ○ The first celebration took place in 2014.
  ○ The second United Nations Conference on Human Settlements in 1976 influenced the UNGA's decision to establish World Cities Day.
  ○ The UN-Habitat programme promotes the development of sustainable cities in line with **SDG 11 goals**.
    ● The United Nations Human Settlements Programme (UN-Habitat) is the United Nations agency for human settlements and sustainable urban development.
  ○ It conducts the annual **Urban October programme** for this purpose which begins on the first Monday of the month and ends on 31st October with World Cities Day.
➢ **Significance:**
  ○ World Cities Day helps **address the challenges related to urbanisation** by bringing together all stakeholders of local and global urban development.
  ○ Urbanisation is a marker of national economic growth.
    ● Such development, however, faces social, economic, demographic and environmental challenges.

● Some of the most visible challenges to rapid urbanisation are displacement of original inhabitants, felling of trees, animals losing their habitats, issues of healthcare, food supply and pollution.

What are the Related Initiatives?

➢ **India's Initiatives for Urbanisation:**
  ○ **Schemes/Programmes Related to Urban Development:**
    ● **Smart Cities**
    ● **AMRUT Mission**
    ● **Swachh Bharat Mission-Urban**
    ● **HRIDAY**
    ● **Pradhan Mantri Awas Yojana-Urban**
  ○ **Government Initiatives for Slum Dwellers/Urban Poor:**
    ● **Pradhan Mantri Garib Kalyan Yojana**
    ● **Atmanirbhar Bharat Abhiyan (self-reliant India)**

Pahari Tribe in the ST list of J&K

Why in News?

The **National Commission for Scheduled Tribes (NCST)** has now cleared the way for the inclusion of the **'Pahari ethnic group' in the Scheduled Tribes (ST)** list of the Union Territory of Jammu and Kashmir.

➢ The commission also called for the inclusion of the "Paddari tribe", "Koli" and "Gadda Brahman" communities to be included in the ST list of J&K.

➢ Currently, Jammu and Kashmir has **12 communities that have been notified as STs.**

What is the Process of Inclusion in the ST List?

➢ The process to include tribes in the ST list begins **with the recommendation from the respective State governments**, which are then sent to the Tribal Affairs Ministry, which reviews and sends them to the Registrar General of India for approval.

➢ This is followed by the NCST approval before the list is sent to the Cabinet for a final decision.

➢ The final decision rests with **the President's office issuing** a notification specifying the changes under powers **vested in it from Articles 342**.

Note:

➢ The inclusion of any community in the Scheduled Tribes come into effect only after the President assents to a Bill that amends **the Constitution (Scheduled Tribes) Order, 1950**, as is appropriate, after it is passed by both the Lok Sabha and Rajya Sabha.

What will be the Benefits in the Inclusion in the ST List?

➢ **Enables members of the communities newly listed in the revised list of Scheduled Tribes to derive benefits** meant for STs under the existing schemes of the government.

➢ Some of the major benefits include **post-matric scholarship, overseas scholarship and the national fellowship, besides education,** concessional loans from the National Scheduled Tribes Finance and Development Corporation, and hostels for students.

➢ In addition, the tribes will also be entitled to **benefits of reservation in services and admission to educational institution**s as per the government policy.

What are the Constitutional Provisions and Initiatives related to Tribes in India?

➢ **Constitutional Provisions:**
  ❍ As per Census-1931, Schedule tribes are termed as "**backward tribes" living in the "Excluded" and "Partially Excluded"** areas. The Government of India Act of 1935 called for the first time for representatives of "backward tribes" in provincial assemblies.
  ❍ The Constitution **does not define the criteria for recognition of Scheduled Tribes** and hence the definition contained in 1931 Census was used in the initial years after independence.
  ❍ However, **Article 366(25)** of the Constitution only provides process to define Scheduled Tribes: "Scheduled Tribes means such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under **Article 342** to be Scheduled Tribes for the purposes of this Constitution."
    ● 342(1): The President may with respect to any State or Union Territory, and where it is a State, after consultation with the Governor, by a public notification, specify the tribes or tribal communities or part of or groups within tribes or tribal communities as Scheduled Tribe in relation to that State or Union Territory.

❍ The **Fifth Schedule of the Constitution** lays out provision for Administration and Control of Scheduled Areas and Scheduled Tribes in states other than Assam, Meghalaya, Tripura and Mizoram.

❍ The **Sixth Schedule** deals with the administration of the **tribal areas in Assam, Meghalaya, Tripura and Mizoram**.

➢ **Legal Provisions:**
  ❍ Protection of Civil Rights Act, 1955 against Untouchability.
  ❍ **Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989.**
  ❍ **Provisions of the Panchayats (Extension to the Scheduled Areas) Act, 1996.**
  ❍ **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.**

➢ **Related Initiatives:**
  ❍ **TRIFED**
  ❍ **Digital Transformation of Tribal Schools**
  ❍ **Development of PVTGs**
  ❍ **Pradhan Mantri Van Dhan Yojana**

➢ **Related Committees:**
  ❍ **Xaxa Committee (2013)**
  ❍ Bhuria Commission (2002-2004)
  ❍ Lokur Committee (1965)

Collegium System

Why in News?

Recently, the Union minister of Law and Justice criticized the **Supreme Court Collegium system,** saying that judges only recommend the appointment or elevation of those they know and not always the fittest person for the job.

➢ **Articles 124(2) and 217** of the Indian Constitution deal with the appointment of judges to the Supreme Court and High Courts.

What is a Collegium System and How Did It Evolve?

➢ **About:**
  ❍ It is the system of appointment and transfer of judges that has **evolved through judgments of the SC, and not by an Act of Parliament** or by a provision of the Constitution.

Note:

- ➤ **Evolution of the System:**
  - ○ **First Judges Case (1981):**
    - It declared that the "primacy" of the **CJI's (Chief Justice of India)** recommendation on judicial appointments and transfers can be refused for "cogent reasons."
    - The ruling gave the Executive primacy over the Judiciary in judicial appointments for the next 12 years.
  - ○ **Second Judges Case (1993):**
    - SC introduced the Collegium system, holding that "consultation" really meant "concurrence".
    - It added that it was not the CJI's individual opinion, but an institutional opinion formed in consultation with the two senior-most judges in the SC.
  - ○ **Third Judges Case (1998):**
    - SC on the President's reference (Article 143) expanded the Collegium to a five-member body, comprising the CJI and four of his senior-most colleagues.

Who Heads the Collegium System?

- ➤ The SC collegium is headed by the **CJI (Chief Justice of India)** and comprises four other senior most judges of the court.
- ➤ A High Court collegium is led by the **incumbent Chief Justice** and two other senior most judges of that court.
- ➤ Judges of the higher judiciary are appointed only through the collegium system and the government has a role only after names have been decided by the collegium.

What are the Procedures for Judicial Appointments?

- ➤ **For CJI:**
  - ○ The President of India appoints the CJI and the other SC judges.
  - ○ As far as the CJI is concerned, the outgoing CJI recommends his successor.
  - ○ In practice, it has been strictly by seniority ever since the supersession controversy of the 1970s.
- ➤ **For SC Judges:**
  - ○ For other judges of the SC, the proposal is initiated by the CJI.

- ○ The CJI consults the rest of the Collegium members, as well as the senior-most judge of the court hailing from the High Court to which the recommended person belongs.
- ○ The consultees must record their opinions in writing and it should form part of the file.
- ○ The Collegium sends the recommendation to the Law Minister, who forwards it to the Prime Minister to advise the President.
- ➤ **For Chief Justice of High Courts:**
  - ○ The Chief Justice of the High Court is appointed as per the policy of having Chief Justices from outside the respective States.
  - ○ The Collegium takes the call on the elevation.
  - ○ High Court judges are recommended by a Collegium comprising the CJI and two senior-most judges.
  - ○ The proposal, however, is initiated by the outgoing Chief Justice of the High Court concerned in consultation with two senior-most colleagues.
  - ○ The recommendation is sent to the Chief Minister, who advises the Governor to send the proposal to the Union Law Minister.

What are the Issues Related to the Collegium System?

- ➤ **Exclusion of Executive:**
  - ○ The complete exclusion of the **executive** from the judicial appointment process created a system where a few judges appoint the rest in complete secrecy.
  - ○ Also, they are **not accountable to any administrative body that may lead to the wrong choice of the candidate** while overlooking the right candidate.
- ➤ **Chances of Favouritism and Nepotism:**
  - ○ The collegium system **does not provide any specific criteria for testing the candidate** for the post of CJI because of which it leads to wide scope for nepotism and favouritism.
  - ○ It gives rise to **non-transparency of the judicial system**, which is very harmful for the regulation of law and order in the country.
- ➤ **Against the Principle of Checks and Balances:**
  - ○ The principle of check and balance **is violated in this system**. In India, three organs work partially independently but they keep check and balance and control on the excessive powers of any organ.

Note:

○ However, the collegium system gives Judiciary immense power, which leaves little room for checks and poses the risk of misuse.

➤ **Close-Door Mechanism:**
  ○ Critics have pointed out that **this system does not involve any official secretariat.** It is seen as a closed-door affair with no public knowledge of how and when a collegium meets, and how it takes its decisions.
  ○ Also, there are no official minutes of collegium proceedings.

➤ **Unequal Representation:**
  ○ The other area of concern is the composition of the higher judiciary, women are fairly underrepresented in the higher judiciary.

What Attempts have been Made to reform the Appointment System?

➤ The attempt made to replace it by a **'National Judicial Appointments Commission'** (through Ninety-ninth Amendment Act, 2014) was struck down by the court in 2015 on the ground that it posed a threat to the independence of the judiciary.

Supreme Court upholds EWS Quota

Why in News?

Recently, the **Supreme Court** has upheld the validity of the **103ʳᵈ Constitutional Amendment** which provides 10% reservation for the **Economically Weaker Sections (EWS)** among forward castes in government jobs and colleges across India.

What is the Verdict?

➤ **Majority View:**
  ○ The 103ʳᵈ constitutional amendment **cannot be said to breach the** basic structure of the Constitution.
  ○ The EWS quota **does not violate equality and the basic structure** of the constitution. Reservation in addition to existing reservation does not violate provisions of the Constitution.
  ○ The reservation is an **instrument of affirmative action by the state for the inclusion of backward classes**.

○ Basic structure can't be breached by enabling the state to **make provisions for education**.
○ Reservation is instrumental not just for inclusion of socially and economically backward classes into the society **but also to class so disadvantaged.**
○ Reservations for EWS does not violate basic structure on **account of 50% ceiling limit fixed by Mandal Commission** because **ceiling limit is not inflexible.**
  ● 50% rule formed by the Supreme Court in the *Indira Sawhney judgment in 1992* was "not inflexible". Further, it had **applied only to SC/ST/SEBC/OBC communitie**s and not the general category.
○ The Scheduled Castes, Scheduled Tribes and the backward class for whom the special provisions have already been provided in **Article 15(4), 15(5) and 16(4) form a separate category as distinguished from the general or unreserved category.**

➤ **Minority View:**
  ○ Reservations were designed as a powerful tool to enable equal access. Introduction of economic criteria and excluding **SC (Scheduled Castes)**, **ST(Scheduled Tribe)**, OBC (Other Backward Classes), saying they had these pre-existing benefits is injustice.
  ○ The EWS quota may have a reparative mechanism to have a level playing field and the exclusion of SC, ST, OBC discriminates against equality code and violates basic structure.
  ○ Permitting the breach of **50% ceiling limit would become** "a gateway for further infractions and result in compartmentalization (division into sections).

What is the Economically Weaker Section (EWS) Quota?

➤ **About:**
  ○ The 10% EWS quota was introduced under the 103rd Constitution (Amendment) Act, 2019 by amending **Articles 15 and 16.**
    ● It inserted Article 15 (6) and Article 16 (6).
  ○ It is for economic reservation in jobs and admissions in educational institutes for Economically Weaker Sections (EWS).
  ○ It was enacted to promote the welfare of the poor not covered by the 50% reservation policy for **Scheduled Castes (SCs)**, **Scheduled Tribes**

(STs) and **Socially and Educationally Backward Classes (SEBC).**

○ It enables both the Centre and the States to provide reservations to the EWS of society.

➢ **Significance:**

○ **Addresses Inequality:**

● The 10% quota is progressive and could address the issues of educational and income inequality in India since the economically weaker sections of citizens have remained excluded from attending higher educational institutions and public employment due to their financial incapacity.

○ **Recognition of the Economic Backwards:**

● There are many people or classes other than backward classes who are living under hunger and poverty-stricken conditions.

● The proposed reservation through a constitutional amendment would give constitutional recognition to the poor from the upper castes.

○ **Reduction of Caste-Based Discrimination:**

● Moreover, it will gradually remove the stigma associated with reservation because reservation has historically been related to caste and most often the upper caste looks down upon those who come through the reservation.

➢ **Concerns:**

○ **Unavailability of Data:**

● The Union or state governments have no such data to prove that 'upper' caste individuals, who have less than Rs 8 lakh annual income, are not adequately represented in government jobs and higher educational institutions. There is a strong possibility that they are actually over-represented in these places.

○ **Arbitrary Criteria:**

● The criteria used by the government to decide the eligibility for this reservation is vague and is not based on any data or study.

● Even the SC questioned the government whether they have checked the GDP per capita for every State while deciding the monetary limit for giving the EWS reservation.

■ Statistics show that the per capita income in states differs widely - Goa is the state having the highest per capita income of almost Rs. 4 lakhs whereas Bihar is at the bottom with Rs.40,000.

New Norms for TV Channels

Why in News?

Recently, the Ministry of Information & Broadcasting has issued guidelines and specified new uplinking and downloading rules.

➢ Earlier, the Ministry of Information and Broadcasting (I&B) had issued an **advisory stating that any kind of broadcasting** be done only through Prasar Bharti.

What are the New Provisions?

➢ **Obligation to Telecast Content in National/Public Interest:**

○ Television channels will have to telecast content in the national interest or public service every day for 30 minutes.

● Nonetheless, these obligations will not be applicable for **sports, wildlife, and foreign channels.**

○ The **themes of national importance** include,

● Education and spread of literacy

● Agriculture and rural development,

● Health and family welfare,

● Science and technology,

● Welfare of women

● Welfare of the weaker sections of society

● Protection of the environment and of cultural heritage and national integration.

➢ **No prior Permission for Live Telecast of Events:**

○ Requirement for seeking permission for live telecast of events has been done away with; only prior registration of events to be telecast live would be necessary;

○ No requirement of prior permission for change of language or conversion of mode of transmission from Standard Definition (SD) to High Definition (HD) or vice versa; only prior intimation would be required.

➢ **Indian Teleports may Uplink Foreign Channels:**

○ LLPs / companies would be allowed to uplink foreign channels from Indian teleports which would **create employment opportunities and make India a Teleport-hub** for other countries.

➢ **Simplification and Rationalization:**

Note:

○ Structure of the Guidelines has been systematized to avoid duplication and common parameters.

○ The penalty **clauses have been rationalized and separate nature of penalties have been proposed** for different types of contraventions as against uniform penalty at present.

Report on SVAMITVA Scheme

Why in News?

Recently, the Report of the **Expert Committee on SVAMITVA Scheme** was released during the **National Conference on SVAMITVA Scheme and Rural Planning** in Madhya Pradesh.

➢ The report provides the guiding principles that States may adopt, in order to realize the objectives of the SVAMITVA Scheme holistically.

What are the Key Highlights of the Report?

➢ **About Expert Committee:**
  ○ **The Expert Committee** was formed in 2022 consisting of domain experts from Land Governance, Banking, Survey of India, **National Informatics Centre (NIC) -Geographic information system (GIS)**, State Revenue and **Panchayati Raj** Departments, Industry and premier Planning and Architecture Institutes.

➢ **Report's Recommendations:**
  ○ To create systems that **promote transparency** in the implementation of the scheme.
  ○ Promote the **adoption of record of rights** for availing bank loan.
  ○ Develop **linkages between different departments** for informed decision-making related to property tax assessment and collection.
  ○ **Wider adoption of SVAMITVA data-sets** by government and private agencies as per new **geospatial** guidelines.
  ○ Adoption of **RADPFI (Rural Area Development Plan Formulation and Implementation)** Guidelines and SVAMTIVA data for accurate village level-planning.
  ○ **Increasing capacity** at State, District and Block level for GIS skill sets, among others.

What is the SVAMITVA Scheme?

➢ **About:**
  ○ SVAMITVA stands for **Survey of Villages and Mapping with Improvised Technology in Village Areas.**
  ○ It is a **center sector scheme** which was launched nationally on the occasion of **National Panchayati Raj Day** on 24th April 2021.

➢ **Nodal Ministry:**
  ○ Ministry of Panchayati Raj (MoPR)
  ○ Survey of India is a Technology Implementation Agency.

➢ **Aim:**
  ○ To provide an **integrated property validation solution** for rural India.
  ○ To provide the '**record of rights**' to village household owners in rural areas and **issue Property Cards**.
  ○ The **demarcation of rural areas** would be done using **Drone Surveying Technology**.

➢ **Features:**
  ○ The demarcation of rural inhabited areas would be done using **CORS (Continuously Operating Reference Stations) Networks** which provides mapping accuracy of 5 cm.
    • This would provide the '**record of rights**' to village household owners **possessing houses in inhabited rural areas** in villages.
  ○ It will cover around 6.62 Lakh villages of the entire country during 2021-2025.

➢ **Nomenclature for Property Cards:**
  ○ Property Cards are known as '**Title deed**' in Haryana, '**Rural Property Ownership Records (RPOR)**' in Karnataka, '**Adhikar Abhilekh**' in Madhya Pradesh, '**Sannad**' in Maharashtra, '**Svamitva Abhilekh**' in Uttarakhand, '**Gharauni**' in Uttar Pradesh.

Global Vaccine Market Report 2022

Why in News?

Recently, the **World Health Organisation (WHO)** released '**Global Vaccine Market Report 2022**'.

➢ This is the **first report to capture the implications of Covid-19** for vaccine markets **highlighting the issue of vaccine inequity.**

Note:

What are the Findings of the Report?

➢ **Vaccine Inequity, not a Unique Phenomenon:**
  ○ It shows that **inequitable distribution is not unique to Covid-19 vaccines,** with low-income countries consistently struggling to access vaccines that are in-demand by high-income countries. Limited vaccine supply and unequal distribution drive global disparities.
    ● The **human papillomavirus (HPV) vaccine against cervical cancer has only been introduced in 41% of low-income countries**, even though they represent much of the disease burden, compared to 83% of high-income countries.

➢ **Price Disparities:**
  ○ Affordability is a major obstacle to vaccine access. While prices tend to be tiered by income, price disparities see middle-income countries paying as much – or even more – than wealthier ones for several vaccine products.

➢ **Free-Market Dynamics:**
  ○ Free market dynamics is **depriving some of the world's poorest and most vulnerable people of their right to health.** Therefore, changes are much needed to the global vaccine market to save lives, prevent disease and prepare for future crises.

➢ **Scale-up during Health Emergencies:**
  ○ Approximately **16 billion vaccine doses, worth US$ 141 billion, were supplied in 2021,** almost three times the 2019 market volume (5.8 billion) and nearly three-and-a-half times the 2019 market value (US$ 38 billion).
    ● The increase was primarily driven by Covid-19 vaccines, showing the **incredible potential of how vaccine manufacturing can be scaled up** in response to health needs.

➢ **Concentrated Manufacturing Base:**
  ○ Although manufacturing **capacity worldwide has increased**, it remains **highly concentrated.**
    ● Ten manufacturers alone provide 70% of vaccine doses (excluding COVID-19).
    ● Several of the top 20 most widely used vaccines (such as PCV, HPV, measles and rubella containing vaccines) each currently rely mainly on two suppliers.
    ● In 2021, the African and Eastern Mediterranean regions were dependent on manufacturers headquartered elsewhere for 90% of their procured vaccines.
  ○ This concentrated manufacturing base **leads to risk of shortages as well as regional supply insecurity.**
  ○ **Entrenched intellectual property monopolies and limited technology transfer further limit** the ability of building and using local manufacturing capacity.

➢ **Limited Investment in Vaccines Other than Covid-19:**
  ○ The health of markets is also **concerning for several of the vaccines commonly needed for emergencies,** such as against **cholera, typhoid, smallpox/monkeypox, Ebola, meningococcal disease,** where demand surges with outbreaks and is hence less predictable.
    ● The continued limited investment in these vaccines could be **devastating for people's lives.**

➢ **Immunization Agenda 2030 (IA2030):**
  ○ The report highlights the **opportunities for more alignment of vaccine development, production and distribution** with a public health agenda, towards **achieving the Immunization Agenda 2030 (IA2030) goals** and informing pandemic prevention, preparedness, and response efforts.

What are the Recommendations of the Report?

➢ **For Governments:**
  ○ Frame clear immunization plans and more aggressive investment
  ○ Get a stronger oversight of vaccine development, production and distribution
  ○ Emphasise on regional research and manufacturing hubs
  ○ Devise pre-agreeing rules for government collaboration in times of scarcity on issues such as vaccine distribution, intellectual property and the circulation of inputs and goods.

➢ **For Industry:**
  ○ Focus on research efforts for WHO priority pathogens
  ○ Ensure transparency.
  ○ Facilitate technology transfer.
  ○ Commit to specific equity-driven allocation measures.

➢ **For International Organizations and Partners:**
  ○ Prioritize Immunization Agenda 2030 goals.
  ○ Support country-driven initiatives.
  ○ Push for the application of resolutions on market transparency.

Note:

Data Localisation

Why in News?

Recently, the **United Nations Conference on Trade and Development (UNCTAD)** highlighted the importance of Data Localisation for economies to protect data during cross-border transfers.

➢ The UNCTAD in its report found that businesses using the internet for global trade have a higher **survival rate than those who do not.**

What is Data Localisation?

➢ **Data Localisation** is storing critical as well as non-critical data within the territorial boundaries of the country.

➢ The most important aspect of data localisation is having **control over our own data** which makes the country more resistant to issues around privacy, information leaks, identity thefts, security etc.

 ❍ It has also helped the countries develop their own **startups, evolve locally and also thrive** in their own language.

What are the Advantages of Data Localisation?

➢ **Protects Privacy and Sovereignty:**

 ❍ Secures citizens' data and provides **data privacy and data sovereignty** from foreign surveillance.

 ❍ The main intent behind data localisation is **to protect the personal and financial information** of the country's citizens and residents from foreign surveillance

➢ **Monitoring of Laws & Accountability:**

 ❍ Unfettered supervisory access to data will help Indian law enforcement ensure better monitoring.

 ❍ Data localisation **will result in greater accountability** from firms like Google, Facebook etc. about the end use of data.

➢ **Ease of Investigation:**

 ❍ Ensures national security by providing ease of investigation to Indian law enforcement agencies as they currently need to rely on **Mutual Legal Assistance Treaties (MLATs)** to obtain access to data.

  ● MLATs are agreements between governments that facilitate the exchange of information relevant to an investigation happening in at least one of those countries.

  ● India has signed a **Mutual Legal Assistance Treaty (MLAT) with 45 countries.**

➢ **Jurisdiction & Reduction in Conflicts:**

 ❍ It will give local governments and regulators the jurisdiction to call for the data when required.

 ❍ Minimises conflict of jurisdiction due to cross-border data sharing and delay in justice delivery in case of data breach.

➢ **Increase in Employment:**

 ❍ Data center industries are expected **to benefit due to localisation** which will further create employment in India.

What are the Disadvantages of Data Localisation?

➢ **Investments:**

 ❍ Maintaining multiple local data centers may lead to significant investments in infrastructure and higher costs for global companies.

➢ **Fractured Internet:**

 ❍ Splinternet, where the domino effect of protectionist policy can lead to other countries following suit.

➢ **Lack of Security:**

 ❍ Even if the data is stored in the country, the encryption keys may still remain out of the reach of national agencies.

➢ **Impact on Economic Growth:**

 ❍ Forced data localisation can create inefficiencies for both businesses and consumers.

 ❍ It can also increase the cost and reduce the availability of data-dependent services.

What are the Data Localisation Norms?

➢ **In India:**

 ❍ **Srikrishna Committee Report**:

  ● At Least one copy of personal data will need to be stored on servers located within India.

  ● Transfers outside the country will need to be subject to safeguards.

  ● Critical personal data will only be stored and processed in India.

 ❍ **Personal Data Protection Bill, 2019:**

  ● The **Personal Data Protection Bill, 2019** was introduced in Lok Sabha by the Minister of Electronics and Information Technology, on December 11, 2019.

Note:

- It intended to **protect individual rights by regulating the collection, movement**, and processing of data that is personal, or which can identify the individual.
- This bill was though withdrawn from Parliament in 2022 as government considers a **"comprehensive legal framework" to regulate the online space to boost innovation in the country** through a new bill.

○ **Draft National E-Commerce Policy Framework:**
- Recommended data localisation and suggested a two-year sunset period for the industry to adjust before localization rules became mandatory.
- Proposes incentives to encourage data localization and grant infrastructure status to data centers.

○ **Boycott of Osaka Track:**
- At the **G20 summit 2019,** India boycotted the Osaka Track on the digital economy. The Osaka Track pushed hard for the creation of laws that would allow data flows between countries and the removal of data localisation.

○ **Banning of Chinese Mobile Apps:**
- In 2020, the Indian government announced to ban 59 widely used apps (such as Tik Tok, ShareIt, Cam scanner etc), most linked to Chinese companies.
- The Ministry of Electronics and Information Technology (MeitY), invoked **Information Technology (IT) Act, 2000** to cite the concerns regarding both data security and national sovereignty associated with these apps.

➤ **Global:**
○ **Canada and Australia** protect their health data very carefully.
○ **China** mandates strict data localisation in servers within its borders.
○ **The European Union (EU)** had enacted the **General Data Protection Regulation (GDPR)** which establishes the right to privacy as one of the fundamental rights.
○ **The United States** has no single data protection law at the Federal level. It does, however, have individual laws such as **HIPAA (Health Insurance Portability and Accountability Act of 1996)** for health care, another for payments, and the like.

○ Many bilateral and multilateral agreements exist as well. These include countries committing to identical data protection norms and commitments towards cross-border data transfer and data localisation, examples being, **the Clarifying Lawful Overseas Use of Data (CLOUD) Act (2018), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (2018)**, Digital Economy Agreement (DEA), (2020), among others.

Ninth Schedule

Why in News?

The Jharkhand Assembly has cleared two Bills, but these changes will come into force only after the Centre carries out amendments to include these in the **Ninth Schedule of the Constitution.**

What are these Bills?

➤ **Jharkhand Reservation of Vacancies in Posts and Services (Amendment) Bill, 2022:**
○ It raises reservations to 77%.
○ Within the reserved category, the Scheduled Castes will get a quota of 12 %, up from 10%; 27% for OBCs, up from 14%; 28% for Scheduled Tribes, a 2 % increase; and **10% for Economically Weaker Sections (EWS).**

➤ **Jharkhand Local Persons Bill, 2022:**
○ It aims at granting **local residents "certain rights, benefits, and preferential treatment"** over their land; in their stake in local development of rivers, lakes, fisheries; in local traditional and cultural and commercial enterprises; in rights over agricultural indebtedness or availing agricultural loans; in maintenance and protection of land records; for their social security; in employment in private and public sector; and, for trade and commerce in the state.

Why is there need to Include in Ninth Schedule

➤ The 77 % reservation breaches the 50 % ceiling set by the **Supreme Court** in the 1992 *Indra Sawhney v Union of India verdict.*
➤ However, placing a legislation in the Ninth Schedule **shields it from judicial scrutiny.**

Note:

➢ Previously, the Tamil Nadu Backward Classes, Scheduled Castes and Scheduled Tribes **(Reservation of Seats in Educational Institutions and of Appointments or Posts in the Services under the State) Act, 1993**, reserved 69 % of the seats in colleges and jobs in the state government.

What is the Ninth Schedule?

➢ The Schedule contains a list of **central and state laws which cannot be challenged in courts** and was added by the **Constitution (First Amendment) Act, 1951.**
  ❍ The first Amendment added **13 laws to the Schedule.** Subsequent amendments in various years have taken the number of protected laws to 284 currently.
➢ It was created by the new Article 31B, which along with Article 31A was brought in by the government to protect laws related to **agrarian reform and for abolishing the Zamindari system.**
  ❍ While Article 31A extends protection to 'classes' of laws, Article 31B shields **specific laws or enactments.**
  ❍ While most of the laws protected under the Schedule concern agriculture/land issues, the list includes other subjects.
➢ Article 31B also has a retrospective operation which means that if laws are inserted in the Ninth Schedule after they are declared unconstitutional, they are **considered to have been in the Schedule** since their commencement, and thus valid.
➢ Although Article 31B excludes judicial review, the apex court has said in the past that even laws under the Ninth Schedule would be **open to scrutiny if they violated Fundamental Rights or the basic structure of the Constitution.**

Are Laws in the Ninth Schedule completely Exempt from Judicial Scrutiny?

➢ ***Keshavananda Bharati v. State of Kerala (1973):*** The court upheld the judgement in Golaknath and introduced a new concept of **"Basic structure of the Indian Constitution"** and stated that, "all provisions of the constitution can be amended but those amendments which will abrogate or take away the essence or basic structure of constitution which included **Fundamental Rights are fit to be struck down by the court".**

➢ ***Waman Rao v. Union of India (1981):*** In this important judgement, the SC ruled that, "those amendments which were made in the constitution before 24th April 1973 (date on which judgement in Keshavananda Bharati was delivered) are valid and constitutional but those which were made after the stated date are open to being challenged on the ground of constitutionality.
➢ ***I R Coelho v. State of Tamil Nadu (2007):*** It was held that every law must be tested under Article 14, 19 and 21 if it came into force after 24th April 1973.
  ❍ In addition, the court upheld its previous rulings and declared that any act can be challenged and is **open to scrutiny by the judiciary if it is not in consonance with the basic structure of the constitution.**
  ❍ In addition, it was held that if the constitutional validity of any law under the ninth schedule has been upheld before, in future it cannot be challenged again.

Eklavya Model Residential Schools

Why in News?

The government is pushing to set up **740 Eklavya Model Residential Schools (EMRS) for Scheduled Tribe (ST)** students.

What are EMRS?

➢ EMRS is a scheme for making **model residential schools for STs across India.**
  ❍ It **started in the year 1997-98.**
  ❍ Its nodal ministry is **Ministry of Tribal Affairs.**
  ❍ The aim of the scheme to **build schools at par with the Jawahar Navodaya Vidyalayas and Kendriya Vidyalayas** with focus on special state-of-the-art facilities for preserving local art and culture besides providing training in sports and skill development.
  ❍ The EMR School follows the **CBSE curriculum.**
➢ **In 2018-19, revamping of the EMRS scheme** was approved by the Cabinet.
  ❍ Since the new guidelines have been put into place, the Ministry of Tribal Affairs **sanctioned 332 of the targeted 452 schools till 2021-22.**

Note:

○ As of November 2022, **a total of 688 schools have been sanctioned,** of which 392 are functional.

○ Of the 688, **230 have completed construction** and **234 are under construction**, with **32 schools still stuck due to land acquisition issues.**

What were the Old Guidelines?

➢ Although the Union government had sanctioned a certain number of preliminary EMRS, **the States and Union Territories were responsible for seeking sanction of new schools** as and when they needed it.

➢ The funds for these schools were to come from the **grants under Article 275(1)** and the guidelines mandated that unless States finished constructing the schools sanctioned by the Centre, they would not be entitled to funds for new ones.

➢ Apart from the i**nfrastructural requirements of 20-acre plots for each EMRS**, the guidelines did not have any criteria of **where the EMRS could be set up, leaving it to the discretion of State governments.**

What are the New Guidelines?

➢ The new guidelines in 2018-19 gave the **Union government more power to sanction schools and manage** them.

➢ A **National Education Society for Tribal Students (NESTS) was set up** and entrusted with the **management of the State Education Society for Tribal Students (SESTS),** which would **run the EMRS on the ground.**

➢ The new guidelines set a target of setting up an EMRS in every tribal sub-district and introduced a **"population criteria"** for setting them up.

○ One **EMRS will be set-up per sub-district that has at least a 20,000-odd Scheduled Tribe (ST)** **population**, which must be **50% of the total population in that area.**

➢ The **minimum land requirement** for setting up an EMRS **was reduced from 20 acres to 15 acres.**

What are the Challenges?

➢ **Requirement of 15-acre Area:**

○ As per the Standing Committee Report, requirement of 15-acre area is making the identification and acquisition of land **troublesome, especially in hilly areas, leftwing extremism-affected areas and the northeast.**

➢ **Population Criteria:**

○ The Standing Committee noted that the population criteria is **depriving a scattered tribal population of the benefit of EMRS.**

○ Sometimes, when the **population criteria are fulfilled, 15-acre plots are not available.**

➢ **Shortage of Teachers:**

○ Despite the setting up of the NESTS, there was a shortage of teachers.

○ Though the new guidelines allowed NESTS to suggest **measures for teacher recruitment, they never made them mandatory for the States** to follow.

● This led to non-uniformity in the quality of teachers, not enough recruitment in reserved positions, and a large number of schools recruiting teachers contractually, in a bid to save on salary expenses.

○ As of July 2022, all functional EMRS had a **teaching strength of just under 4,000 against the 11,340 recommended by NESTS.**

●●●

Note:

Economic Scenario

Highlights

- *Genetically Modified Crops*
- *Pashmina Shawl*
- *India's Biggest Hyperscale Data Centre*
- *Tea Industry of India*
- *IIPDF Scheme*
- *India Chem 2022*

- *Single GST Rate*
- *Greenwashing*
- *Report on Municipal Finances: RBI*
- *Edible Oil Sector in India*
- *India's First Floating Financial Literacy Camp*

Genetically Modified Crops

Genetically Modified Crops

About
- Genetic modification of plants involves **adding a specific stretch of DNA into the plant's genome**, giving it new or different characteristics
- Also called **Transgenic crops**

Objective
- Increase yield
- Increase tolerance to herbicides
- Improve nutritional value
- Provide resistance to disease/drought

Global Cultivation
- Top 5 GM growing countries - **USA, Brazil, Argentina, India and Canada**
- Major GM Crops - **Soybean, maize, cotton and canola**

GM Crops in India
- **Bt cotton - only one GM crop approved**, (90% of India's total cotton acreage) (resistance against pink bollworm)
- **Ht Bt cotton** - resistance against **glyphosate** (herbicide)
- **DMH-11 mustard - recommended for commercial use** (high yield)
- **Golden rice** - probably the best variety of GM rice **(Vitamin A)**
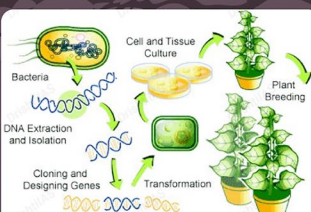
Concerns
- Manipulation of GM Seed Cost
- Seeds don't create viable offsprings
- Insect-resistant plants harm non-targeted species too
- Intermixing violates natural plants' intrinsic values

GM Crop Regulation
- **Statutory Provision**:
  - Rules for Manufacture, Use, Import, Export and Storage of Hazardous Microorganisms (HM) Genetically Engineered Organisms or Cells, 1989 under the Environment Protection Act (1986).
- **Statutory Bodies**:
  - Genetic Engineering Appraisal Committee (GEAC) (under MoEF&CC) - **administers commercial release** of GMC
  - Recombinant DNA Advisory Committee (RDAC)
  - Institutional Biosafety Committee (IBSC)
  - Review Committee on Genetic Manipulation (RCGM)
  - State Biotechnology Coordination Committee (SBCC)

Bacteria — Cell and Tissue Culture — Plant Breeding — DNA Extraction and Isolation — Cloning and Designing Genes — Transformation

Cartagena Protocol on Biosafety (2000)
- It seeks to protect biological diversity from the potential risks posed by **Living Modified Organisms** resulting from **modern biotechnology**.
- **India is a signatory** to this protocol.

Drishti IAS

Pashmina Shawl

Why in News?

Recently, Custom officials complained about the **presence of 'Shahtoosh' guard hair in Pashmina shawl**, which is obtained from **endangered Tibetan antelopes** in many of their export consignments.

What is Pashmina?

➢ **About:**
  ○ Pashmina is a **Geographical Indication (GI) certified wool** that has its origin from Kashmir region of India.
    ● Originally **Kashmiri people used Pashmina shawls** to keep themselves warm during the winter season.
  ○ The term '**Pashmina' has been derived from a Persian word "Pashm"** meaning a **weavable fiber precisely wool.**
  ○ Pashmina Shawls are very **costly due to their fine quality** of wool and the hard work involved in making one single piece.
    ● Weaving a single Pashmina Shawl takes a long time depending on the type of work involved. It generally **takes around 72 hours or more to complete one shawl.**

➢ **Source:**
  ○ The wool that is used in weaving the Pashmina Shawl is **obtained from the Changthangi goats (Capra Hircus)** domesticated in the Ladakh.

➢ **Fibre Processing:**
  ○ The raw Pashm is **harvested by the Changpa tribes of Ladakh who herd the Changthangi goats.**

Note:

drishti

- The Changpa are **semi-nomadic community** which inhabit Changthang (which is spread across Ladakh and Tibet Autonomous Region) or other regions of Ladakh.
- As of 2001, the **Changpa were classified as a Scheduled Tribe** under the Indian Government's reservation program of affirmative action.
  - The **Kashmiri weavers buy the raw pashm** from the middle men, the only connecting link between the Changpa tribe & the Kashmiris; clean the grubby raw pashm fibre.
    - They then **comb the fibre & segregate it** according to the fineness.
    - It is then **hand spun** & then set up into warps & **put up on the handloom.**
    - The **yarn is then hand woven & transformed** into the beautifully luxurious pashmina shawls that are renowned the world over.
    - This art of weaving Pashmina Shawls is passed on from generation to generation as a tradition in Kashmir.
- ➤ **Significance:**
  - Pashmina is one of the **finest and highest quality wool** in the whole world.
  - Pashmina Shawl **attracted the attention of people from all across the world** and hence this became one of most demanding shawls in the whole world.
    - Its high demand **boosted the local economy.**
- ➤ **Concern:**
  - Due to restricted availability and high prices, **adulteration of Pashmina with sheep wool/ ultra-fine merino wool is a common practice** by manufacturers.
    - In 2019, the **Bureau of Indian Standards (BIS) published an Indian Standard for identification**, marking and labelling of Pashmina products to certify their purity.
- ➤ **GI Certifying Criteria for Pashmina:**
  - The shawl should be **made from 100% pure Pashm.**
  - The fineness of the fibers should be up to **16 Microns.**
  - The shawl should be **handwoven by local artisans of Kashmir.**
  - The yarn should be **only spun by hand.**

What is Shahtoosh?

- ➤ Shahtoosh is the **fine undercoat fibre obtained from the Tibetan Antelope, known locally as 'Chiru',** a species living mainly in the **northern parts of the Changthang Plateau in Tibet.**
  - As per the **International Union for Conservation of Nature (IUCN) Red list,** Chiru has been classified as **'Near Threatened'.**
- ➤ As they offer high levels of smoothness and warmth, Shahtoosh shawls became a **highly expensive commodity.**
- ➤ Unfortunately, due to **commercial poaching of the animal,** their population declined dramatically.
  - **Convention on International Trade in Endangered Species of Wild Fauna & Flora (CITES)** included the Tibetan Antelope in 1979 leading to **prohibition in sale and trade of Shahtoosh shawls and scarves.**

India's Biggest Hyperscale Data Centre

Why in News?

While inaugurating **north India's first hyperscale data centre 'Yotta D1'**, the Chief Minister of Uttar Pradesh explained that the state achieved the target of **installing 250 MW of storage capacity** with an investment of Rs 20,000 crore within a year of launching its **data centre policy.**

What is Yotta D1?

- ➤ **About:**
  - Yotta D1, built at a cost of Rs 5,000 crore, is the **country's biggest and UP's first data centre.**
    - It is spread over an area of 3 lakh square feet at the upcoming Data Centre Park in Greater Noida, Uttar Pradesh.
- ➤ **Significance:**
  - The data centre will **increase data storage capacity of the country,** which until now stood at 2% only despite the fact that **20% of the world's data is consumed by Indians.**
  - It is also expected to increase **Gross State Domestic Product (GSDP)** significantly while creating **new avenues for investment and huge employment opportunities.**

Note:

○ Yotta D1 features **Internet peering exchanges and direct fibre connectivity** to and from global cloud operators, making it extremely useful for global connectivity.

  ● Yotta D-1 will be the **first pillar of North India's 5G revolution.**

○ India's **data analytics industry** is estimated to reach more than **$16 billion by 2025.** Therefore, paying special attention to promoting investment in data centre infrastructure is a step in the right diretion.

○ The presence of a data park would **allow big companies like Google and Twitter** to have a **data centre for hosting, processing and storing data.**

  ● With 5G and edge data centres rolled out from this centre, consumers will get easy access to videos and banking facilities at a fast pace.

What is the Growth Story of India's Data Industry?

➢ **Impact of Covid-19:**

○ The current size of the India data centre industry is **~USD 5.6 billion** and the unprecedented **Covid-19 crisis** propelled the data centre business providing an unexpected tailwind.

○ Technology adoption and digitization across the sectors were fast-tracked globally and **India also leap-frogged at least a decade in the past couple of years.**

○ The lockdown and subsequent restrictions became a **massive catalyst for digitisation** across the sectors like banking, education, and shopping etc.

  ● This led to increased use of data consumption and internet bandwidth across the country.

➢ **NIC Data Centres:**

○ The **National Informatics Centre (NIC)** has set up **state-of-the-art National Data Centres (NDCs)** at NIC Headquarters in Delhi, Pune, Hyderabad and Bhubaneswar and 37 small Data Centres at various State Capitals.

  ● The **first Data Centre was launched in Hyderabad in 2008.**

○ These **NDCs form the core of e-Governance Infrastructure** in India by providing services to various e-Governance initiatives undertaken by the Government of India.

○ The foundation stone of the first **NDC for North Eastern Region (NEDC)** was laid by in **Guwahati, Assam** in February 2021.

➢ **Present and Upcoming Data Centres:**

○ Currently, there are about **138 data centres (DCs) across India** with at least 57% of the current IT capacity being in Mumbai & Chennai.

  ● The **primary colocation data centre area in India is Mumbai** with its location facing the west coast making it well connected to the Middle East and Europe due to multiple submarine cables landing there.

○ The Indian **DC industry's capacity is expected to witness a five-fold increase** involving investments of Rs 1.05 -1.20 lakh crore in the next five years.

  ● Over **45 more data centres are planned to come up** in India by the end of year 2025.

  ● In terms of IT capacity (nearly 1,015 MW), over 69% of this planned new supply will come up in Mumbai and Chennai, with 51% in Mumbai alone.

  ● There is **additional potential of nearly 2,688 MW** of future unplanned supply in India.

➢ **Legal Provisions for Data Centres:**

○ The Ministry of Electronics and Information Technology plans to introduce a **National Policy Framework for Data Centre** soon under which it plans to offer incentives worth up to Rs 15,000 crore.

  ● A **Draft Data Centre Policy** was also introduced in **2020.**

○ However, some states like **Tamil Nadu, Telangana, Uttar Pradesh, West Bengal and Odisha** have their own **State Data Centre Policies.**

Tea Industry of India

Why in News?

Recently, Union Minister addressed the **Indian Tea Association's (ITA's) International Small Tea Grower's Convention**.

➢ Founded in 1881, the ITA is the premier and the **oldest organization of tea producers in India**. It has played a multi-dimensional role towards formulating policies and initiating action towards the development and growth of the industry.

What is the State of Indian Tea Industry?

➢ **Production:**
  ○ India is the **second-largest producer of tea globally.**
    ● The **northern part of India is the biggest producer** at about **83% of the country's annual tea production in 2021-22** with the majority of the production coming from **Assam followed by West Bengal.**
      ■ The **Assam valley** and **Cachar** are the two tea producing regions in Assam.
      ■ In **West Bengal, Dooars, Terai** and **Darjeeling** are the three major tea producer regions.
    ● The **southern part of India produces about 17% of the country's total production** with the major producing states being **Tamil Nadu, Kerala,** and **Karnataka.**
  ○ **India's total tea production** for the financial year 2020-21 it was **1,283 million kg.**

➢ **Consumption:**
  ○ India is also among the **world's top tea consuming countries,** with **80% of the tea produced in the country consumed by the domestic population.**

➢ **Export:**
  ○ India is **among the top 5 tea exporters in the world** making about **10% of the total exports.**
    ● In the year 2021, the total value of tea exports from India was around USD 687.9 million.
  ○ India exports tea to **more than 25 countries** throughout the world.
    ● **Russia, Iran, UAE, USA, the UK, Germany,** and **China** are some of the **major importers** of tea from India.
  ○ **India's total tea exports** during 2021-22 in quantity was **201 million kg.**
  ○ The majority of the tea exported out of India is **black tea which makes up about 96% of the total exports.**
    ● The types of tea exported through India are: **Black tea, Regular tea, Green tea, Herbal tea, Masala tea** and **Lemon tea.**
      ■ Out of these, black tea, regular tea and green tea make up approximately 80%, 16% and 3.5% of the total tea exported from India.
    ● **Indian Assam, Darjeeling,** and **Nilgiri tea** are considered one of the **finest in the world.**
      ■ Indian tea is one of the finest in the world due to strong geographical indications, heavy investment in tea processing units, continuous innovation, augmented product mix, and strategic market expansion.

➢ **Geographical Indication (GI) Tag:**
  ○ **Darjeeling Tea also known as "Champagne of teas,"** worldwide because of its flowery scent was the **1st GI tag** product.
    ● **Other two variants** of Darjeeling tea i.e., **Green and White tea** also hold GI tags.

➢ **Regulation of the Industry:**
  ○ **Tea Board of India** is in charge of developing and promoting the tea industry in India.

What is Tea Board of India?

➢ **About:**
  ○ It is a **statutory body under the Ministry of Commerce** that was set up in 1953 for the development of tea industry in India. It started functioning in 1954.

➢ **Vision:**
  ○ Its vision and mission is to **make the country a leading producer of tea** across the globe for which it established several programmes and schemes.

➢ **Members:**
  ○ **The Board is constituted of 31 members (including Chairman)** drawn from Members of Parliament, tea producers, tea traders, tea brokers, consumers, and representatives of Governments from the principal tea producing states, and trade unions.
    ● The Board is **reconstituted every three years.**

➢ **Offices in India:**
  ○ The board has its **headquarters located in Kolkata and 17 other offices** across India.

➢ **Foreign Offices:**
  ○ Currently Tea Board has **two overseas offices located at Dubai, and Moscow.**

What are the Initiatives by Tea Board of India?

➢ **Promotion for packaged Tea of Indian origin:**
  ○ The scheme provides assistance in promotional campaigns - up to 25% of the cost reimbursement, display in International Departmental Stores, product literature and website development, and inspection charges reimbursement of up to 25% of the charges.

Note:

➤ **Subsidies for Domestic Exporters:**
  ○ The Tea Board also provides subsidies to the domestic exporters to participate in International Fairs and Exhibitions.
➤ **Tea Development and Promotion Scheme:**
  ○ This scheme was launched in November 2021 by the Tea Board of India for the period of 2021-26.
  ○ The objective of this scheme is to enhance the productivity and quality of the production in India.
  ○ There are **seven important components** to this scheme:
    ● **Plantation development** of small tea farmers
    ● Creation of sector specific **actions plan for North East India**
    ● Supporting the tea producers and trader in **market promotion activities**
    ● **Worker's welfare**
    ● **Research and development** activities
    ● **Regulatory reforms**
    ● **Establishment expenses**
    ● **Online Licensing System** (auto-renewal of 3 types of licenses i.e., exporter license, tea waste license and tea warehouse license).
➤ **Chai Sahyog Mobile App:**
  ○ It addresses various issues of small tea growers.

What is Tea?
➤ **About:**
  ○ Tea is **a beverage made from the Camellia sinensis plant.** It is the world's **most consumed drink**, after water.
➤ **Origin:**
  ○ It is believed that **tea originated in northeast India, north Myanmar and southwest China**, but the exact place where the plant first grew is not known. There is evidence that tea was consumed in **China 5,000 years ago.**
➤ **Growth Conditions:**
  ○ **Climate**: Tea is a tropical and sub-tropical plant and **grows well in hot and humid climates.**
  ○ **Temperature:** The ideal temperature for its growth is **20°-30°C and temperatures above 35°C** and below 10°C are harmful for the bush.
  ○ **Rainfall:** It requires 150-300 cm annual rainfall which should be well distributed throughout the year.

○ **Soil**: The most suitable soil for tea cultivation is **slightly acidic soil (without calcium) with porous sub-soil** which permits a free percolation of water.
➤ **Significance:**
  ○ The tea industry being one of the most **important cash crops is a main source of income and export revenues for some of the poorest countries** and, as a labour-intensive sector, provides jobs, especially in remote and economically disadvantaged areas.
    ● **Tea production and processing contributes** to the **Sustainable Development Goals (SDGs)** including reduction of extreme poverty (Goal 1), the fight against hunger (Goal 2), the empowerment of women (Goal 5) and the sustainable use of terrestrial ecosystems (Goal 15).
  ○ It also has **cultural significance** in many societies.
➤ **Health benefits:**
  ○ Tea consumption can bring health benefits and wellness due to the beverage's **anti-inflammatory, antioxidant** and **weight loss effects.**
➤ **International Tea Day:**
  ○ It is **observed on 21st May** every year after it was designated by the **United Nations General Assembly** in December 2019.

IIPDF Scheme

Why in News?

Recently, the Department of Economic Affairs (DEA), **Ministry of Finance** notified **India Infrastructure Project Development Fund Scheme (IIPDF Scheme),** a scheme for financial support for **project development expenses of Public-Private Partnership (PPP) Projects.**

What is IIPDF Scheme?

➤ **About:**
  ○ The IIPDF Scheme was **set up in 2007**.
  ○ It is a **Central Sector Scheme** with total outlay of Rs 150 crore for a period of three years from 2022-23 to 2024-25.
  ○ It is available to the **Sponsoring Authorities** for PPP projects for **meeting the project development costs.**

drishti

- It would be necessary for the Sponsoring Authority to create and empower a **PPP Cell to undertake PPP project development activities** and also **address larger policy and regulatory issues**.
- **Objective:**
  - It is aimed to provide **financial support for quality project development activities.**
- **Significance:**
  - The Sponsoring Authority will, be able to **source funding to cover a portion of the PPP transaction costs**, thereby **reducing the impact of costs related to procurement** on their budgets.
- **Financial Outlay:**
  - The IIPDF will **contribute upto 75% of the project development expenses** to the Sponsoring Authority as an **interest free loan.** The **balance 25% will be co-funded** by the **Sponsoring Authority.**
  - On successful completion of the bidding process, the **project development expenditure would be recovered from the successful bidder.**
    - However, in the case of failure of the bid, the loan would be converted into grant.
  - In case the **Sponsoring Authority does not conclude the bidding process** for some reason, the **entire amount contributed would be refunded to the IIPDF.**

What is PPP?
- **About:**
  - PPP is a partnership between a **government agency and private-sector company can be used to finance, build and operate projects**, such as public transportation networks, parks, and city centers.
    - There has been commendable progress in addressing the problems in PPP models. Still, there is a need to revisit PPP models for greater benefits.
- **Types of PPP Models:**
  - **Build-Operate-Transfer (BOT):**
    - It is a **conventional PPP model** in which the private partner is responsible to design, build, operate (during the contracted period) and transfer back the facility to the public sector.
    - The private sector partner has to bring the finance for the project and take the responsibility to construct and maintain it.

- The public sector will allow private sector partners to collect revenue from the users. The national highway projects contracted out by NHAI under PPP mode is a major example for the BOT model.
- **Build-Own-Operate (BOO):**
  - In this model ownership of the newly built facility will rest with the private party.
  - On mutually agreed terms and conditions the public sector partner agrees to 'purchase' the goods and services produced by the project.
- **Build, Own, Operate, Transfer (BOOT):**
  - In this variant of BOT, after the negotiated period of time, the project is transferred to the government or to the private operator.
  - BOOT model is used for the development of highways and ports.
- **Build-Operate-Lease-Transfer (BOLT):**
  - In this approach, the government gives a concession to a private entity to build a facility (and possibly design it as well), own the facility, lease the facility to the public sector and then at the end of the lease period transfer the ownership of the facility to the government.
- **Design-Build-Operate-Transfer (DBFO):**
  - In this model, **entire responsibility** for the design, construction, finance, and operation of the project for the period of concession **lies with the private party.**
- **Lease-Develop-Operate (LDO):**
  - In this type of investment model **either the government or the public sector entity retains ownership** of the newly created infrastructure facility and receives payments in terms of a lease agreement with the private promoter.
  - It is mostly followed in the development of airport facilities.
- **Engineering, Procurement, and Construction (EPC) Model:**
  - Under this model, the cost is completely borne by the government. Government invites bids for engineering knowledge from the private players.

Note:

- Procurement of raw material and construction costs are met by the government.
- The private sector's participation is minimal and is limited to the provision of engineering expertise.
- A difficulty of the model is that financial is the high financial burden for the government.
  - **Hybrid Annuity Model (HAM):**
    - In India, the new HAM is a mix of BOT-Annuity and EPC models.
    - As per the design, the government will contribute 40% of the project cost in the first five years through annual payments (annuity).
    - The remaining payment will be made on the basis of the assets created and the **performance of the developer.**

India Chem 2022

Why in News?

Recently, **12th Biennial International Exhibition and Conference India Chem 2022 was inaugurated** at Pragati Maidan, New Delhi.

➢ The theme for India Chem 2022 is **"Vision 2030: Chemicals and Petrochemicals Build India".**

What is the Status of Chemical Industry in India?

➢ India's chemical industry is **extremely diversified** and can be broadly classified into **bulk chemicals, specialty chemicals, agrochemicals, petrochemicals, polymers** and **fertilisers.**
  - Globally, India is the **fourth-largest producer of agrochemicals** after the United States, Japan and China.
  - India is the **sixth-largest producer of chemicals** in the world.
  - India is the **second-largest manufacturer and exporter of dyes** and accounts for ~16% of the world's production.

➢ The country's chemicals industry is **de-licensed, except for few hazardous chemicals.**

➢ India holds a strong position in exports and imports of chemicals at a global level and **ranks 14th in exports** and **8th in imports at global level (excluding pharmaceuticals).**

What are the Related Government Initiatives?

➢ Under the **Union Budget 2022-23,** the government **allocated Rs. 209 crores to the Department of Chemicals and Petrochemicals.**

➢ **Production linked incentive (PLI) Schemes** have been introduced to **promote Bulk Drug Parks.**
  - The government plans to implement **PLI system with 10-20% output incentives for the agrochemical sector;** to create an **end-to-end manufacturing ecosystem** through the growth of clusters.

➢ **A 2034 vision for the chemicals and petrochemicals sector** has been set up by the government to explore opportunities to improve domestic production, reduce imports and attract investments in the sector.

Single GST Rate

Why in News?

Recently, the Chairman of the **Prime Minister's Economic Advisory Council**, in his personal capacity, has stated that India should have a "**Single Goods and Services Tax (GST) Rate**" and an "**Exemption-less Tax Regime**".

What are the Suggestions?

➢ **Single GST Rate:**
  - GST rates should be the **same on all goods** as 'progressive' rates work best with direct taxes, not indirect taxes.
  - When the GST was first announced, the **National Council of Applied Economic Research (NCAER)** estimated that it would lead to a 1.5% to 2% increment to the **Gross Domestic Product (GDP)**.
    - However, the estimate was based on the premise that all goods and services will be part of GST and there would be a single GST.
  - Different GST rates allows a mindset of '**prime control**' whereby GST rates are pegged higher for items considered 'elitist' and lower for items of mass consumption, resulting in differentiation and subjective interpretation and litigation.
  - Tax rates **need to go higher than the current average** of 11.5% as opposed to the 17% revenue-neutral rate for GST officially estimated earlier.

➢ **'Exemption-less' Direct Tax Regime:**

○ The chairman called for an **exemption-less direct tax regime** with the argument that while tax evasion is illegal, **tax avoidance, by using exemption clauses to reduce tax burden, is legitimate.**
  ● More tax exemptions also lead to an increase in cases of **tax complications**.
○ The artificial difference between corporate taxes and personal income taxes (PIT) should be removed.
○ A lot of unincorporated businesses pay taxes under personal income taxes.
  ● The removal of differences using exemption-less direct tax system will also reduce administrative compliance.

What is the Current Framework of the GST System?

➢ **About GST:**
  ○ **The Goods and Services Tax (GST)** is a **value-added tax** levied on most goods and services sold for domestic consumption.
    ● The GST is paid by consumers, but it is remitted to the government by the **businesses selling the goods and services.**
    ● It is essentially a **consumption tax** and is levied at the final consumption point.
  ○ It was introduced through the **101st Constitution Amendment Act, 2016.**
  ○ It has subsumed indirect taxes like excise duty, Value Added Tax (VAT), service tax, luxury tax etc.
➢ **Existing Tax Structure:**
  ○ **Central GST (CGST)** covers Excise duty, Service tax etc.
  ○ **State GST (SGST)** covers Value Added Tax (VAT), luxury tax etc.
  ○ **Integrated GST (IGST)** covers inter-state trade.
    ● IGST is not a tax but a system to coordinate state and union taxes.
  ○ **There are four major GST slabs:**
    ● 5%, 12%, 18% and 28%.
    ● Some demerit and luxury goods, which are in the 28% bracket, attract additional levy of cesses, the proceeds of which go to a separate fund meant to compensate states for revenue shortfall and repayment of compensation related loans.

Multi-tiered system

Tax rate	Indicative items	Tax rate	Indicative items
0%	50% of the consumer price basket, including foodgrains	18%	Soaps, oil, toothpaste, refrigerator, smartphones
5%	Mass consumption items like spices and mustard oil	28%	White goods, cars
12%	Processed foods	28% plus cess	Luxury cars, pan masala, tobacco, aerated drinks

➢ **GST Council:**
  ○ **Article 279A** of the **Indian Constitution** states that the GST Council to be formed by the President to administer & govern GST.
  ○ Its chairman is **Union Finance Minister of India** with ministers nominated by the **state governments** as its members.
  ○ The council is devised in such a way that the **centre will have 1/3rd** voting power and the **states have 2/3rd.**
    ● The decisions are taken by **3/4th majority.**

Greenwashing

Why in News?

Recently, the **United Nations Secretary General** has warned private corporations to desist the practice of **Greenwashing** and mend their ways within a year.

➢ The general has also directed to **set up an expert group solely to look into the practice.**

What is Greenwashing?

➢ **About:**
  ○ The term greenwashing was first used in 1986 by Jay Westerveld, an American environmentalist and researcher.
  ○ Greenwashing is the practice in which firms and governments **mark all kinds of activities as climate-friendly**, as something that would lead to emissions reduction, or avoidance of emissions.
    ● Many of these claims are **unverifiable, misleading, or dubious.**

- While it helps in boosting the image of the entity, **they do nothing in the fight against climate change.**
- Several multinational corporations, including oil giants like Shell and BP, and Coca Cola have faced accusations of greenwashing.

○ Greenwashing is prevalent across a whole range of environmental activities.

- Developed countries are often accused of **greenwashing their normal business investments in developing countries** by highlighting climate co-benefits of the financial flows, sometimes with very little justification.

➢ **Impact of Greenwashing:**

○ Greenwashing presents a **false picture of the progress being made on the climate change front**, pushing the world towards disaster, while at the same time, rewarding entities for irresponsible behaviour.

➢ **Challenges in Regulating:**

○ The processes and products that can potentially cut emissions are so many that it is **practically impossible to monitor and verify all.**

○ The processes, methodologies and institutions to measure, report, create standards, verify claims and grant certifications are still being set up.

○ Large number of organisations have sprung up claiming expertise in these areas and offering their services for a fee. Many of these organisations lack **integrity and robustness**, but their services are still availed by corporations because it makes them look good.

How does Greenwashing Affect Carbon Credits?

➢ **About Carbon Credit:**

○ A **carbon credit** (also known as carbon offset) is a **credit for greenhouse emissions reduced or removed** from the atmosphere by an emission reduction project, which can be used by governments, industry, or private individuals to **compensate for the emissions** they generate elsewhere.

○ Those that cannot easily reduce emissions can still operate, **at a higher financial cost.**

○ Carbon credits are based on the "**cap-and-trade**" model that was used to reduce sulfur pollution in the 1990s.

○ One carbon credit is equal to **one metric ton of carbon dioxide**, or in some markets, **carbon dioxide equivalent gases** (CO_2-eq).

➢ **Effect of Greenwashing on Carbon Credit:**

○ **Informal Markets:**

- There are **now credits available** for all kinds of activities such as for growing trees, for planting a certain kind of crop, for installing energy-efficient equipment in office buildings.

  ■ The credits for such activities are often certified by unofficial third-party companies and sold to others.

  ■ Such transactions have been flagged for lack of integrity and double counting.

○ **Credibility:**

- Countries like India or Brazil had accumulated huge carbon credits under the **Kyoto Protocol** and wanted these to be transitioned to the new market being set up under the **Paris Agreement**.

  ■ But many developed countries resisted this, questioning the integrity of the credits and claiming they did not accurately represent reductions in emissions.

  ■ Carbon offsets from forests are one of the most controversial.

Report on Municipal Finances: RBI

Why in News?

Recently, the **Reserve Bank of India (RBI)** has released the **Report on Municipal Finances,** compiling and analyzing budgetary data for 201 **Municipal Corporations (MCs)** across all States.

➢ The RBI Report explores **'Alternative Sources of Financing for Municipal Corporations'** as its theme.

What is a Municipal Corporation?

➢ **About:**

○ In India, the Municipal Corporation is the **urban local government** that is responsible for the development of any Metropolitan City having a **population of more than one million people.**

Note:

- Mahanagar Palika, Nagar Palika, Nagar Nigam, City Corporation, and so on are some of the other names for it.
  ○ The Municipal Corporations are established in the states by the **acts of the state legislatures,** whereas in the Union Territories through the acts of the Parliament.
  ○ Municipal governments **rely heavily on property tax revenue** to fund their operations.
  ○ The first municipal corporation in India was created in **Madras in 1688, followed by municipal corporations in Bombay and Calcutta in 1726.**
- **Constitutional Provisions:**
  ○ In the Constitution of India, no provision was made for the establishment of local self-government, except the incorporation of **Article 40 in the Directive Principles of State Policy.**
  ○ The **74th Amendment Act, 1992** has inserted a new Part IX-A into the Constitution which deals with the administration of Municipalities and Nagar Palikas.
  ○ It consists of Article 243P to 243ZG. It also added a new **twelfth schedule** to the Constitution. The 12th schedule consists of 18 items.

What are the Findings?

- **Poor Working of MCs:**
  ○ There have been several lacunae in the working of MCs and **no appreciable improvement in their functioning despite institutionalisation** of the structure of **local governance in India.**
  ○ The availability and quality of essential services for **urban populations in India has consequently remained poor.**
- **Lack of Financial Autonomy:**
  ○ Most municipalities only prepare budgets and **review actuals against budget plans but do not use their audited financial statements** for balance sheet and cash flow management, resulting in **significant inefficiencies.**
  ○ While the size of the municipal budgets in India are much smaller than peers in other countries, **revenues are dominated by property tax collections and devolution of taxes and grants from upper tiers of government,** resulting in **lack of financial autonomy.**

- **Minimal Capital Expenditure:**
  ○ MCs' committed expenditure in the form of establishment expenses, administrative costs and interest and finance charges is risi**ng, but capital expenditure is minimal.**
  ○ MCs mostly rely on borrowings from banks and financial institutions and loans from centre/ state governments to finance their resource gaps in the absence of **a well-developed market for municipal bonds.**
- **Stagnant Revenues/Expenditure:**
  ○ Municipal revenues/expenditures in India have stagnated at around **1 % of GDP (Gross Domestic Product)** for over a decade.
  ○ In contrast, municipal revenues/ expenditures account for 7.4 % of GDP in Brazil and 6 % of GDP in South Africa.
- **Ineffective State Financial Commissions:**
  ○ Governments have not set up **State Financial Commissions (SFCs)** in a regular and timely manner even though they are required to be set up every five years. Accordingly, in most of the States, SFCs have not been **effective in ensuring rule-based devolution of funds to Local governments**.

What are the Suggestions?

- MCs need to adopt **sound and transparent accounting practices** with proper monitoring and documentation of various receipt and expenditure items, and explore different innovative bond and land-based financing mechanisms to augment their resources.
- The rapid rise in urban population density, however, calls for **better urban infrastructure**, and hence, requires greater flow of f**inancial resources to Local governments.**
- With the revenue generation capacity of municipal corporations declining over time, dependence on the devolution of taxes and grants from the upper tiers has risen. This calls for i**nnovative financing mechanisms**.
- Municipalities in India need to balance t**heir budgets by law**, and any municipal borrowing needs to be approved by the State government.
- In order to improve the **buoyancy of municipal revenue**, the Centre and the States may share one-sixth of their **GST (Goods and Services Tax).**

Edible Oil Sector in India

Why in News?

Recently, Centre pointed out that India is **already importing and consuming oil derived from Genetically Modified (GM) crops** in a **plea challenging the clearance for environmental release of GM mustard.**

➢ Also, **around 9.5 million tonnes (mt) of GM cotton seed is produced annually** and 1.2 mt of GM cotton oil is consumed by human beings, and about 6.5 mt of cotton seed is consumed as animal feed.

What is the State of Edible Oil Sector in India?

➢ **Place in Country's Economy:**
  ○ India is **one of the largest producers of oilseeds** in the world.
  ○ Oil sector occupies an important position in the agricultural economy.
  ○ It accounts for the estimated **production of 36.56 mt of nine cultivated oilseeds during the year 2020-21** as per the data released by the Ministry of Agriculture.
  ○ India is the **world's second-largest consumer** and **number one importer of vegetable oil.**
    ● The **present rate of edible oil consumption** in India s**urpasses the domestic production rate.** Hence, the country has to rely on imports to meet the gap between demand and supply.
    ● At present, **India meets nearly 55% to 60% of its edible oil demand through imports.** Therefore, India needs to be independent in oil production to meet the domestic consumption demand.
    ● **Palm oil (Crude + Refined)** constitutes roughly around **62% of the total edible oils imported** and are imported mainly from **Indonesia and Malaysia,** while **Soyabean oil (22%)** is imported from **Argentina and Brazil** and **Sunflower oil (15%)** is imported mainly from **Ukraine and Russia.**
➢ **Types of Oils Commonly Used in India:**
  ○ In India, **groundnut, mustard, rapeseed, sesame, safflower, linseed, niger seed** and **castor** are the major traditionally cultivated oilseeds.
  ○ **Soyabean** and **sunflower** have also assumed importance in recent years.

○ **Coconut** is most important amongst the plantation crops.
○ Among the non-conventional oils, **rice bran oil** and **cottonseed oil** are the most important.

➢ **Export Import Policy on Edible Oils:**
  ○ Import of edible oils is under **Open General License (OGL).**
  ○ In order to harmonize the interests of farmers, processors and consumers, Government reviews the duty structure of edible oils from time to time.

What are the Related Government Initiatives?

➢ The government of India launched **National Mission on Edible Oils-Oil Palm as a centrally-sponsored scheme,** being implemented jointly by the central and state governments with a **special focus in the northeast region and the Andaman and Nicobar Islands.**
  ○ It is proposed to have an additional 6.5 lakh hectares for palm oil by 2025-26.
➢ In order to improve and systemize the data management system in the vegetable oil sector, the **Directorate of Sugar & Vegetable Oils under Department of Food and Public Distribution** has developed a **web-based platform (evegoils.nic.in) for online submission of inputs** by vegetable oil producers on monthly basis.
  ○ The portal also provides **window for online registration** and **submission of monthly production returns.**

India's First Floating Financial Literacy Camp

Why in News?

Recently, **India Post Payments Bank (IPPB)** conducted India's First **Floating Financial Literacy Camp** with an initiative called **'Niveshak Didi'** to promote **Financial Literacy 'By the women, for the women'**, in Srinagar, J&K.

What is the Niveshak Didi Initiative?

➢ **About:**
  ○ It is based on the ideology of **women for women,** as rural area women feel more comfortable to share their queries with a female herself.

Note:

- ➢ **Implementing Agency:**
  - ○ It is launched by IPPB, in collaboration with **Investor Education and Protection Fund Authority (IEPFA)** under the aegis of **Ministry of Corporate Affairs (MCA).**
- ➢ **Floating Financial Literacy Camp:**
  - ○ The session covered topics ranging from **banking and financial products**, importance of **joining the mainstream financial services** offered by regulated entities & **protection against various types of risks** involved with investments and measures of fraud prevention.

What are India's other Initiatives for Financial Literacy?

- ➢ **Pradhan Mantri Jan-Dhan Yojana:**
  - ○ **Pradhan Mantri Jan Dhan Yojana (PMJDY)** is the **National Mission for Financial Inclusion.**
  - ○ **It ensures access to financial services**, namely, Banking/ Savings & Deposit Accounts, Remittance, Credit, Insurance, Pension in an affordable manner.
  - ○ PMJDY has been the **foundation stone for people-centric economic initiatives**. Whether it is **Direct Benefit Transfer (DBT)**, **Covid-19** financial assistance, **PM-KISAN**, increased wages under **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA)**, life and health insurance cover, the first step of all these initiatives is to provide every adult with a bank account, which PMJDY has nearly completed.
- ➢ **Pradhan Mantri Jeevan Jyoti Bima Yojana:**
  - ○ **Pradhan Mantri Jeevan Jyoti Bima Yojana** provide for life insurance and accident insurance respectively to the migrants and labourers.
- ➢ **Pradhan Mantri Kisan Maan Dhan Yojana:**
  - ○ **PMKMDY** was started to provide **social security to all landholding Small and Marginal Farmers** (farmers whose land holdings are less than two hectares of land in the country).
  - ○ It is a **voluntary and contribution-based** pension scheme.
  - ○ Pension **will be paid to the farmers** from a Pension Fund managed by the Life Insurance Corporation of India.
  - ○ Farmers will have to contribute an amount between Rs.55 to Rs.200 per month in the Pension Fund till they reach the retirement date i.e., the age of 60 years.
- ➢ **Pradhan Mantri Mudra Yojana:**
  - ○ 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 classified as MUDRA loans under PMMY.
  - ○ These loans are given by Commercial Banks, RRBs, Small Finance Banks, Cooperative Banks, MFIs and NBFCs.

What is India Post Payments Bank (IPPB)?

- ➢ **About:**
  - ○ It has been established under the Department of Posts, Ministry of Communication with 100% equity owned by the Government of India.
- ➢ **Objective:**
  - ○ The bank has been set up with the vision to build the most **accessible, affordable and trusted bank for the common man in India.**
- ➢ The fundamental mandate of IPPB is to **remove barriers for the unbanked and under-banked** and reach the last mile leveraging a network comprising 160,000 post offices (145,000 in rural areas) and 400,000 postal employees.
- ➢ IPPB's reach and its operating model is built on the **key pillars of India Stack** - enabling **Paperless, Cashless and Presence-less banking** in a simple and secure manner at the customers' doorstep, through a CBS-integrated smartphone and biometric device.
- ➢ IPPB is committed to provide a fillip to a less cash economy and contribute to the vision of Digital India.

•••

Note:

International Relations

Highlights

- *India Norway Relations*
- *19th ASEAN-India Summit*
- *India-Belarus Relation*
- *Meeting of the SCO Council of Heads*
- *Interpol*

- *2nd BIMSTEC Agriculture Ministers Meeting*
- *Black Sea Grain Initiative*
- *India-US Economic and Financial Partnership Meet*
- *India Abstains Russia's UNSC Resolution on Bioweapons*

India Norway Relations

Why in News?

Recently, **Norway's Ambassador to India** has reported that the bilateral trade between India and Norway has **doubled to $2 billion in the last two years.**

What are the Upcoming Areas of Cooperation in India Norway Relations?

➢ Norway would invest $1 billion from its **climate investment fund** in five years worldwide, how much of the funds would be invested in India **would depend on the projects.**

➢ Norway is working with the **National Institute of Wind Energy** for **Wind Energy** related projects.
   ○ However, the problem in India is that **only Tamil Nadu and Gujarat** had stable wind to make it viable.

➢ Norway is working closely with India to find a way to get **enough countries to ratify the Hong Kong**

Convention. It will be a **binding international legal instrument**.

How has India's Relations with Norway been?

➢ **History:**
   ○ India and Norway have been enjoying a cordial and friendly relationship since the **establishment of relations in 1947**.
   ○ Norway's first Consulates in India opened in **Kolkata and Mumbai in 1845 and 1857**, respectively.
   ○ In 1952, the "**India fund**" was established" with the aim to provide development assistance with a f**ocus on fisheries.**
      - The same year, **Norway opened its Embassy in New Delhi.**
   ○ Norway has supported **India's membership to export control regimes the Missile Technology Control Regime (MTCR)**, the **Wassenaar Arrangement (WA)** and the **Australia Group (AG).**
   ○ India signed a **Double Taxation Avoidance Agreement (DTAA) with Norway** in 1986 which was revised in February 2011.

➢ **Developments:**
   ○ **Consulate General of Norway:**
      - The Consulate General in Mumbai re-opened its doors in 2015.
         ■ It had been closed since the 1970s.
         ■ It was joined by Innovation Norway, the Norwegian government's official trade representative, which now has offices both in Mumbai and New Delhi.
   ○ **India Strategy:**

Note:

- In December 2018, the Norwegian government launched a new 'India Strategy'. The strategy sets clear priorities for the Norwegian government until 2030 and gives renewed impetus to develop the bilateral cooperation.
  - The India Strategy outlines five thematic priorities:
    - Democracy and a rules-based world order
    - The oceans
    - Energy
    - Climate and Environment
    - Research, higher education and global health
  - To achieve these objectives, Norway focuses on political contact and cooperation between the authorities, business cooperation, and research cooperation.
- ○ **Task Force on Blue Economy:**
  - In 2020, the India-Norway Task Force on Blue Economy for Sustainable Development was inaugrated jointly by both the countries. This task force was launched during Norwegian Prime Minister's visit to India earlier in 2019.
  - The purpose of the task force is to develop and follow up joint initiatives between the two countries.
  - It also intends to mobilise relevant stakeholders from both Norway and India at the highest level, and ensure continued commitment and progress across ministries and agencies.
- ○ **Norway's PM Visit to India:**
  - In 2019, the Prime Minister of Norway visited India and a number of MOUs were signed.
  - The Prime Minister also delivered the inaugural address at the Raisina Dialogue and inaugurated the India-Norway Business Summit.
- ○ **Economic Relations:**
  - As of 2019, more than 100 Norwegian companies have established themselves in India.
    - Another 50 are represented by agents.
    - The Norwegian Pension Fund Global is likely one of India's largest single foreign investors. In 2019, its investments amounted to USD 9.5 billion.

- Exports from Norway to India include Nonferrous metals, gas natural manufactured, plastic in primary form, crude minerals, chemical material and products.
- The main items of export from India to Norway include articles of apparels and accessories, textile yarns, manufactures of metals, rice and miscellaneous manufactured articles.
- ○ **Cooperation in Various Fields:**
  - Norway has the fifth largest commercial ship fleet in the world, and ship recycling was crucial to keep up a modern fleet, both for environmental as also for competitive reasons. Norway is cooperating closely with India in "Ship recycling and shipbuilding" activities.
  - Academic collaborations exist between the Indian Institute of Technology-Madras and the Institute of Wind Energy in Chennai with institutions in Norway.
  - The Norwegian company, Piql, was involved in creating a digital archive for Indian monuments such as the Taj Mahal. The company was also involved in digitalising historical monuments, Dholavira in Gujarat and the Bhimbhetka Caves in Madhya Pradesh.

19ᵗʰ ASEAN-India Summit

Why in News?

Recently, the Vice President of India attended the 19ᵗʰ ASEAN-India Summit in Phnom Penh, Cambodia.

What are the Highlights of the Meeting?

- ➤ **Act East Policy:**
  - ○ India hailed the deep cultural, economic and civilizational ties that have existed between India and South East Asia from time immemorial and stated that the India-ASEAN relationship forms the central pillar of India's ACT-EAST policy.
  - ○ India reiterated its support to ASEAN centrality in the Indo-Pacific.
- ➤ **Comprehensive Strategic Partnership:**
  - ○ ASEAN and India adopted a joint statement announcing the elevation of the existing Strategic Partnership to Comprehensive Strategic Partnership.

Note:

○ It reiterated the **commitment to enhance India-ASEAN cooperation** in various areas such as maritime activities, counter-terrorism, cyber security, digital economy, environment, science & technology, tourism, among other areas.

○ It proposes expediting the review of **ASEAN-India Trade in Goods Agreement (AITIGA)** to make it more user-friendly, simple, and trade-facilitative.

➤ **Peace and Security:**

○ Both sides reaffirmed the **importance of maintaining and promoting peace**, stability, maritime safety and security, freedom of navigation and overflight in the **Indo-Pacific region.**

➤ **Deepening Dialogue and Coordination:**

○ As part of maintaining "**ASEAN-Centrality",** the two sides reaffirmed the importance of deepening dialogue and coordination through ASEAN-led mechanisms including the ASEAN-India Summit, the East Asia Summit, the Post-Ministerial Conference with India (PMC+1), the ASEAN Regional Forum (ARF), the ASEAN Defense Ministers' Meeting-Plus (ADMM-Plus), the Expanded **ASEAN Maritime Forum (EAMF).**

What is the Association of Southeast Asian Nations?

➤ **About:**

○ It is a **regional grouping that promotes economic**, political, and security cooperation.

○ It was established in **August 1967 in Bangkok,** Thailand with the signing of the ASEAN Declaration (Bangkok Declaration) by the founding fathers of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore and Thailand.

○ Its chairmanship **rotates annually, based on the alphabetical order** of the English names of Member States.

○ ASEAN countries have a **total population of 650 million peopl**e and a combined **Gross Domestic Product (GDP) of USD 2.8 trillion**.

➤ **Members:**

○ ASEAN brings together **ten Southeast Asian states** – Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam – into one organisation.

ASEAN GROUPING

How has Been the ASEAN-India Relations?

➤ **About:**

○ ASEAN is considered one of the most influential groupings in Southeast Asia.

○ India and several other countries, including the US, China, Japan and Australia, are its dialogue partners.

○ The ASEAN-India dialogue relations started with the **establishment of a sectoral partnership in 1992.**

○ This graduated to full dialogue partnership in December 1995 and summit-level partnership in 2002.

○ Traditionally the basis of **India-ASEAN ties** has been trade and people-to-people ties due to shared historical and cultural roots, a more recent and urgent area of convergence has been balancing China's rise.

● Both India and **ASEAN aim to establish** a rules-based security architecture for peaceful development in the region, in contrast to China's aggressive policies.

➤ **Areas of Cooperation:**

○ **Economic Cooperation:**

● ASEAN is India's 4th largest trading partner.

● India signed **FTA (Free Trade Agreement)** in goods in 2009 and an FTA in services and investments in 2014 with ASEAN.

■ Since the FTA came into effect, the trade between them has **almost doubled to reach over USD 87** billion in 2019-20 and then declined to USD 79 billion in 2020-21 **due to pandemic-driven slowdown.**

Note:

- India has a Comprehensive Economic Cooperation Agreement (CECA) with various countries of the ASEAN region which has resulted in concessional trade and a rise in investments.
- Commodity trade between India and ASEAN region has **reached USD 98.39 billion in the period April 2021- February 2022**.
- India's main trading ties are with Indonesia, Singapore, Malaysia, Vietnam and Thailand.
- ○ **Political Cooperation:**
  - ASEAN-India Centre (AIC) was established to undertake policy research, advocacy and networking activities with organizations and think-tanks in India and ASEAN.
- ○ **Financial Assistance:**
  - India provides financial assistance to the ASEAN nations through various mechanism like ASEAN-India Cooperation Fund, ASEAN-India S&T Development Fund and ASEAN-India Green Fund.
- ○ **Connectivity:**
  - India has been undertaking several connectivity projects like India-Myanmar-Thailand Trilateral (IMT) Highway and the **Kaladan Multimodal Project.**
  - India is also trying to establish a **Maritime Transportation Agreement** with ASEAN and also Plans for a Railway link between New Delhi in India to Hanoi in Vietnam.
- ○ **Socio-Cultural Cooperation:**
  - Programmes to boost People-to-People Interaction with ASEAN are organized, such as inviting ASEAN students to India, Special Training Course for ASEAN diplomats, Exchange of Parliamentarians, etc.
- ○ **Defence Cooperation:**
  - Joint Naval and Military exercises are conducted between India and most ASEAN countries.
    - The maiden **Asean-India Maritime Exercise** will be held in 2023.
    - **Watershed' Military Exercise** held in 2016.
  - Vietnam has traditionally been a close friend on defense issues, Singapore is also an equally important partner.

What is the Significance of ASEAN for India?

- ➢ **India needs a close diplomatic relationship** with ASEAN nations both for economic and security reasons.

- ➢ Connectivity with the ASEAN nations can allow India to improve its presence in the region.
  - ○ These connectivity projects keep Northeast India at the centre, ensuring the economic growth of the northeastern states.
- ➢ **Improved trade ties with the ASEAN nations** would mean a counter to China's presence in the region and economic growth and development for India.
- ➢ ASEAN occupies a centralised position in the rules-based security architecture in the Indo-Pacific, which is vital for India since most of its trade is dependent on maritime security.
- ➢ Collaboration with the ASEAN nations is necessary to counter insurgency in the Northeast, combat terrorism, tax evasions etc.

India-Belarus Relation

Why in News?

Recently, the **11th Session of the India-Belarus Inter-Governmental Commission** on Trade, Economic, Scientific, Technological and Cultural Cooperation was held.

What are the Highlights of the Session?

- ➢ The Intergovernmental Commission **reviewed the results of bilateral cooperation** that took place after the tenth session of the Commission in 2020.
- ➢ While expressing satisfaction at the progress made in regard to some projects, **the Commission also**

Note:

directed concerned Ministries and Departments to focus on key sectors in the trade & investment spheres to finalise concrete outcomes.

➤ **India and Belarus reiterated their strong desire to further broaden their cooperation** with emphasis on key sectors such as pharmaceuticals, financial services, science and technology, heavy industries, culture, tourism, and education.

➤ The two ministers **directed their respective business communities to engage with each other** in these sectors to further mutually beneficial cooperation.

➤ The **two sides agreed to promote cooperation among various states in India** and regions in Belarus, especially in focus areas.

How Has Been India-Belarus Relations?

➤ **Diplomatic Relations:**
  ○ India's relations with Belarus have been traditionally warm and cordial.
  ○ India was one of the **first countries to recognize Belarus as an independent country in 1991** after the break-up of the Soviet Union.

➤ **Supports at Multilateral Fora:**
  ○ The cooperation between the two countries is **visible at many multilateral fora such as the UN Security Council (UNSC) and Nuclear Suppliers Group (NSG).**
  ○ Belarus was **one of the countries whose support helped in consolidating India's candidature** for the non-permanent seat at the UNSC in July 2020.
  ○ India has also **reciprocated Belarus's support at various international fora**, such as Belarus's membership in the **Non Aligned Movement (NAM)** and other international and multilateral groups like **IPU (Inter-Parliamentary Union).**

➤ **Comprehensive Partnership:**
  ○ The two countries **enjoy a comprehensive partnership and have established mechanisms for exchanging views on bilateral, regional and multilateral issues** through Foreign Office Consultations (FOC), Intergovernmental Commission (IGC), and Joint Commission on Military Technical Cooperation.
  ○ The two countries have signed a number of Agreements/MoUs on various subjects, including trade and economic cooperation, culture, education, media and sports, tourism, science & technology,

agriculture, textiles, Avoidance of **Double Taxation**, Promotion and Protection of Investments, and defence and technical cooperation.

➤ **Trade and Commerce:**
  ○ In the economic sector, **the annual bilateral trade turnover in 2019 stands at USD 569.6 million.**
  ○ India's special gesture in 2015 that granted **Belarus the Market Economy Status** and a USD 100 million Line of Credit has also helped in the growth in the economic sector.
    • Market Economy status is a status conferred on the country exporting the goods accepted as the benchmark. Prior to this status, the country was considered as a Non-Market Economy (NME).
  ○ India's encouragement to the Belarusian businessmen to invest in **'Make in India'** projects are bearing fruits.

➤ **Indian Diaspora:**
  ○ The **Indian Community in Belarus consists of around 112 Indian nationals** and 906 Indian students pursuing studies in medicine in State medical universities in Belarus.
  ○ **Indian art and culture, dance, yoga, ayurveda, films, etc.** remain popular among Belarusian nationals.
    • Many young Belarusians also take keen interest in learning Hindi and dance forms of India.

Meeting of the SCO Council of Heads

Why in News?

Recently, China hosted a meeting of the **Shanghai Cooperation Organisation (SCO)** Heads of Government

➤ The SCO Heads of Government meet is held annually to focus on the trade and economic agenda of the organisation and approves the SCO's annual budget.

➤ India has taken over as **Chairperson of the SCO for 2023,** and will host leaders of all SCO countries at a summit in Delhi expected in mid-2023.

➤ Earlier, the **SCO** summit 2022 was held recently in Samarkand, Uzbekistan.

What are the Highlights of the Meeting?

➤ The heads of delegations of the SCO member states exchanged views on key issues of **global and regional**

development, discussed priority steps to increase trade, economic, cultural, and humanitarian cooperation within the SCO.

➤ India stated that its total trade with SCO Members is only USD 141 billion, which has potential **to increase manifold.**

○ The bulk of India's trade with **SCO countries is with China, which crossed USD 100 billion** in 2022, while trade with Russia is less than USD 20 billion.

○ Trade with Central Asian countries is less than USD 2 billion, and with Pakistan it is about USD 500 million.

➤ While taking aim at China's **BRI (Belt and Road Initiative)**, which passes through **parts of Pakistan occupied Kashmir (PoK)**, India said that **Connectivity projects should respect the sovereignty and territorial integrity of Member States** and respect international law.

➤ India underlined the need for better connectivity in the SCO region built on the centrality of interests of Central Asian states, which will unlock the **economic potential of this region in which Chabahar port and the International North South Transport Corridor (INSTC) could become enablers**.

➤ India drew attention to its commitment in fighting the challenge of **climate change** and also, its achievements made in this direction.

➤ India pitched for more trade through Iran's Chabahar port and the **INSTC** that India is a part of, aiming to improve bilateral trade with Central Asian countries.

➤ A joint communique was issued after the meeting naming all countries except India, which **reaffirmed their support for the BRI**, "including the work to promote the alignment of the 'Belt and Road' construction with the construction of the **Eurasian Economic Union".**

What is the Shanghai Cooperation Organisation?
➤ **About:**
○ It is a **permanent** intergovernmental international organisation. It was created in 2001.
○ The **SCO Charter was signed in 2002**, and entered into force in 2003.
○ It's a Eurasian political, economic and military organisation aiming to maintain peace, security and stability in the region.
○ It is seen as a counterweight to **North Atlantic Treaty Organization (NATO)**, It is a **nine-member**

economic and security bloc and has emerged as one of the largest transregional international organisations.

➤ **Official Languages:**
○ Russian and Chinese.
➤ **Permanent Bodies:**
○ SCO Secretariat in Beijing.
○ Executive Committee of the Regional Anti-Terrorist Structure (RATS) in Tashkent.
➤ **Chairmanship:**
○ It is by rotation for a year by Member States.
➤ **Genesis:**
○ Prior to the creation of SCO in 2001, Kazakhstan, China, Kyrgyzstan, Russia and Tajikistan were members of the Shanghai Five.
○ Shanghai Five (1996) emerged from a series of border demarcation and demilitarization talks which the four former Soviet republics held with China to ensure stability along the borders.
○ Following the accession of Uzbekistan to the organisation in 2001, the Shanghai Five was renamed the SCO.
○ **India and Pakistan** became members in 2017.
○ **Current Members:** Kazakhstan, China, Kyrgyzstan, Russia, Tajikistan, Uzbekistan, India and Pakistan.
○ Iran is set to become a permanent member of the SCO in 2023.

What is Belt & Road Initiative (BRI)
➤ **Belt & Road Initiative (BRI)** is an ambitious project that **focuses on connectivity and cooperation among multiple countrie**s spread across the continents of Asia, Africa, and Europe. BRI spans about 150 countries (China's Claim).
➤ Initially announced in the year 2013, the project involves building networks of roadways, railways, maritime ports, power grids, oil and gas pipelines, and associated infrastructure projects.
➤ **The project covers two parts.**
○ **Silk Road Economic Belt:** It is land-based and is expected to connect China with Central Asia, Eastern Europe, and Western Europe.
○ **21st Century Maritime Silk Road:** It is sea-based and is expected to connect China's southern coast to the Mediterranean, Africa, South-East Asia, and Central Asia..

Note:

Interpol

2nd BIMSTEC Agriculture Ministers Meeting

Why in News?

Recently, India hosted the **Second Agriculture Ministerial-level meeting** of the **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC).**

What are the Highlights of the Meeting?

➢ India urged the **member countries to cooperate in developing a comprehensive regional strategy** to strengthen cooperation for the transformation of agriculture.

➢ It also **urged the member countries to adopt a conducive agricultural food system and a healthy diet for all** by referring to the **importance of millet**

as a nutritious food and the efforts made by India to promote millet and its products during the **International Year of Millets - 2023.**

➢ **Natural and ecological farming** should be promoted to conserve agricultural biodiversity and reduce the use of chemicals.

  ○ **Along with digital farming and precision farming,** initiatives under the **'One Health' approach** are also taking shape in India.

➢ **Highlighted India's statement at the 5th BIMSTEC Summit held in Colombo in March, 2022** on enhancing regional cooperation between BIMSTEC nations for food security, peace and prosperity in the region.

➢ Adopted the **Action Plan for Strengthening BIMSTEC Agricultural Cooperation (2023-2027).**

➢ An MoU (Memorandum of Understanding) between the BIMSTEC Secretariat and the **International Food Policy Research Institute (IFPRI)** has been signed and approval has been given to bring fisheries and livestock sub-sectors under the Agricultural Working Group.

What is BIMSTEC?

➢ **About:**

  ○ The BIMSTEC is a **regional organisation comprising seven Member States:** five deriving from South Asia, including Bangladesh, Bhutan, India, Nepal, Sri Lanka and two from Southeast Asia, including Myanmar and Thailand.

  ○ This sub-regional organisation came into being on **6th June 1997 through the Bangkok Declaration.**

  ○ The BIMSTEC region is **home to around 1.5 billion people which constitute around 22% of the global population** with a combined **Gross Domestic Product (GDP)** of 2.7 trillion economy.

  ○ The BIMSTEC Secretariat is in **Dhaka.**

  ○ **Institutional Mechanisms:**

    ● BIMSTEC Summit

    ● **Ministerial Meeting**

    ● Senior Officials' Meeting

    ● BIMSTEC Working Group

    ● Business Forum & Economic Forum

➢ **Significance:**

  ○ The BIMSTEC has **huge potential as a natural platform for development cooperation** in a rapidly changing geopolitical calculus and can leverage its unique position as a pivot in the **Indo-Pacific region**.

Note:

- ❍ The **growing value of BIMSTEC can be attributed to its geographical contiguity**, abundant natural and human resources, and rich historical linkages and a cultural heritage for promoting deeper cooperation in the region.
- ❍ The **Bay of Bengal region has the potential to become the epicentre of the Indo-Pacific idea**, a place where the strategic interests of the major powers of East and South Asia intersect.
- ❍ It **serves as a bridge between two major high-growth centres of Asia** — South and Southeast Asia.

What are the Challenges with BIMSTEC?

- ➤ **Inconsistency in Meetings: BIMSTEC planned to hold summits every two years**, ministerial meetings every year, but only five summits have taken place in 20 years.

- ➤ **Neglected by member states:** It seems that India has used BIMSTEC only when it fails to work through SAARC in the regional setting and other major members like Thailand and Myanmar are focused more towards ASEAN than BIMSTEC.

- ➤ **Broad Focus Areas:** The focus of BIMSTEC is very wide, **including 14 areas of cooperation like connectivity, public health, agriculture etc.** It is suggested that BIMSTEC should remain committed to small focus areas and cooperate in them efficiently.

- ➤ **Bilateral Issues between Member Nations:** Bangladesh is facing one of the worst refugee crises of Rohingyas from Myanmar who are fleeing prosecution in the state of Rakhine in Myanmar. There is a border conflict between Myanmar and Thailand.

- ➤ **BCIM:** The formation of another sub-regional initiative, the Bangladesh-China-India-Myanmar (BCIM) Forum, with the proactive membership of China, has created more doubts about the exclusive potential of BIMSTEC.

- ➤ **Inadequate Focus on Economic Cooperation:** A quick look at the unfinished tasks and new challenges gives an idea of the burden of responsibilities on the grouping.
  - ❍ **Despite signing a framework agreement for a comprehensive Free Trade Agreement (FTA) in 2004**, BIMSTEC stands far away from this goal.

Black Sea Grain Initiative

Why in News?

Recently, Russia re-joined the **Black Sea Grain Initiative.**

What is the Black Sea Grain Initiative?

- ➤ **About:**
  - ❍ The Black Sea Grain initiative **endeavours to tackle escalating food prices emanating from supply chain disruptions** because of Russian actions in the world's 'breadbasket'.
  - ❍ The deal brokered by the **United Nations (UN)** and Turkey, was signed in Istanbul in July, 2022.

- ➤ **Objective:**
  - ❍ **Initially stipulated for a period of 120 days,** the **deal was to provide for a safe maritime humanitarian corridor for Ukrainian exports (particularly for food grains).**
  - ❍ The **central idea was to calm markets** by ensuring an adequate supply of grains, thereby limiting food price inflation.

- ➤ **Role of Joint Coordination Centre (JCC):**
  - ❍ The deal put in place a **Joint Coordination Centre (JCC)**, comprising senior representatives from Russia, Turkey, Ukraine and the UN for oversight and coordination.
  - ❍ **All commercial ships are required to register directly with the JCC** to ensure appropriate monitoring, inspection and safe passage. Inbound and outbound ships (to the designated corridor) transit as per a schedule accorded by the JCC post-inspection.
    - This is done so as to **ensure there is no unauthorised cargo or personnel onboard.**
    - Following this, **they are allowed to sail onwards to Ukrainian ports** for loading through the designated corridor.

Why is the Black Sea Grain Initiative Important?

- ➤ **Ukraine is among the largest exporters of wheat, maize, rapeseed**, sunflower seeds and sunflower oil, globally.
  - ❍ Its **access to the deep-sea ports in the Black Sea enables it to directly approach Russia and Europe** along with grain importers from the Middle East and North Africa.

- ➤ The **initiative has also been credited for having made a huge difference** to the global cost of living crisis.
  - ❍ **Approximately 9.8 million tonnes of grains have been shipped** since the initiative commenced.

Note:

drishti

○ **People hoarding the grain in the hope of selling it for a sizable profit** owing to the supply crunch were now obligated to sell.

➢ Although the initiative alone cannot address global hunger, it can **avert the chances of the global food crisis spiralling further,** especially when the region is yet to scale prior year levels.

India-US Economic and Financial Partnership Meet

Why in News?

Recently, the 9th Ministerial meeting of the **India-US Economic and Financial Partnership** was held.

➢ The Indian delegation was led by the Union Minister for Finance & Corporate Affairs and the USA delegation was led by the Treasury Secretary.

What are the Key Highlights of the Meet?

➢ **Efforts to Increase Climate Ambition:**
   ○ Both countries shared the **re-energized global efforts to increase climate ambition** as well as respective domestic efforts to meet publicly expressed **climate goals.**

➢ **Macroeconomic Challenges:**
   ○ In the context of the **conflict in Ukraine**, both discussed the **current headwinds to the global macroeconomic outlook** including increased commodity and energy prices as well as supply side disruptions, and reemphasized their commitment to the central role of multilateral cooperation in addressing these global macroeconomic challenges.

➢ **Multilateral Development Banks:**
   ○ They acknowledged the importance of working through MDBS to help India access and mobilize available financing to support development objectives, including **climate action**.
   ○ Both plan to continue engaging on these and other global economic issues multilaterally and bilaterally.

➢ **Equal Debt Treatment:**
   ○ Both sides affirmed their **commitment to debt sustainability, transparency in bilateral lending, and coordinating closely on extending fair and equal debt treatment to countries facing debt distress**.

➢ **G20 Common Framework for Debt Treatment:**
   ○ Both reiterated commitment to step efforts to implement the **G20 Common Framework for Debt Treatment** in a predictable, timely, orderly and coordinated manner.

➢ **Collective Quantified Goal:**
   ○ Both agreed to mobilize USD 100 billion every year till 2025 from public and private sources for developing countries, in the context of meaningful mitigation actions and transparency on implementation.
   ○ The countries also discussed **mutual collaboration in sharing of information to tackle offshore tax** evasion.

➢ **Foreign Account Tax Compliance Act:**
   ○ The two sides will continue to engage in discussions relating to the **Foreign Account Tax Compliance Act (FATCA)** for sharing of financial account information.

How have been India's Relations with the US?

➢ **About:**
   ○ The U.S.-India strategic partnership is founded on shared values including a commitment to democracy and upholding the rules-based international system.
   ○ The United States and India have shared interests in promoting **global security, stability, and economic prosperity** through trade, investment, and connectivity.
   ○ The United States supports **India's emergence as a leading global power and a vital partner** in efforts to safeguard the **Indo-Pacific** as a region **of peace, stability, and growing prosperity.**

➢ **Economic Relations:**
   ○ In 2021, overall U.S.-India bilateral trade in goods and services reached a record **USD 157 billion.**
   ○ The United States is **India's largest trading partner** and most important export market.
   ○ America is one of the few countries with which India has a **trade surplus**. In 2021-22, India had a trade surplus of USD 32.8 billion with the US.

➢ **International Cooperations:**
   ○ India and the United States cooperate closely at multilateral organizations, including the **United Nations**, **G-20**, **Association of Southeast Asian Nations (ASEAN)** Regional Forum, **International Monetary Fund**, **World Bank**, and **World Trade Organization**.

Note:

○ The United States welcomed **India joining the UN Security Council in 2021** for a two-year term and supports a reformed UN Security Council that includes India as a permanent member.

○ Together with Australia and Japan, the **United States and India convene as the Quad to promote a free and open Indo-Pacific** and provide tangible benefits to the region.

○ India is also one of twelve countries partnering with the United States on the **Indo-Pacific Economic Framework for Prosperity (IPEF)**.

○ India is a member of the **Indian Ocean Rim Association (IORA)**, at which the United States is a dialogue partner.

○ In 2021, the United States joined the **International Solar Alliance** headquartered in India, and in 2022 the **United States Agency for International Development (USAID).**

What are the Associated Challenges of India-US Ties?

➢ **Tariff Imposition:** In 2018, the **US imposed a 25% tariff o**n certain steel products and a 10% tariff on certain aluminum products from India.

○ India retaliated in June 2019, by increasing tariffs on 28 products worth about USD 1.2 billion on US imports.

● However, after the imposition of the Section 232 tariffs, steel exports to the US declined by 46% year-on-year.

➢ **Misunderstanding Self-Reliance as Protectionism:** The **Atmanirbhar Bharat Campaign** has exacerbated the view that India is increasingly becoming a protectionist closed market economy.

➢ **Exemption from US' Generalised System of Preferences:** Effective since June 2019, the USA decided to withdraw duty-free benefits to Indian exporters under the GSP programme.

○ Consequently, special duty treatment on USD 5.6 billion worth of exports to the US was removed, affecting India's export-oriented sectors such as pharmaceuticals, textiles, agricultural products and automotive parts.

➢ **US' Hostility towards Other Countries:**

○ Some of the differences between India and the US are not direct consequences of India-US relationship but due to US' hostility towards third countries like Iran and Russia – the traditional allies of India.

○ The other issues that are challenging India-US relationship include India' ties with Iran and India's purchase of S-400 from Russia.

○ The US' call for India to distance itself from Russia may have a far-reaching consequence to South Asia's status quo.

➢ **US' policy in Afghanistan:**

○ India is also concerned over the US' policy in Afghanistan as it is jeopardizing India's security and interest in the region.

India Abstains Russia's UNSC Resolution on Bioweapons

Why in News?

India has abstained from a **UNSC resolution** sponsored **by Russia alleging US and Ukraine** carrying out "**military biological activities**" violating the **Biological Weapons Convention** (BWC).

➢ Before this resolution, India recently **abstained** from another UNSC resolution, which sought to declare **Russia's annexation of four Ukrainian territories as invalid.**

What is the Biological Weapon Convention?

➢ **About Biological Weapons:**

○ Biological weapons use microbiological agents (such as bacteria, viruses or fungi) or toxins to intentionally cause death or harm to humans, animals, or plants.

➢ **Biological Weapon Convention:**

○ **About:**

● Formally known as **"The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction"**, the Convention was negotiated by the **Conference of the Committee on Disarmament in Geneva, Switzerland.**

● It entered into force on 26th March **1975.**

○ **Ambit:**

● It effectively **prohibits the development, production, acquisition, transfer, stockpiling and use** of biological and toxin weapons.

Note:

○ **Significance:**

- It is a key element in the international community's efforts to address the proliferation of the **Weapons of Mass Destruction (WMD).**

- It was the **first multilateral disarmament treaty** banning an entire category of **WMD.**

- It supplements the **1925 Geneva Protocol**, which prohibited only the use of biological (and chemical) weapons in war.

  ▪ The Geneva Protocol was **signed at a conference held in Geneva** under the auspices of the **League of Nations.**

  ▪ It entered into force in **1928.**

  ▪ **India has ratified this protocol.**

○ **Members:**

- The Convention has an **almost universal membership** with **184 States Parties** and **four Signatory States.**

- **India is a signatory** of the convention.

What are UN Resolutions?

➤ **About:** The UN Resolutions and decisions are formal expressions of the opinion or will of UN organs.

  ○ The nature of the resolution determines if it is considered binding on States.

➤ **UNGA Resolutions: Articles 10 and 14 of the UN Charter** refer to General Assembly resolutions as **"recommendations".**

  ○ The recommendatory nature of UNGA resolutions has **repeatedly been stressed by the International Court of Justice.**

  ○ However, some **UNGA resolutions dealing with matters internal to the United Nations**, such as budgetary decisions or instructions to lower-ranking organs, are **clearly binding.**

➤ **UNSC Resolutions:** In general, resolutions adopted by the **UN Security Council** acting under Chapter VII of the Charter, **are considered binding,** in accordance with Article 25 of the Charter.

  ○ However, they are **subject to veto exercised by permanent members** of UNSC.

What has been India's Stand on Previous UN Resolutions Involving Russia and Ukraine?

➤ **India has abstained from the following UN Resolutions:**

○ **US-sponsored UNSC resolution** that deplored in the strongest terms Russia's aggression against Ukraine.

○ **Russia drafted UNSC resolution** on the **Humanitarian situation in Ukraine** calling for a negotiated **ceasefire for enabling safe, rapid, voluntary and unhindered evacuation** of civilians.

○ **Resolution passed at the UN Human Rights Council** to **set up an international commission of enquiry** into Russia's actions in Ukraine.

○ **UNGA resolution that censured Russia for its military actions in Ukraine.**

- There were 34 other nations that abstained from this resolution including China, Pakistan, Bangladesh and Sri Lanka, besides Central Asian and some African countries.

○ **International Atomic Energy Agency (IAEA) resolution related to safety at four nuclear power stations** and a number of nuclear waste sites including **Chernobyl**, as the Russians seized control of them.

Biological Weapon & Chemical Weapon Conventions

Biological Weapon Convention (BWC) 1975

Formal Name:
- The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction.

Negotiated at:
- Conference of the Committee on Disarmament in **Geneva, Switzerland**

Prohibits:
- Development, production, acquisition, transfer, stockpiling and use of **bioweapons**

Members:
- **184 States Parties** and **4 Signatory States (India - Signatory)**

Significance:
- First multilateral disarmament treaty banning an entire category of **Weapons of Mass Destruction (WMD)**
- Supplements the **1925 Geneva Protocol**

Biological weapons use **microbiological agents (such as bacteria, viruses or fungi)** or toxins to intentionally cause death or harm to humans, animals, or plants.

Chemical Weapon Convention (CWC) 1997

Negotiations Began at:
- **UN Conference on Disarmament 1980**

Mandates:
- Destroying old and abandoned chemical weapons
- Members to declare **riot-control agents (tear gas)** in their possession

Established:
- **Organisation for the Prohibition of Chemical Weapons** in 1997 to implement + enforce the terms of the CWC

Members:
- **192 state parties** and **165 signatories (India - Signatory)**

Prohibits:
- Development, production, acquisition, stockpiling, retention, transfer and usage of chemical weapons
- **Assisting other States** to indulge in activities prohibited by the CWC
- Using riot-control devices as **'warfare methods'**

Chemical Weapon is a chemical used to cause intentional **death or harm through its toxic properties.** Also **includes munitions, devices and other equipment** specifically **designed to weaponize toxic chemicals.**

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Social Issues

Highlights

- Child Welfare Police Officers to be Appointed
- Anti-Superstition Laws in India
- Age of Consent for Adolescents
- UDISE Plus Report

- UN Human Rights Council's Universal Periodic Review
- Tackling Malnutrition, Hunger & Food Insecurity
- State of Food and Agriculture Report, 2022
- Self-Employed Women's Association (SEWA)

Child Welfare Police Officers to be Appointed

Why in News?

The Ministry of Home Affairs has asked the States/Union Territories to **appoint a Child Welfare Police Officer (CWPO) in every police station** to exclusively deal with children, either as victims or perpetrators as per the advisory issued by **National Commission for Protection of Child Rights (NCPCR).**

➢ The advisory comes in the backdrop of **increasing number of crimes against children, including murders and offences** under the **Protection of Children from Sexual Offences (POCSO) Act, 2012.**

What is the Advisory Issued by NCPCR?

➢ **At least one officer, not below the rank of an Assistant Sub-Inspector,** must be designated as **CWPO in every police station** as per the provisions under the **Juvenile Justice (Care and Protection of Children) Act, 2015**.

➢ **A Special Juvenile Police Unit** in each district and city **headed by an officer not below the rank of a Deputy Superintendent of Police** should be established.

- ❍ The unit would comprise **CWPOs and two social workers** having experience of working in the field of child welfare, of whom one shall be a woman, to co-ordinate all functions of police in relation to children.

➢ The **contact particulars of the CWPOs should be displayed in all police stations** for the public to contact.

What is the Status of Crimes Against Children in India?

➢ According to the data published by the **National Crime Records Bureau (NCRB):**

- ❍ The **total number of crimes against children increased from 1,28,531 in 2020 to 1,49,404 in 2021.**
  - While **Madhya Pradesh topped the country** with 19,173 cases, **Uttar Pradesh stood second** with 16,838 cases.
- ❍ A total of **1,402 children were murdered across** the country.
- ❍ As many as **1,15,414 cases of kidnapping and abduction involving 1,18,549 children** were reported in 2021.
  - **Uttar Pradesh, Maharashtra,** and **Madhya Pradesh topped the list** in these cases.

What is NCPCR?

➢ NCPCR is a **statutory body** set up in March 2007 under the **Commissions for Protection of Child Rights (CPCR) Act, 2005.**

➢ It is under the administrative control of the **Ministry of Women & Child Development.**

➢ The Commission's mandate is to ensure that all laws, policies, programmes, and administrative mechanisms are in consonance with the **child rights perspective as enshrined in the Constitution of India and also the UN Convention on the Rights of the Child.**

➢ It inquires into **complaints relating to a child's right to free and compulsory education** under the **Right to Education Act, 2009.**

➢ It monitors **the implementation of POCSO Act, 2012.**

What is Juvenile Justice (Care and Protection of Children) Act, 2015?

➢ **It replaced the Juvenile Delinquency Law and the Juvenile Justice (Care and Protection of Children Act) 2000**.

Note:

drishti

➢ The Act **offered provisions to allow trials of juveniles in the age group of 16-18 years** as an adult who were found to be in conflict with the law, especially heinous crimes.

➢ The Act also **offered provisions regarding adoption**. The Act replaced the **Hindu Adoptions and Maintenance Act (1956)** and Guardians of the ward Act **(1890)** with more universally accessible adoption law.

➢ The Act enabled smooth functioning of **adoption procedures for orphans, surrendered,** and abandoned children while making the **Central Adoption Resource Authority (CARA)** the statutory body for adoption-related matters.

What is Protection of Children from Sexual Offences Act, 2012?

➢ It was **enacted to protect the children from offences of sexual assault, sexual harassment and pornography** with due regard for safeguarding the interest and well-being of children.

➢ It **defines** a child as **any person below eighteen years of age** and regards the best interests and welfare of the child as a matter of paramount importance at every stage, to ensure the healthy physical, emotional, intellectual and social development of the child.

➢ It **defines different forms of sexual abuse,** including penetrative and non-penetrative assault, as well as sexual harassment and pornography.

➢ It deems a **sexual assault to be "aggravated" under certain circumstances,** such as when the abused child is mentally ill or when the abuse is committed by a person in a position of trust or authority like a family member, police officer, teacher, or doctor.

➢ It also **casts the police in the role of child protectors** during the investigative process.

➢ The Act stipulates that a **case of child sexual abuse must be disposed of within one year** from the date the offence is reported.

➢ It was **amended in August 2019** to provide **more stringent punishment**, including the death penalty, for sexual crimes against children.

Anti-Superstition Laws in India

Why in News?

The brutal murders as part of "ritualistic human sacrifices" of two women in Kerala have left the **country in shock.**

➢ The murders have sparked a debate about the **prevalence of superstitious beliefs, black magic, and witchcraft in India.**

What is Superstition?

➢ It is a belief related to **ignorance or fear and characterized by obsessive reverence for** reverence for the supernatural.

➢ The term 'Superstition' has been taken from the Latin word '**Superstitio', which indicates extreme fear of the god.**

➢ Superstitions are not country, religion, culture, community, region, caste, or class-specific, it is **widespread and found in every corner of the world.**

What is Black Magic?

➢ Black magic, also known as witchcraft, is the usage **of supernatural power for evil and selfish purposes** and to perform **malicious practices to destroy someone physically or mentally** or financially.

➢ It can be done using the **victim's hair, clothes, photo or looking directly into eyes**.

How Pervasive are Superstitious Killings in India?

➢ As per the 2021 report of the **National Crime Records Bureau (NCRB)**, six deaths were linked to human sacrifices, while witchcraft was the motive for 68 killings.

➢ The **maximum number** of witchcraft cases were **reported from Chhattisgarh (20), followed by Madhya Pradesh (18) and Telangana (11)**.

➢ In 2020, India saw 88 deaths due to witchcraft and 11 died as part of 'human sacrifices', the NCRB report states.
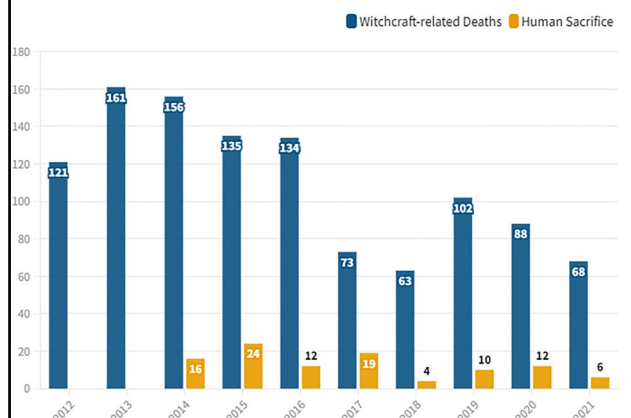
Note:

Witchcraft-related and child/human sacrifice-related deaths 2012-21

Data for child/human sacrifice-related deaths in 2012 and 2013 is not accounted for in the NCRB

■ Witchcraft-related Deaths ■ Human Sacrifice

121, 161, 156, 135, 134, 73, 63, 102, 88, 68 (Witchcraft-related Deaths 2012-2021)
16, 24, 12, 19, 4, 10, 12, 6 (Human Sacrifice 2014-2021)

What are the Related Laws in India?

➢ In India, there is no central law that exclusively deals with crimes related to witchcraft, superstition, or occult-inspired activities.

➢ In 2016, Prevention of Witch-Hunting Bill was introduced in the Lok Sabha, but it wasn't passed.
   ○ The draft provisions included **punishment for accusing or identifying a woman as a witch, use of criminal force** against a woman, or torture or humiliation on the pretext of performing witchcraft.

➢ Section 302 (punishment for murder) of **IPC (Indian Penal Code)** takes cognisance of human sacrifice, but o**nly after the murder is committed,** likewise, Section 295A works to discourage such practices.

➢ **Article 51A (h) of the Indian Constitution makes it a fundamental duty for Indian citizens to develop the scientific temper**, humanism and the spirit of inquiry and reform.

➢ Other provisions under the **Drugs and Magic Remedies Act, 1954** also aim to tackle the **debilitating impact of various superstitious activities** prevalent in India.

What are the State-Specific Laws?

➢ **Bihar:**
   ○ Bihar was the **first State to enact a law** to prevent witchcraft, identification of a woman as a witch and eliminate torture, humiliation and killing of women.

   ○ The Prevention of Witch (Daain) Practices Act came into force in October 1999.

➢ **Maharashtra:**
   ○ In 2013 Maharashtra enacted the **Maharashtra Prevention and Eradication of Human Sacrifice and Other Inhuman**, Evil and Aghori Practices and Black Magic Act, which banned the practice of human sacrifice in the state.
   ○ A section in the legislation specifically deals with claims made by 'godmen' who say they have supernatural powers.

➢ **Karnataka:**
   ○ Karnataka effected anti-superstition law in 2017 known as the **Karnataka Prevention and Eradication of Inhuman Evil Practices and Black Magic Act**.
   ○ The Act comprehensively counters "inhumane" practices linked to religious rituals.

➢ **Kerala**:
   ○ Kerala does **not have a comprehensive Act** to deal with black magic and other superstitions.

What is the Need for Country-Wide Anti-superstition Act?

➢ Allowing the unhindered continuance of such practices **violates an individual's fundamental right to equality and right to life** under **Articles 14 and 21 of the Indian Constitution** respectively.

➢ Such acts also violate several provisions of various international legislations to which India is a signatory, such as the '**Universal Declaration of Human Rights, 1948', 'The International Covenant on Civil and Political Rights, 1966**', and 'Convention on the Elimination of All Forms of Discrimination against Women, 1979'.

➢ Only eight states in India have witch-hunting legislations so far.
   ○ These include Bihar, Chhattisgarh, Jharkhand, Odisha, Rajasthan, Assam, Maharashtra and Karnataka.

➢ In the absence of measures to tackle superstitions, unscientific and irrational practices such as **faith healing, quackery, and misinformation regarding medical procedures can also balloon up**, which can have severe detrimental effects on public order and health of citizens.

Note:

Age of Consent for Adolescents

Why in News?

Recently, Karnataka High Court, while dismissing a case filed under the **Protection of Children from Sexual Offences Act, 2012 (POCSO Act)**, saying the Law Commission of India will have to rethink the age of consent for Adolescents.

➢ The court said, the aspect of consent by a girl of 16 years, but who is below 18 years, would have to be considered, if it is indeed an offense under the **Indian Penal Code and/or the POCSO Act.**

What is the POCSO Act, 2012?

➢ It defines a child as any person **below eighteen years of age and regards the best interests** and welfare of the child as a matter of paramount importance at every stage, to ensure the **healthy physical, emotional, intellectual and social development** of the child.

➢ It defines different forms of sexual abuse, **including penetrative and non-penetrative assault**, as well as sexual harassment and pornography.

➢ It deems a sexual assault to be "aggravated" under certain circumstances, such as when the abused child is mentally ill or when the abuse is committed by a person in a position of trust or authority like a family member, police officer, teacher, or doctor.

➢ It also casts the police in the role of child protectors during the investigative process.

➢ The Act stipulates that a case of child sexual abuse **must be disposed of within one year** from the date the offence is reported.

➢ It was **amended in August 2019** to provide more stringent punishment, including the death penalty, for sexual crimes against children.

What are the Related Concerns?

➢ **Misuse of the Law:**
  ○ There have been several instances in the past few years when the **courts have quashed criminal proceedings** of rape and kidnapping, after being convinced that the **law was being misused to suit one or the other party.**
  ○ In many cases, a couple elopes fearing opposition from parents resulting in a situation where families file a case with the police, who then book the boy for rape under the POCSO Act and abduction with the intent to marry under IPC or the Prohibition of Child Marriage Act, 2006.
    ● Even **if the girl is 16 years old**, she is considered a **"child" under the POCSO Act** and hence **her consent does not matter**, and **any sexual intercourse is treated as rape**, thus opening it up to stringent punishment.

➢ **Criminal Justice System:**
  ○ A number of young couples in consensual and non-exploitative relationships have found **themselves embroiled in the criminal justice system.**

➢ **Blanket Criminalisation:**
  ○ Consensual sexual acts involving older adolescents **erodes their dignity, best interests, liberty, privacy,** evolving autonomy, and development potential.

➢ **Burden on Courts:**
  ○ It also **impacts the delivery of justice** as these cases constitute a large burden on courts.
  ○ They **divert attention from investigation and prosecution of actual cases** of child sexual abuse and exploitation.

UDISE Plus Report

Why in News?

Recently, the Union Education Minister released the **Unified District Information System for Education (UDISE) Plus 2021-22 report on school education.**

➢ The Ministry of Education also **released the Performance Grading Index (PGI) for 2020-21**.

What is the UDISE Plus Report?

➢ It is a comprehensive study that **provides information on enrollment and dropout rates of school students**, number of teachers in schools, and information on other infrastructural facilities like toilets, buildings and electricity.

➢ It was **launched in 2018-2019 to speed up data entry, reduce errors**, improve data quality and ease its verification.

➢ It is an **application to collect the school details** about factors related to a school and its resources.

➢ It is an **updated and improved version of UDISE**, which was initiated in 2012-13 by the Ministry of Education.

What are the Findings of the UDISE Plus 2021-22 Report?

➢ **Decline in Enrolments:**

  ○ **Pre-Primary Level:**

  - A **total of 94.95 lakh students entered pre-primary classes in 2021-2022**, registering a drop of 10% as compared to the previous year when 1.06 crore children enrolled in these classes.

  - However, in 2020-2021, there was **already a decline of 21% enrolment in pre-primary classes as compared to 1.35 crore the year** before as the pandemic and lockdown measures resulted in school closures and classrooms moving online

  ○ **Primary and Higher Secondary Level:**

  - Enrolment in primary classes (classes 1 to 5) also **saw a drop for the first time**—falling from 12.20 lakh in 2020-2021 to 12.18 lakh in 2021-2022.

  - However, the total number of students from **primary to higher secondary increased by 19 lakhs to 25.57 crores.**

➢ **Decline in Number of Schools:**

  ○ **Total number of schools in 2021-22 stood at 14.89 lakhs** compared to 15.09 lakhs in 2020-21.

  - The decline was **mainly due to closure of private and other management schools** and grouping/clustering of schools by various states.

  ○ There were also **1.89 lakh fewer teachers** as their number reduced from 96.96 lakh in 2020-2021 to 95.07 lakh in 2021-2022.

➢ **Computer Facilities and Internet Access:**

  ○ **Computer facilities were available in 44.75% of schools**, while Internet access was available only in 33.9% of schools.

  ○ However, **their availability has improved as compared to pre-covid** when only 38.5% of schools had computers and 22.3% had Internet facilities.

➢ **Gross Enrolment Ratio (GER):**

  ○ **It compares the enrolment in a specific level of education** to the population of the corresponding age group.

  - **Overall Improvement:**

    ▪ The GER for the primary section has **improved from 101.3% in 2018-2019 to 104.8% in 2021-2022.**

    ▪ For secondary classes, it has **risen to 79.6% in 2021-22**, from 76.9% in 2018-19 and for higher secondary level, it has **increased from 50.14% to 57.6%.**

  ● **Category-wise Improvement:**

    ▪ Total number of **Scheduled Caste** enrolment **increased to 4.82 Crore** in 2021-22 as compared to 4.78 Crore in 2020-21.

    ▪ Total **Scheduled Tribe enrolment increased to 2.51 crore** in 2021-22 from 2.49 crore in 2020-21.

    ▪ Total **other backward students** also increased to 11.48 crore in 2021-22 from 11.35 crore in 2020-21.

    ▪ **Total enrollment of Children with Special Needs (CWSN)** in 2021-22 stands at 22.67 lakh as compared to 21.91 lakh in 2020-21.

➢ **Gender Parity Index (GPI):**

  ○ In 2021-22 over **12.29 crore girls are enrolled in primary to higher secondary** showing **an increase** of 8.19 lakh compared to the enrolment of girls in 2020-21.

  - The Gender Parity Index (GPI) of GER indicates **the representation of girls in school with respect to their population in the corresponding age group.**

What is the Performance Grading Index?

➢ **About:**

  ○ It is an **evidence-based comprehensive analysis of the school education system** across states and Union Territories.

  ○ The Index **classifies States and Union Territories into 10 grades** based on their score out of a total 1,000 points.

  - The highest achievable Grade is Level 1, **which is for State/UT scoring more than 950 points out of a total of 1000 points.**

  - The lowest grade is Level 10 which is for scores below 551.

  ○ Their performance is assessed on a **total of 70 indicators in five domains**.

  - The **five domains are** learning outcome, access, infrastructure and facilities, equity and governance process.

○ The Index is **based on data drawn from several data sources**, including the Unified District Information System for Education Plus (UDISE +) 2020-21, **National Achievement Survey NAS 2017**, and **Mid Day Meal Portal**.

➢ **Objective:**

○ The prime objective of PGI is to **promote evidence-based policymaking and highlight course correction** to ensure quality education for all.

○ The PGI is **expected to help States and UTs to pinpoint the gaps** and accordingly prioritize areas for intervention to ensure that the school education system is robust at every level.

What are the Findings of the PGI?

➢ **States attained Level 2:**

○ A total of 7 States and UTs, Viz., **Kerala, Punjab, Chandigarh, Maharashtra, Gujarat, Rajasthan, and Andhra Pradesh** have attained Level II (score 901-950) in 2020-21 as compared to none in 2017-18 and 4 in 2019-20.

● Gujarat, Rajasthan and Andhra Pradesh are the new entrants to the highest achieved level of any state so far.

➢ **States attained Level 3:**

○ A total of 12 States and UTs, including **Delhi, Tamil Nadu, Karnataka and Odisha, attained** Level 3 with a score between 851-900.

➢ **Biggest Improvement:**

○ **Ladakh has seen the biggest improvement** by climbing up from Level 10 in 2019-2020 to Level 4 in 2020-2021.

What is the State of Education System in India?

➢ **About:**

○ **According to PGI, the Indian Education System is one of the largest in the world** with about 14.9 lakh schools, 95 lakh teachers, and nearly 26.5 crore students.

○ The current state of Education **faces major challenges like lack of adequate infrastructure, low government expenditure on education** (less than 3.5% of the GDP).

➢ **Related Initiatives:**

○ **National Programme on Technology Enhanced Learning.**

○ **Sarva Shiksha Abhiyan**
○ **PRAGYATA**
○ **Mid Day Meal Scheme**
○ **Beti Bachao Beti Padhao**
○ **PM SHRI Schools**

UN Human Rights Council's Universal Periodic Review

Why in News?

Recently, the **Human Rights Council (HRC) Universal Periodic Review (UPR)** session was held in Geneva, where India's human rights record was examined by the **Universal Periodic Review (UPR) Working Group.**

What is UPR?

➢ **About:**

○ The UPR is a unique process which **involves a periodic review of the human rights records of all 193 UN Member States**.

○ Since its first meeting was held in April 2008, all 193 UN member States have been reviewed **thrice within the first, second and third UPR cycles.**

○ The ultimate aim of this mechanism is t**o improve the human rights situation in all countries and address human rights violation**s wherever they occur. Currently, no other universal mechanism of this kind exists.

○ During the review process, **States outline specific steps they have taken to implement recommendations** posed during their previous reviews and highlight their recent human rights developments.

➢ **UPR for India:**

○ The three country representatives serving as rapporteurs ("troika") for the review of India are: **Sudan, Nepal and the Netherlands.**

○ This review marks the beginning of the **UPR fourth cycle**. India's first, second and third UPR reviews took place in April 2008, May 2012 and May 2017, respectively.

➢ **Reviews are Based on:**

○ National report - information provided by the State under review

Note:

○ Information contained in the reports of independent human rights experts and groups, known as the Special Procedures, human rights treaty bodies, and other UN entities

○ Information provided by other stakeholders including national human rights institutions, regional organizations and civil society groups.

What are the Highlights of the Review?

➢ Greece, the Netherlands and Vatican City called upon the Government of India to ensure **freedom of religion and end discrimination against human rights defenders** and religious minorities.

○ India appreciates the role of human rights defenders, journalists and activists in the democratic system but the activities of these groups and individuals should be in conformity with the law of the land.

➢ **Germany** expressed concern about the **rights situation in India** especially religious minorities as well as women and girls.

➢ Germany also said that the **Foreign Contribution Regulation Act** should not "unduly restrict" the "freedom of association" in India.

○ The **German representative called upon India to strengthen the National Human Rights Commission** and said the discrimination against Dalits should end.

➢ Nepal called for India to **strengthen measures to end violence against women** and end child marriage.

➢ Russia asked India to continue to **take policies that will eradicate poverty** and called for "responsible corporate behaviour".

➢ India said that actions were taken against some organizations due to their illegal practices including malafide re-routing of money and wilful and continuing violations of extant legal provisions, foreign exchange management rules and tax law of India.

What is UNHRC?

➢ **About:**

○ The Human Rights Council is an inter-governmental body within the United Nations system responsible for strengthening the promotion and protection of **human rights** around the world.

➢ **Formation:**

○ The Council was created by the United Nations General Assembly in 2006. It replaced the former United Nations Commission on Human Rights.

○ The Office of the High Commissioner for Human Rights (OHCHR) serves as the Secretariat of the Human Rights Council.

○ OHCHR is headquartered in **Geneva, Switzerland.**

➢ **Members:**

○ It is made up of 47 United Nations Member States which are elected by the UN General Assembly (UNGA).

○ The Council's Membership is based on equitable geographical distribution. Seats are distributed as follows:

● African States: 13 seats

● Asia-Pacific States: 13 seats

● Latin American and Caribbean States: 8 seats

● Western European and other States: 7 seats

● Eastern European States: 6 seats

○ Members of the Council serve for a period of **three years** and are not eligible for immediate re-election after serving two consecutive terms.

➢ **Procedures and Mechanisms:**

○ **Advisory Committee:** It serves as the Council's "think tank" providing it with expertise and advice on thematic human rights issues.

○ **Complaint Procedure:** It allows individuals and organizations to bring human rights violations to the attention of the Council.

○ **UN Special Procedures:** These are made up of **special rapporteurs**, special representatives, independent experts and working groups that monitor, examine, advise and publicly report on thematic issues or human rights situations in specific countries.

Tackling Malnutrition, Hunger & Food Insecurity

Why in News?

India is not on track to achieve the 2030 targets for eradicating hunger, food insecurity and malnutrition.

➢ According to the **2021 Global Nutrition Report**, India is not on track on achieving five of the six global maternal, newborn and young child nutrition targets to address — stunting, wasting, anaemia, low birth weight and childhood obesity.

➤ Six global nutrition targets were set by the World Health Organization in 2012, which are to be achieved by 2025.

What are the Factors Contributing to Food Insecurity and Malnutrition?

➤ **Current Policies:**
  ○ The current policies have encouraged modern agri-food systems to price healthy diets many times more than diets that rely on staple cereals.
  ○ These restrictions have made low-cost foods with a high energy density and little nutritious value more popular.

➤ **Extinction of Traditional Crops:**
  ○ Future smart crops — such as amaranthus, buckwheat, minor millet, finger millet, proso millet, foxtail millet and pulses — were traditionally grown in India, making them an important source of food and nutrition security.
  ○ These traditional crops are gradually becoming extinct for various reasons.
    ● A lack of knowledge about their nutritional worth, viable local markets for the output and the rising demand for cash crops are fuelling their extinction.

➤ **Unbalanced Diet:**
  ○ In recent years, unanticipated forces in the socio-cultural value system have changed eating habits and diets worldwide.

➤ **Various Factors:**
  ○ Such factors include — conflict, climate extremes, economic shocks and growing inequality.
  ○ These factors frequently occur in combination, complicating fiscal situations and the efforts towards mitigating the same.

What are the Related Initiatives?

➤ **POSHAN Abhiyaan:** The government of India has launched the National Nutrition Mission (NNM) or POSHAN Abhiyaan to ensure a "Malnutrition Free India" by 2022.

➤ **Anemia Mukt Bharat Abhiyan:** Launched in 2018, the mission aims at accelerating the annual rate of decline of anaemia from one to three percentage points.

➤ **Mid-day Meal (MDM) scheme:** It aims to improve nutritional levels among school children which also has a direct and positive impact on enrolment, retention and attendance in schools.

➤ **The National Food Security Act (NFSA), 2013:** It aims to **ensure food and nutrition security for the most vulnerables** through its associated schemes and programmes, making access to food a legal right.

➤ **Pradhan Mantri Matru Vandana Yojana (PMMVY):** Rs.6,000 is transferred directly to the bank accounts of pregnant women for availing better facilities for their delivery.

➤ **Integrated Child Development Services (ICDS) Scheme:** It was launched in 1975 and the scheme **aims at providing food, preschool education, primary healthcare, immunization, health check-up and referral services** to children under 6 years of age and their mothers.

State of Food and Agriculture Report, 2022

Why in News?

Recently, the 2022 edition of the State of Food and Agriculture report by the **Food and Agriculture Organization (FAO)** was released.

➤ The **flagship report is produced each year.**

➤ The report looked at how automation in our agrifood systems can contribute to achieving **Sustainable Development Goals** and offers recommendations to policy makers on how to maximize the benefits and minimize the risks.

> **What is Agriculture Automation?**
> ➤ Agricultural automation, which includes **anything from tractors to artificial intelligence,** plays an important role in making food production more efficient and environmentally friendly.
> ➤ But it can also **deepen inequalities if it remains inaccessible** to small-scale producers and other marginalised groups.

What are the Highlights of the Report?

➤ The report looked at 27 case studies from all over the world, representing different technologies.
  ○ Only 10 of the 27 service providers are profitable and financially sustainable.

➤ There is an **unequal progress toward mechanization among regions**, according to available statistics on the number of tractors per 1,000 hectares of arable land.

➤ High-income countries in North America, Europe and Oceania were highly mechanised by the 1960s. But regions dominated by **low-and middle-income countries were less mechanised**.

➤ Crucially, **there are wide disparities in the spread of automation** between and within countries, with adoption being particularly limited in sub-Saharan Africa.

  ❍ For instance, **Japan had more than 400 tractors per 1,000 hectares of arable land,** compared with just 0.4 in Ghana in 2005.

  ❍ Agriculture reliant on human and animal power continues to dominate in sub-Saharan Africa, limiting productivity.

What are the Recommendations?

➤ An agricultural automation policy should ensure that **agrifood systems are sustainable and resilient.**

➤ **Policymakers should avoid subsidising automation** in such labour-abundant contexts.

  ❍ Agricultural automation can lead to unemployment in places where rural labour is abundant and wages are low.

➤ Policymakers **should focus on creating an enabling environment for adopting automation**.

➤ **Social protection should be provided to the least skilled workers**, who are more likely to lose their jobs during the transition.

What is the Food and Agriculture Organization?

➤ **About:**

  ❍ FAO is a specialised agency of the **United Nations** that leads international efforts to defeat hunger.

  ❍ **World Food Day** is celebrated every year around the world on 16th October. The day is celebrated to mark the anniversary of the founding of the FAO in 1945.

  ❍ It is one of the UN food aid organisations based in Rome (Italy). Its sister bodies are the **World Food Programme** and the International Fund for Agricultural Development (IFAD).

➤ **Initiatives Taken:**

  ❍ **Globally Important Agricultural Heritage Systems (GIAHS).**

  ❍ Monitors the **Desert Locust** situation throughout the world.

  ❍ The **Codex Alimentarius Commission or CAC** is the body responsible for all matters regarding the implementation of the Joint FAO/WHO Food Standards Programme.

  ❍ The **International Treaty on Plant Genetic Resources for Food and Agriculture** was adopted by the Thirty-First Session of the Conference of the FAO in 2001.

➤ **Flagship Publications:**

  ❍ The State of World Fisheries and Aquaculture (SOFIA).

  ❍ The State of the World's Forests (SOFO).

  ❍ **The State of Food Security and Nutrition in the World (SOFI).**

  ❍ The State of Agricultural Commodity Markets (SOCO).

Self-Employed Women's Association (SEWA)

Why in News?

Recently, Elaben Bhatt, renowned founder of the Self-Employed Women's Association (SEWA), passed away.

Who was Elaben Bhatt?

➢ She was a noted **Gandhian, leading women's empowerment activist**.

➢ For her work, **Elaben received numerous accolades** and was conferred several national and international awards including **Padma Bhushan**, **Magsaysay Award** and the **Indira Gandhi Sadbhavna Award**.

➢ She was a **Member of Parliament** and of the **Planning Commission** of the Government of India.

➢ She **used all these opportunities to bring about a structural improvement** in the condition of Indian women.

➢ She joined the **Textile Labour Association in 1955**, a union that emerged after a textile strike led by **Mahatma Gandhi in 1918.**

➢ **Ela Bhatt's work at the women's wing of the union** and continuous interaction with women migrants in the **textile sector led her to conceptualize the self-help group.**

What is the Self-Employed Women's Association (SEWA)?

➢ **SEWA** was born out of the **Textile Labour Association (TLA)** founded by Anasuya Sarabhai and Mahatma Gandhi in 1920 but it could not register as a trade union until 1972 because its members did not have an "employer" and were thus not seen as workers.

   ❍ In 1981, after the anti-reservation riots in which the Bhatts were targeted for supporting quotas for Dalits in medical education, the **TLA broke up with SEWA**.

➢ As early as in 1974, SEWA Bank was established to provide small loans to poor women.

➢ It is an initiative that was recognised by the **International Labour Organisation** as a microfinance movement.

➢ With an **annual membership fee of just Rs 10**, SEWA allows anyone who is self-employed to become a member.

➢ Its network is spread across 18 Indian states, in other countries of South Asia, in South Africa, and Latin America.

➢ It has **helped rehabilitate women in personal**, and even political or social crises, by empowering them through skilling and training.

➢ It **simultaneously provided employment to women and promoted cooperative production**, consumption and marketing of textiles which constituted the core of India's industrialisation.

➢ It also **decisively influenced the course of trade unionism** and labor movement in India.

What are the Achievements of SEWA?

➢ The **Unorganised Workers Social Security Act** (2008), the **National Rural Livelihoods Mission** (2011), and the **Street Vendors Act** (2014), are seen as successes of SEWA's struggle.

➢ The **PM Street Vendors Atmanirbhar Nidhi (PM-SVANidhi) scheme** is seen as being inspired by SEWA's microfinance model.

➢ During the pandemic, SEWA launched **Anubandh, an e-commerce platform** to connect sellers with buyers, to keep kitchen fires burning through the lockdowns.

➢ The efforts of SEWA to c**hange the lives of over 2.1 million members** and many more around the world have long been recognised as a model for the world.

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Science & Technology

Highlights

- Asian Conference on Diarrhoeal Disease and Nutrition
- Dengue
- India's First Private Launch Vehicle
- Growing Demand of DNA Tests
- Coronal Holes

- Cordy Gold Nanoparticles
- RISAT-2
- Xenotransplantation
- Indian Biological Data Centre

Asian Conference on Diarrhoeal Disease and Nutrition

Why in News?

Recently, Union Minister addressed **16th Asian Conference on Diarrhoeal Disease and Nutrition (ASCODD) at Kolkata.** Delegates from India and other South East Asian countries, African countries, US, European countries joined the conference virtually.

What are the Key Highlights of the Conference?

➤ The theme of the ASCODD was **"Prevention and control of cholera, typhoid and other enteric diseases in low and middle-income countries through community participation: beyond the SARS-CoV-2 pandemic"**.

➤ The conference program focuses on the latest issues in enteric infections, nutrition, policy, and Practice including **roadmap to end Cholera by 2030**, **Cholera vaccine development** and rapid diagnostics, contemporary **perspectives of antimicrobial resistance of enteric bacteria**: new Initiatives and challenges, enteric bacterial infections, including Shigella spp, epidemiology, burden, and v**accines against other viral infections,** including Hepatitis, lessons learned about diarrhoea research during the COVID pandemic.

➤ Indian initiatives under **Digital India initiative such as Online Registration System, eHospital** for hospital management, **eSanjeevani telemedicine app** were highlighted.

What is Diarrhoeal Disease?

➤ **About:**
  - ○ **Diarrhoea** is defined as the **passage of three or more loose or liquid stools per day (or more frequent passage than is normal for the individual).**
  - ○ The most severe threat posed by diarrhoea is dehydration.
    - During a diarrhoeal episode, **water and electrolytes (sodium, chloride, potassium and bicarbonate) are lost through liquid stools, vomit, sweat, urine** and **breathing.**
    - Dehydration occurs when these losses are not replaced.

➤ **Statistics:**
  - ○ Diarrhoeal disease is the **second leading cause of death in children under five years old.**
    - Each year diarrhoea kills around 525,000 children under five.
  - ○ Globally, there are **nearly 1.7 billion cases of childhood diarrhoeal disease** every year.

➤ **Clinical Types:**
  - ○ **Acute Watery Diarrhoea** – lasts several hours or days, and includes cholera;
  - ○ **Acute Bloody Diarrhoea** – also called dysentery; and
  - ○ **Persistent Diarrhoea** – lasts 14 days or longer.

➤ **Causes:**
  - ○ **Infection:** Diarrhoea can be caused by **bacterial infections such as cholera and typhoid, or by viral and parasitic organisms**, most of which are spread by faeces-contaminated water.
  - ○ **Malnutrition:** Children who die from diarrhoea often suffer from underlying malnutrition, which makes them more vulnerable to diarrhoea.

○ **Contaminated Food and Water:** Contamination with human faeces, for example, from sewage, septic tanks and latrines, is of particular concern. Animal faeces also contain microorganisms that can cause diarrhoea.

➢ **Prevention:**
  ○ Access to safe drinking-water;
  ○ Use of improved sanitation;
  ○ Hand washing with soap;
  ○ Exclusive breastfeeding for the first six months of life;
  ○ Good personal and food hygiene;
  ○ Health education about how infections spread; and
  ○ Rotavirus vaccination.

➢ **Treatment:**
  ○ **Rehydration with Oral Rehydration Solution (ORS):** ORS is a mixture of clean water, salt and sugar. It costs a few cents per treatment. ORS is absorbed in the small intestine and replaces the water and electrolytes lost in the faeces.
  ○ **Zinc Supplements:** Zinc supplements reduce the duration of a diarrhoea episode by 25% and are associated with a 30% reduction in stool volume.
  ○ **Rehydration with Intravenous Fluids:** This is done in case of severe dehydration or shock.
  ○ **Nutrient-rich Foods:** The vicious circle of malnutrition and diarrhoea can be broken by continuing to give nutrient-rich foods – including breast milk – during an episode, and by giving a nutritious diet – including exclusive breastfeeding for the first six months of life – to children when they are well.
  ○ **Consulting a Health Professional:** For management of persistent diarrhoea or when there is blood in stool or if there are signs of dehydration.

What are the Related Initiatives by India?

➢ **Intensified Diarrhoea Control Fortnight (IDCF):** To increase **awareness about use of ORS and Zinc in diarrhoea,** ICDF is being observed during pre-monsoon/ monsoon season, with the aim of **'zero child deaths due to childhood diarrhoea' since 2014.**

➢ **Integrated Action Plan for Prevention and Control of Pneumonia and Diarrhoea (IAPPD):** In **2014,** India launched the **Integrated Action Plan for Prevention and Control of Pneumonia and Diarrhoea (IAPPD)** to undertake collaborative efforts towards prevention of diarrhoea and pneumonia-related under-five deaths.

➢ **Universal Immunization Programme (UIP):** It was launched by the government in **1985** and **prevents mortality and morbidity in children and pregnant women against 12 vaccine-preventable diseases** including pneumonia and diarrhoea.

➢ **Social Awareness and Action to Neutralise Pneumonia Successfully (SAANS) Campaign**: It seeks to **reduce child mortality due to pneumonia,** which contributes to around 15% of deaths of children under the age of five annually.

➢ **Rotavirus Vaccine Drive:** In **2019,** the government of India launched a **rotavirus vaccine drive** across all states and Union Territories, which was an **unprecedented national scale-up of the rotavirus vaccine**.

Dengue

Why in News?

According to a study, the ongoing spread of **Dengue** in India has been attributed to a late withdrawal of monsoon.

➢ Dengue transmission is closely associated with three key factors — **rainfall, humidity and temperature** — which dictate the geographies in which dengue spreads and the transmission rate.

What are the Highlights of the Study?

➢ In India, the **number of months suitable for dengue transmission by Aedes aegypti mosquitoes** has risen to 5.6 months each year.
  ○ It accounts for a **1.69% increase between 1951-1960 and 2012-2021**.

➢ The study projected **"expansion of Aedes aegypti in the hot arid regions of the Thar Desert** and Aedes albopictus in cold upper Himalayas as a result of future climatic changes.
  ○ Dengue spreads through the bite of two mosquitoes — **Aedes aegypti and Aedes albopictus.**
    • Currently, **Aedes aegypti is prevalent in the southern peninsula, eastern coastline**, north-eastern states and the northern plains.
    • Aedes albopictus dominates the eastern and western coastlines, north-eastern states and the lower Himalayas.

Note:

What is Dengue?

➢ **About:**
   ○ Dengue is a mosquito-borne tropical disease caused by the **dengue virus (Genus Flavivirus)**, transmitted by several species of female mosquito within the genus Aedes, principally Aedes aegypti.
      ● This mosquito also transmits **chikungunya**, yellow fever and **Zika infection.**
   ○ There are 4 distinct, but closely related, serotypes (separate groups within a species of microorganisms that all share a similar characteristic) of the virus that cause dengue (DEN-1, DEN-2, DEN-3 and DEN-4).

➢ **Symptoms:**
   ○ Sudden high fever, severe headaches, pain behind the eyes, severe bone, joint, and muscle pain, etc.

➢ **Diagnosis and Treatment:**
   ○ Diagnosis of dengue infection is done with a blood test.
   ○ There is no specific medicine to treat dengue infection.

➢ **Status of Dengue:**
   ○ **Incidence of dengue has grown dramatically** around the world in recent decades, with a vast majority of cases under-reported, according to the **World Health Organization (WHO).**
   ○ WHO estimates 39 crore dengue virus infections per year, of which 9.6 crore show symptoms.
   ○ According to data shared by the **National Center for Vector Borne Diseases Control**, India recorded 63,280 dengue cases as of September, 2022

➢ **Controlling Dengue Using Bacteria:**
   ○ Recently researchers from the World Mosquito Program have used mosquitoes infected with Wolbachia bacteria to **successfully control dengue** in Indonesia.
   ○ **Method:**
      ● The scientists infected some mosquitoes with Wolbachia and then released them in the city where they bred with local mosquitoes, until nearly all mosquitoes in the area were carrying Wolbachia bacteria. This is called the **Population Replacement Strategy**.
      ● At the end of 27 months, the researchers found that the incidence of dengue was 77% lower in areas where Wolbachia-infected mosquitoes had been released, as compared to areas without such deployments.

➢ **Dengue Vaccine:**
   ○ The dengue vaccine CYD-TDV or **Dengvaxia** was approved by the US Food & Drug Administration in 2019, the first dengue vaccine to get the regulatory nod in the US.
      ● Dengvaxia is basically a **live, attenuated dengue virus** which has to be administered in people of ages 9 to 16 who have laboratory-confirmed previous dengue infection and who live in endemic areas.
   ○ **Vaccine manufacturer Indian Immunologicals Limited (IIL) is developing India's first Dengue vaccine** and has received permission for a Phase-1 trial.
      ● The vaccine is being produced in collaboration with the National Institutes of Health in the US.

India's First Private Launch Vehicle

Why in News?

Space technology startup Skyroot Aerospace is set to **make history by sending India's first privately developed rocket Vikram-S** into space between 12th and 16th November, 2022 under the **'Prarambh' Mission.**

➢ Skyroot Aerospace is an **Indian startup in the aerospace business.**

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➢ Skyroot Aerospace will launch Vikram-S between Nov 12 & 16 from Sriharikota

➢ It will carry three sats, including one **made by students of Space Kidz India**

➢ Rocket has got **technical launch nod** from IN-SPACe

Note:

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What is Vikram-S?

➢ The **Vikram-S rocket is a single-stage sub-orbital launch vehicle** which would carry three customer payloads.

- ○ Sub-orbital flight are those vehicles which are travelling slower than the orbital velocity – meaning it is fast enough to reach outer space but not fast enough to stay in an orbit around the Earth.

➢ It would **help test and validate the majority of the technologies in the Vikram series** of space launch vehicles.

- ○ Skyroot has been **working on three different Vikram rocket versions.**
- ○ The Vikram-I can launch with 480 kilograms of payload, whereas the Vikram-II is designed to do so with 595 kilos and Vikram-III has a 500 km Low Inclination Orbit launch capability with 815 kg.

What is the Prarambh Mission?

➢ The Prarambh mission is **aimed at carrying three payloads into space**, including a 2.5-kilogram payload that has been developed by students from several countries.

➢ The Prarambh mission and the Vikram-S rocket were developed by the Hyderabad-based startup with extensive support from **Indian Space Research Organisation (ISRO)** and **IN-SPACe (Indian National Space Promotion and Authorisation Centre)**.

Growing Demand of DNA Tests

Why in the News?

Recently, the **Supreme Court** has expressed concern about growing uses of **Deoxyribonucleic Acid (DNA) Tests** in court cases.

What are the Issues involved?

➢ A growing number of complainants are asking for **DNA tests.** Such demands, according to the government laboratory, are growing by around 20% annually.

➢ Although the **3,000-odd DNA tests** performed yearly by Indian laboratories are insignificant in comparison to the **70 other nations** that rely on **DNA Technology,** the spike in demand contradicts worries about privacy and probable data abuse.

➢ **DNA tests** fall into a gray area in the **pursuit of justice,** bridging the gap between the **'eminent need'** to **uncover the truth,** whether it be in the form of evidence in a **criminal case, a claim of marital infidelity, or proving paternity.** and the risks of slipping into **self-incrimination** and **encroachment on individual privacy.**

➢ This brings attention to the **expanding use of technology** for **improving the process of justice but** it also **violates people's privacy**

- ○ As part of the **right to life under Article 21**, the Supreme Court acknowledged that **bodily autonomy and privacy are part of fundamental right.**

What is Deoxyribonucleic Acid (DNA)?

➢ **Deoxyribonucleic acid (DNA)** is an organic molecule with a complex molecular structure.

➢ **DNA** molecule's strands are made up of a long chain of **monomer nucleotides.** It is arranged in **a double helix structure.**

➢ **James Watson** and **Francis Crick** discovered that **DNA** is a **double-helix polymer** in **1953.**

➢ It is essential for the transfer of the **genetic characteristic** of the living being from one generation to the other generation.

➢ The majority of **DNA** is found in the **cell nucleus** so it is called **nuclear DNA.**
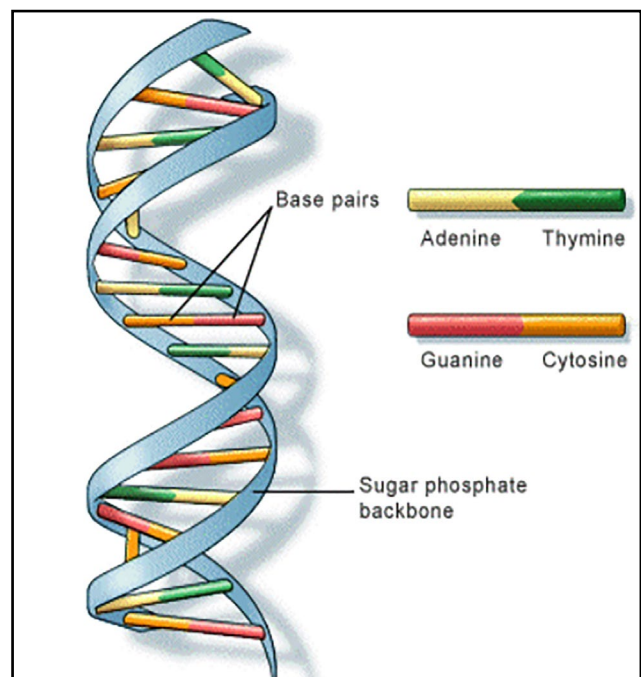
Note:

➢ **DNA** stores data in the form of a code made up of four Nitrogenous bases.

  ○ Purines:

    ● Adenine (A)

    ● Guanine (G)

  ○ Pyrimidines

    ● Cytosine (C)

    ● Thymine (T)

What is the Use of DNA Testing?

➢ **DNA testing** is essential for identifying and bringing justice in cases involving abandoned mothers and children.

➢ It is also a **highly effective technique** in **civil disputes** when the court needs to determine the **issue of maintenance** and **identify the child's parents.**

What are the Precedents Set by Supreme Court in previous cases?

➢ Precedents set by the **Supreme Court** through the years show that judges cannot order **genetic tests** as a **"roving enquiry"** (*Bhabani Prasad Jena, 2010*).

➢ In the *Banarsi Dass case, 2005,* it held that **DNA test** must balance the **interests of the parties. DNA tests DNA tests** should also not be ordered if there was **other material evidence** at hand to prove the case.

➢ Before ordering a **genetic test,** courts should consider the **"proportionality of the legitimate aims,"** the court stated in its **Ashok Kumar judgment 2021.**

➢ The ruling of the Constitution Bench in the *K.S. The Puttaswamy case (2017)* affirming that the **right to privacy** is **part** of the **rights to life (Article 21)** has only strengthened the privacy argument.

➢ In a case involving a woman, the Supreme Court recently ruled that forcing someone to submit to a **DNA test** against their will would **violate their right to personal liberty and privacy.**

Coronal Holes

Why in News?

Recently, NASA captured an image having **dark patches on the sun's surface** resembling eyes and a smile.

➢ These patches are called **'Coronal holes',** which **can be seen in ultraviolet light but are typically invisible to our eyes.**
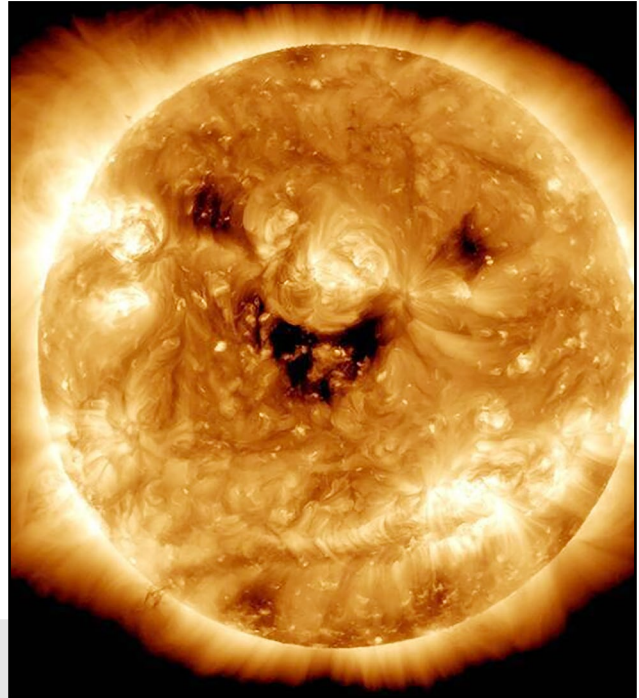
What are Coronal Holes?

➢ **About:**

  ○ These are **regions on the sun's surface from where fast solar wind gushes out into space.**

    ● In these regions, the **magnetic field is open to interplanetary space,** sending solar material What is India Post Payments Bank (IPPB

    ● out in a **high-speed stream of solar wind** *i.e.* **geomagnetic storm**.

  ○ They have **lower temperatures and appear much darker than their surroundings** as they contain little solar material.

  ○ Coronal holes can **last between a few weeks to months.**

  ○ The holes are not a unique phenomenon, **appearing throughout the sun's approximately 11-year solar cycle.**

  ○ They can last much **longer during solar minimum,** a period of time when activity on the Sun is substantially diminished.

➢ **Significance:**

  ○ Coronal Holes are i**mportant in understanding the space environment around the earth** through which our technology and astronauts' travel.

What is a Geomagnetic Storm?

➢ Geomagnetic storm is a solar storm that occurs during the **release of magnetic energy** associated with **sunspots ('dark' regions on the Sun that are cooler than the surrounding photosphere - the lowest layer of the solar atmosphere)**, and can last for a few minutes or hours.

➢ It is a **major disturbance of Earth's magnetosphere** that occurs when there is a very **efficient exchange of energy from the solar wind into the space environment** surrounding Earth.

  ❍ The magnetosphere **shields our home planet from harmful solar and cosmic particle radiation,** as well as erosion of the atmosphere by the solar wind – the constant flow of charged particles streaming off the Sun.

➢ These storms **result from variations in the solar wind** that produce major changes in the currents, plasmas, and fields in Earth's magnetosphere.

  ❍ The solar wind conditions that are effective for creating geomagnetic storms are sustained (for several to many hours) periods of high-speed solar wind, and most importantly, a southward directed solar wind magnetic field (opposite the direction of Earth's field) at the dayside of the magnetosphere.

  ❍ This **condition is effective for transferring energy** from the solar wind into Earth's magnetosphere.

➢ The largest storms that result from these conditions are associated with solar **Coronal Mass Ejections (CMEs)** where a billion tons or so of plasma from the sun, with its embedded magnetic field, arrives at Earth.

  ❍ CMEs are large ejections of plasma and magnetic fields that **originate from the Sun's corona** (outermost layer).

Cordy Gold Nanoparticles

Why in News?

Recently, scientists from four Indian institutions, including **Bodoland University**, have developed **Cordy Gold Nanoparticles (Cor-AuNPs)**, which can make **drug delivery in the human body** faster and surer.

➢ These nanoparticles have received an **international patent** from Germany.

What are Cordy Gold Nanoparticles (Cor-AuNPs)?

➢ **About:**

  ❍ They are derived from the synthesis of the extracts of **Cordyceps Mlitaris** and **Gold Salts.**

    ● **Cordyceps militaris** is a high value **parasitic fungus**, lab-grown at the **Department of Biotechnology's Technology Incubation Centre (TIC)** in Bodoland University.

      ■ Wild Cordyceps mushroom are found in the eastern Himalayan belt.

    ● **Gold salts** are **ionic chemical compounds of gold** generally used in medicine.

➢ **Benefit:**

  ❍ Penetration in the cells is more **when the drug particles are smaller**.

    ● Cordyceps militaris, called **super mushroom** because of its tremendous medicinal properties, **adds bioactive components to the synthesis of gold nanoparticles** for better penetration.

    ● Biosynthesized nanogold particles indicate **a new application of nanoparticles in the development of therapeutic drugs** which can be delivered as **ointments, tablets, capsules, and in other forms.**
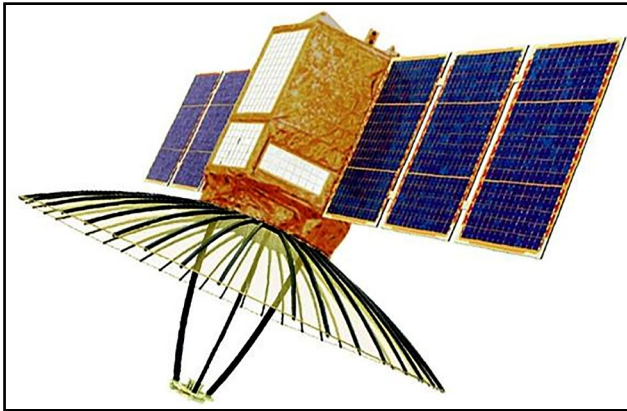
RISAT-2

Why in News?

Recently, the **Indian Space Research Organisation's (ISRO) RISAT (Radar Imaging Satellite)-2 satellite** has made an uncontrolled re-entry into the Earth's atmosphere at the predicted impact point in the **Indian Ocean** near Jakarta.

Note:

➤ RISAT-2 is India's first **"eye in the sky"** which keep surveillance on the country's borders as **part of anti-infiltration and anti-terrorist operations**.

What is RISAT-2?

➤ **About:**
  ○ The principal sensor of Risat-2, considered a 'spy' satellite, was an X-band **synthetic-aperture radar** from Israel Aerospace Industries.
  ○ Risat-2 was built more quickly following the 2008 Mumbai terror attacks due to delay with the indigenously developed C-band for Risat-1 satellite. The satellite, which was **India's first dedicated reconnaissance satellite**, possessed day-night as well as all-weather monitoring capability.
    ● It was also **used to track hostile ships at sea that were deemed a military threat**.
➤ **Launch:**
  ○ Risat-2, weighing about 300 kg was **launched on April 20, 2009**, by the PSLV-C12 launch vehicle.
➤ **Significance:**
  ○ Risat-2 **provided beneficial payload data for over 13 years**.
    ● Since its injection, Risat-2's radar payload services were provided for **various space applications**.
  ○ Risat-2 is a clear example of **ISRO's capability to carry out spacecraft orbital operations in an efficient and optimal way**.
    ● As Risat-2 re-entered within 13.5 years, it complied with **all necessary international mitigation guidelines for space debris**, showing the space agency's commitment towards the **long-term sustainability of outer space**.

What are the Upcoming Projects of ISRO?
➤ **Gaganyaan**: Indian Human Spaceflight Programme.
➤ **Aditya-L1:** To Study the Sun's atmosphere.
➤ **NASA-ISRO Synthetic Aperture Radar Mission:** To study hazards and global environmental change.
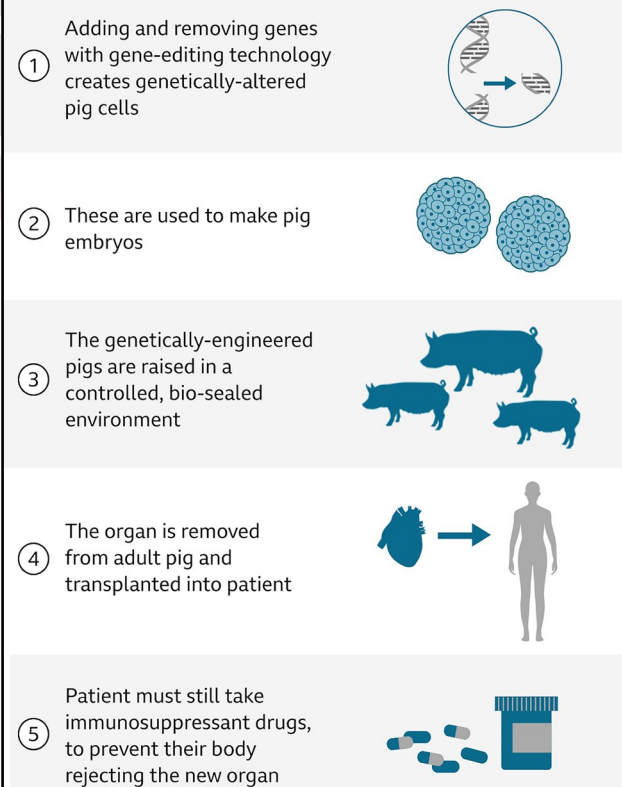➤ **Shukrayaan-1:** Orbiter to Venus.

Xenotransplantation

Why in News?

Genetically modified pig heart took longer than usual to beat for human receiver in the **first-ever transplant of the gene-edited pig heart to human.** The human recipient **lived only for 61 days after the transplant.**

➤ **Prior attempts** at such transplants have **also failed.**

Genetically engineering pigs as organ donors

1. Adding and removing genes with gene-editing technology creates genetically-altered pig cells

2. These are used to make pig embryos

3. The genetically-engineered pigs are raised in a controlled, bio-sealed environment

4. The organ is removed from adult pig and transplanted into patient

5. Patient must still take immunosuppressant drugs, to prevent their body rejecting the new organ

What is Xenotransplantation?

➤ **About:**
  ○ Xenotransplantation involves the **transplantation of nonhuman tissues** or organs **into human recipients**.

Note:

- In the recent heart transplant from pig to human, **gene-editing** was adopted to remove a sugar in its cells that's responsible for that hyper-fast organ rejection.
  - Genome editing (also called **gene editing**) is a group of technologies that give scientists the ability to change an organism's **Deoxy-Ribonucleic Acid (DNA).**
  - One of the **biggest obstacles** to transplantation is **organ rejection.**

➢ **Significance:**
  - This development could bring us one step closer to solving the global organ shortage.
    - In India, patients need 25,000-30,000 liver transplants annually. But only about 1,500 end up receiving them.
  - Pigs are increasingly becoming popular candidates for organ transplantation.
    - Pigs offer **advantages over primates for organ procurements**, because they are easier to raise and achieve adult human size in six months.
      - The pig's anatomical and physiological parameters are similar to that of humans, and the breeding of pigs in farms is widespread and cost-effective.

Indian Biological Data Centre

Why in News?

Recently, government has set up **'Indian Biological Data Bank'** at the **Regional Centre for Biotechnology (RCB), Faridabad.**

➢ Indian Biological Data Bank is better known as **'Indian Biological Data Centre (IBDC)'.**

What is IBDC?

➢ **About:**
  - IBDC is the **first national repository for life science data in India**, where the data will not only be submitted from across India but can be accessed by researchers from across India
  - It is **mandated to archive all life science data in IBDC generated from publicly funded research** in India.

- The data center is supported by the **Department of Biotechnology (DBT).**
- It is being established at the **RCB in collaboration with the National Informatics Centre (NIC), Bhubaneshwar.**
- It costed around **85 crore rupees to be set up.**

➢ **Key Features:**
  - The digitised data will be stored on a **four-petabyte supercomputer called 'Brahm'.**
    - A petabyte equals 10,00,000 gigabytes (gb).
  - **Different sections of IBDC** would typically deal with **particular type(s) of life science data.**
    - Each IBDC section would have dedicated data submission and access schema.
  - IBDC has a backup data **'Disaster Recovery' site at NIC.**
  - Further, IBDC shall also develop **highly curated data sets in order to facilitate knowledge discovery** in various domains of life sciences.
  - It would also provide **infrastructure and expertise for biological data analysis.**
  - It currently accepts nucleotide sequences — the **digitised genetic makeup of humans, plants, animals, and microbes.**
    - There are now **200 billion base pair data in the bio-bank,** including **200 human genomes sequenced under the '1,000 Genome Project',** which is an international effort to map the genetic variations in people.
      - The project will also focus on populations that are predisposed to certain diseases.
    - It will also **help researchers in studying zoonotic diseases**.
  - Although the database **currently only accepts such genomic sequences, it is likely to expand later to storage of protein sequences** and **imaging data** such as copies of Ultrasound and Magnetic Resonance Imaging (MRI).

➢ **Objectives:**
  - **Provide IT platform** for perpetually archiving biological data in the country.
  - **Development of standard operating Procedures (SOPs)** for storing and sharing the data as per FAIR (Findable, Accessible, Interoperable and Reusable) Principle.

- ○ **Perform quality control, curation/annotation of data**, data backup and management of data life cycle.
- ○ Development of **web-based tools/Application Programming Interface (API)** for data sharing/ retrieval.
- ○ Organization of **training programs on 'Big' data analysis** and benefits of data sharing.
- ➢ **Data Access:**
  - ○ IBDC would have majorly two data access types:
    - ● **Open access/time-release access:** Data submitted at IBDC would be freely accessible across the globe as per international open-access standards. The submitter, however, may choose to restrict the data access for a defined period of time.
    - ● **Restricted access:** The data would not be made accessible freely. It can only be accessed through prior permission through IBDC from the original data submitter.
- ➢ **Significance:**
  - ○ It will **reduce the dependency** of Indian researchers **on American and European data banks.**
  - ○ It will not only provide a platform to researchers to securely store their data within the country, it will **also provide access to a large database of indigenous sequences for analyses.**
    - ● Such databases have traditionally played a key role in **determining the genetic basis of various diseases** and finding targets for vaccines and therapeutics.

Environment & Ecology

Highlights

- Carbon Sequestration
- Newly Discovered Species of Honeybee
- Adaptation Gap Report 2022
- India's Evolving Carbon Market
- International Day for Biosphere Reserves
- Rainbow & Climate Change
- Tokhu Emong Festival
- Mathura-Vrindavan Carbon Neutral Target 2041
- Air Pollutants
- Early Warning System in Himalayan Region
- Center Restricts use of Glyphosate
- Mudumalai Tiger Reserve

- Not on Track to Achieve Forest Goals
- Mangrove Alliance for Climate
- Methane Alert and Response System
- Rhino Horns are Shrinking
- World Heritage Glaciers under Threat: UNESCO
- The Waste-to-Energy Programme
- New Species of Estuarine Crab
- Dynamic Ground Water Resource Assessment, 2022
- India's First Sovereign Green Bonds Framework
- Wetlands Conservation
- Provisional State of Global Climate Report, 2022

Carbon Sequestration

Why in News?

According to a recent study conducted in Maharashtra and Odisha, soil carbon sequestration may help fight **climate change**.

➢ Studying is aligned with **Sustainable Development Goal** 13 (SDG 13: Climate Action) which is on taking urgent action to combat climate change and its impacts.

➢ The study revealed how the right combination of fertiliser, biochar, and irrigation could potentially increase soil carbon by as much as 300% and help mitigate climate change.

What is Carbon Sequestration?

➢ **About:**
  ○ Carbon sequestration is the **long-term storage of carbon in plants, soils, geologic formations, and the ocean.**
  ○ Carbon sequestration occurs both naturally and as a result of anthropogenic activities and typically refers to the storage of carbon.

➢ **Types:**
  ○ **Terrestrial Carbon Sequestration:**
    • Terrestrial carbon sequestration is the **process through which CO_2 from the atmosphere is absorbed by trees and plants** through photosynthesis and stored as carbon in soils and biomass (tree trunks, branches, foliage, and roots)

  ○ **Geologic Carbon Sequestration:**
    • **CO_2 can be stored, including oil reservoirs, gas reservoirs, unmineable coal seams,** saline formations and shale formations with high organic content.

  ○ **Ocean Carbon Sequestration:**
    • **Oceans absorb, release and store large amounts of CO_2** from the atmosphere. This can be done in two ways- enhancing productivity of ocean biological systems through Iron fertilization, and injecting CO_2 into the deep ocean.
    • The dumping of iron stimulates phytoplankton production, which in turn leads to enhanced photosynthesis from these microorganisms, helping in CO_2 absorption.

What are the Different Methods of Carbon Sequestration?

➢ **Natural Carbon Sequestration:**
  ○ It is the **process by which nature has achieved a balance of carbon dioxide in our atmosphere** suitable for sustaining life. Animals expel carbon dioxide, as do plants during the night.

Note:

○ Nature provided trees, the oceans, earth and the animals themselves as carbon sinks, or sponges. All organic life on this planet is carbon based and when plants and animals die, much of the carbon goes back into the ground where it has little impact on contributing to global warming.

➤ **Artificial Carbon Sequestration:**

○ Artificial carbon sequestration refers to a **number of processes whereby carbon emissions are captured at the point of production** (e.g., Factory Chimneys) and then buried.

○ One proposed method is ocean sequestration whereby carbon dioxide is injected deep into the ocean, forming lakes of CO_2. In theory, the CO_2 will stay down deep due to the pressure and temperature of the surrounding water, gradually dissolving into that water over time.

● Another example is geological sequestration where **the carbon dioxide is pumped into underground chambers** such as old oil reservoirs, aquifers and coal seams that are unable to be mined.

Why is Carbon Sequestration a viable Option for Agriculture?

➤ **Climate Friendly:** Carbon Farming (Carbon Sequestration) involves practices that are known to improve the rate at which CO_2 is removed from the atmosphere and **converted to plant material and soil organic matter.**

○ It **promises a bold new agricultural business model** — one that fights climate change, creates jobs, and saves farms that might otherwise be unprofitable.

○ In essence, a climate solution, and increased income generation opportunity and ensuring a food security net for the population.

➤ **Optimising Carbon Capture:** It is a **whole farm approach to optimising carbon capture on working landscapes** by implementing practices that are known to improve the rate at which CO_2 is removed from the atmosphere and stored in plant material and/or soil organic matter.

○ It can incentivise our farmers to introduce regenerative practices in their agricultural processes, helping them shift their focus from improving yields to functioning ecosystems and sequestering carbon that can be sold or traded in carbon markets.

➤ **Farmer Friendly:** It not only improves the health of soil but can also result in improved quality, organic and chemical-free food (farm-to-fork models) along with boosted/secondary income from **carbon credits** for the marginalised farmers.

Newly Discovered Species of Honeybee

Why in News?

Recently, a new species of endemic honeybee named *Apis karinjodian* has been discovered in the **Western Ghats** after a gap of more than 200 years.

➤ The **last honeybee described from India was *Apis indica*** in 1798 by Fabricius.

➤ The new find has increased the species of honeybees in the world to 11.

What are the Key Specifications about the Species?

➤ **About:**

○ **Common Name:** Indian black honeybee.

○ *Apis karinjodian* has **evolved from *Apis cerana* morphotypes** that got acclimatised to the hot and humid environment of the Western Ghats.

● Indian black honeybees are able to **produce a thicker honey which allows for increased honey production.**

○ Till date, **only a single species, *Apis cerana*** was noted across the plains of central and southern India and Sri Lanka as a 'fairly uniform population' in the Indian subcontinent.

Note:

❍ The research has **given a new direction to apiculture in the country by showing the presence of three species** of cavity nesting honey bees, namely *Apis indica, Apis cerana,* and *Apis karinjodian*.

➢ **Distribution:**
  ❍ The distribution of *Apis karinjodian* ranges from the **central Western Ghats and Nilgiris to the southern Western Ghats**, covering the States of Goa, Karnataka, Kerala and parts of Tamil Nadu.

➢ **Protection:**
  ❍ **IUCN Red List:** Near Threatened (NT)

What is the Status of the Apiculture in India?

➢ The globally apiculture market is estimated to register a **Compounded Annual Growth Rate (CAGR)** of 4.3% during the period 2020–25, with Asia–Pacific as the dominant producer.

➢ The **Indian apiculture market size is expected to reach a value of Rs 33,128 million by 2024**, expanding at a CAGR of nearly 12% by 2024.

➢ India is the sixth major natural honey exporting country.
  ❍ During 2019–20, the recorded export of natural honey was 59,536.75 MT for Rs 633.82 crore. The **major export destinations** were the **USA, Saudi Arab, Canada, and Qatar**.

What are Related Initiatives?

➢ **'Sweet Revolution':**
  ❍ It is an **ambitious initiative of the Government of India for promoting apiculture**, popularly known as 'beekeeping'.
  ❍ To provide a **booster shot to Sweet Revolution**, the government launched the **National Beekeeping and Honey Mission in 2020** (under the Ministry of Agriculture and Farmers Welfare).
    ● National Beekeeping and Honey Mission aims to establish 5 big regional and 100 small honey and other Bee Products testing laboratories.
    ● Out of the total target, 3 world class state-of-the-art laboratories have been setup, whereas 25 small laboratories are in the process of being set up.

➢ **Assistance for Setting up of Processing Units:**
  ❍ India is also **providing assistance to the beekeepers for setting up of Processing Units.**

❍ More than 1.25 lakh metric tonnes of honey are being produced in the country, out of which more than 60 thousand metric tonnes of natural honey is exported.

➢ **Adopting Scientific Techniques:**
  ❍ In order to bring qualitative upgradation of domestic honey to attract the world market, the Government of India and the State Governments are making concerted efforts and focusing on capacity building of beekeepers for production of honey by adopting scientific techniques.

Adaptation Gap Report 2022

Why in News?

According to the **United Nations Environment Programme's (UNEP)** Adaptation Gap Report, 2022, global efforts in adaptation planning, financing and implementation are **not enough to prepare vulnerable communities around the world to adapt to the rising risks from the impacts of climate change**.

➢ The report found some progress on adaptation plans from national governments, but **they are not backed by finance**.

What are the Findings of the Report?

➢ A third of the 197 parties to the **United Nations Framework Convention on Climate Change (UNFCCC)** have incorporated quantified and time-bound targets on adaptation. And **90% of them have considered gender and disadvantaged groups**.

➢ International adaptation **finance flows are 5-10 times lower than required** and this gap continues to grow. Finance for adaptation **increased to USD 29 billion in 2020, a 4% increase over 2019**.
  ❍ This is when developing countries' estimated **annual adaptation needs are USD 160-USD 340 billion by 2030 and USD 315-USD 565 billion by 2050**.

What are the Steps Suggested by the Report?

➢ **A Nature-based Approach:** The report highlighted that the best way was to link actions on mitigation and adaptation in terms of planning, financing and implementation, which would provide co-benefits.
  ❍ One example of this could be **nature-based solutions**.

Note:

- ➢ **Climate Adaptation:** Countries need to back the strong words in the Glasgow Climate Pact with strong action to increase adaptation investments and outcomes, starting at **COP27**.
- ➢ **Other Strategies:** The adaptation gap must be addressed in four critical ways:
  - ○ **Increase Financing for Adaptation:** There is a need for developed countries to provide a clear roadmap for their promise of doubling finance for adaptation to USD 40 billion, which was decided at **COP 26** in Glasgow.
  - ○ **A New Business Model:** The world urgently needs a new business model for **turning adaptation priorities into investable projects** as there is a mismatch between what governments propose and what financiers consider investable.
  - ○ **Need for Data Implementation:** The availability of climate risk data and information, an issue for adaptation planning in many developing countries.
  - ○ **Modified Warning Systems:** The implementation and operationalisation of early warning systems against extreme weather events and slow onset changes such as sea level rise.

What are India's Initiatives regarding Climate Finance?

- ➢ **National Adaptation Fund for Climate Change (NAFCC):**
  - ○ It was **established in 2015** to meet the cost of adaptation to climate change for the State and Union Territories of India t**hat are particularly vulnerable to the adverse effects of climate change**.
- ➢ **National Clean Energy Fund:**
  - ○ The Fund was created to promote clean energy, and funded through an initial **carbon tax** on the use of coal by industries.
  - ○ It is **governed by an Inter-Ministerial Group** with the Finance Secretary as the Chairman.
  - ○ Its mandate is to fund research and development of innovative **clean energy technology** in the fossil and non-fossil fuel-based sectors.
- ➢ **National Adaptation Fund:**
  - ○ The fund was **established in 2014** with a corpus of Rs. 100 crores with the aim of **bridging the gap between the need and the available funds**.
  - ○ The fund is operated under the Ministry of Environment, Forests, and Climate Change (MoEF&CC).

What is United Nations Environment Programme?
- ➢ The UNEP is a leading global environmental authority established on 5th June 1972.
- ➢ **Functions:** It sets the global environmental agenda, promotes the sustainable development within the **United Nations** system, and serves as an authoritative advocate for global environment protection.
- ➢ **Major Reports: Emission Gap Report**, Global Environment Outlook, Frontiers, Invest into Healthy Planet.
- ➢ **Major Campaigns:** Beat Pollution, UN75, World Environment Day, Wild for Life.
- ➢ **Headquarters:** Nairobi, Kenya.

What is United Nations Framework Convention on Climate Change (UNFCCC)?
- ➢ UNFCCC was signed in 1992 at the **United Nations Conference on Environment and Development also known as the Earth Summit**, the Rio Summit or the Rio Conference.
  - ○ India is among the select few countries to have hosted the COP of all three Rio conventions on climate change (UNFCCC), biodiversity (CBD) and land **(United Nations Convention to Combat Desertification).**
- ➢ The UNFCCC entered into force in 1994 and has been **ratified by 197 countries**.
- ➢ It is the parent treaty of the **2015 Paris Agreement**. It is also the parent treaty of the **1997 Kyoto Protocol**.
- ➢ The UNFCCC secretariat (UN Climate Change) is the United Nations entity tasked with supporting the global response to the threat of climate change. It is **located in Bonn, Germany**.
- ➢ Its objective is to achieve stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous repercussions within a time frame so as to **allow ecosystems to adapt naturally and enable sustainable development**.

India's Evolving Carbon Market

Why in News?

The Ministry for Power, New & Renewable Energy is taking steps to establish a **Carbon Credit Market** to help the country meet its **Nationally Determined Contributions (NDC)**.

What are the Carbon Markets?

➢ **Carbon Credits:**
   - ○ A carbon credit (also known as carbon offset) is a **credit for greenhouse emissions reduced or removed from the atmosphere** by an emission reduction project, which can be used by governments, industry, or private individuals to compensate for the emissions they generate elsewhere.
   - ○ Those that cannot easily reduce emissions can still operate, at a higher financial cost.
   - ○ Carbon credits are based on the **"cap-and-trade" model** that was used to reduce sulfur pollution in the 1990s.
   - ○ One carbon credit is **equal to one metric ton of carbon dioxide**, or in some markets, carbon dioxide equivalent gases (CO_2-eq).
   - ○ Negotiators at the Glasgow COP26 climate change summit in November 2021 agreed to create a global carbon credit offset trading market.
   - ○ The **Kyoto Protocol** provides for three mechanisms that enable countries, or operators in developed countries, **to acquire greenhouse gas reduction credits:**
      - ● Under **Joint Implementation (JI),** a developed country with relatively high costs of domestic greenhouse reduction would set up a project in another developed country.
      - ● Under the **Clean Development Mechanism (CDM),** a developed country can **"sponsor" a greenhouse gas reduction project in a developing country** where the cost of greenhouse gas reduction project activities is usually much lower, but the atmospheric effect is globally equivalent. The developed country would be given credits for meeting its emission reduction targets, while the **developing country would receive the capital investment** and clean technology or beneficial change in land use.
      - ● Under **International Emissions Trading (IET),** countries **can trade** in the international carbon credit market to **cover their shortfall** in Assigned Amount Units (AAUs). Countries with surplus units can sell them to countries that are exceeding their emission targets under Annex B of the Kyoto Protocol.

➢ **Carbon Markets:**
   - ○ A carbon market **turns emission reductions and removals into tradeable assets**, thus creating **incentives to reduce emissions or improve energy efficiency.** The carbon markets can be compliance and voluntary.
   - ○ Carbon trading started formally in 1997 under the **United Nations' Kyoto Protocol on climate change** which had more than 150 nation signatories.
   - ○ Parties with commitments under the agreement agreed to limit or reduce their greenhouse gas emissions between 2008 – 2012 to 5.4% which were well below the levels of 1990.
   - ○ Emissions trading, as set out in the Kyoto Protocol, allowed **countries to sell the excess capacity of emission units** to countries that had levels well over their targets.

What is the Significance of Carbon Markets?

➢ Carbon markets will **open up new avenues for organizations** that are engaged in developing, trading and consulting carbon credits, while stunting the growth of fossil-fuel generation capacities.

➢ Carbon credits will help developing countries like **India carry out economic activities, while keeping the country's carbon goals in perspective.**
   - ○ In 2021, the global carbon credits market rose by 164 % and is expected to cross USD 100 billion by 2030.

➢ Carbon credits offer a way **to reward the industries and other sectors** that have developed practices involving technological innovations to reduce emissions and achieve climate targets.

➢ Carbon markets will play a key role in the **drive towards decarbonisation, encouraging the reduction of emissions through various scheme**s in the short term with an ultimate goal of achieving **Net Zero** in the long term.

➢ Carbon markets are one of the most effective drivers of reducing emissions, offering the lowest-cost emission reductions and enabling India to avert a loss of USD 35 trillion.

What are the Indian Emission Targets?

➢ India **submitted its updated NDCs** under the Paris Agreement to the United Nations Framework

Note:

Convention on Climate Change (UNFCCC) in August 2022, in which it stressed the fact that it is a step ahead in achieving the long-term goal of **Net Zero in 2070.**

➤ Under the updated NDCs, India is committed to reducing the emissions intensity of its gross domestic products by **45 % from 2005 levels by 2030 and achieving 50 %** of its cumulative electric power installed capacity from non-fossil fuel sources of energy by 2030.

➤ The country is working on expanding its supply chain in the **solar manufacturing division.**

What are the Related Indian Initiatives?

➤ **PLI Scheme:**
  ○ Diversification of the supply chain by introducing a production linked incentive scheme for the **manufacturing of polysilicon cells into modules**.

➤ **Clean Development Mechanism:**
  ○ In India, the clean development mechanism under the Kyoto Protocol provided a primary carbon market for the players.
  ○ The secondary carbon market is covered by the **perform-achieve-trade** scheme (which falls under the energy efficiency category) and the renewable energy certificate.

➤ **Energy Conservation (Amendment) Bill, 2022:**
  ○ Empowers the Centre to specify norms and standards of energy efficiency for appliances, industrial equipment and buildings with a connected load over 100 kiloWatts (kW) or a contractual demand of more than 15 kilovolt-amperes (kVA).

International Day for Biosphere Reserves

Why in News?

From 2022 onwards, 3rd November will be celebrated as **'The International Day for Biosphere Reserves'.**

What are Biosphere Reserves (BR)?

➤ **About:**
  ○ BR is an **international designation by (UNESCO)** for representative parts of natural and cultural landscapes extending over large areas of terrestrial or coastal/marine ecosystems or a combination of both.

  ○ **BR tries to balance economic and social development** and maintenance of associated cultural values along with the preservation of nature.

  ○ BRs are **nominated by national governments** and remain under the sovereign jurisdiction of the states where they are located.

  ○ These are designated under the **intergovernmental Man and the Biosphere (MAB) Programme** by the Director-General of UNESCO following the decisions of the MAB International Coordinating Council (MAB ICC).

    ● The **MAB Programme** is an intergovernmental scientific programme that aims to establish a scientific basis for enhancing the relationship between people and their environments.

  ○ Their status is internationally recognized.

➤ **Three Main Zones:**
  ○ **Core Areas:** It comprises a strictly protected zone that contributes to the conservation of landscapes, ecosystems, species and genetic variation.
  ○ **Buffer Zones:** It surrounds or adjoins the core area(s), and is used for activities compatible with sound ecological practices that can reinforce scientific research, monitoring, training and education.
  ○ **Transition Area:** The transition area is where communities foster socio-culturally and ecologically sustainable economic and human activities.

What is the Status of Biosphere Reserves in India/World?

➤ **In India:**
  ○ India at present has **18 notified biosphere reserves** spanning 60,000 sq km.
  ○ The **first biosphere reserve in India** was the blue mountains of the Nilgiris stretching over Tamil Nadu, Karnataka and Kerala.
  ○ The **largest biosphere reserve is the Gulf of Kachchh (Gujarat)** and the smallest is **Dibru-Saikhowa (Assam).**
  ○ Other bigger biosphere reserves are the **Gulf of Mannar** (Tamil Nadu), **Sunderbans** (West Bengal), and Cold Desert (Himachal Pradesh).

Note:

Biosphere Reserves in India

COLD DESERT
Himachal Pradesh

*NANDA DEVI
Uttarakhand

*KHANGCHENDZONGA
Sikkim

DEHANG-DIBANG
Arunachal Pradesh

DIBRU-SAIKHOWA
Assam

MANAS
Assam

*NOKREK
Meghalaya

*PANNA
Madhya Pradesh

KACHCHH
Gujarat

*PACHMARHI
Madhya Pradesh

*ACHANAKAMAR-AMARKANTAK
Madhya Pradesh and Chhattisgarh

*SUNDERBANS
West Bengal

*SIMLIPAL
Odisha

SESHACHALAM HILLS
Andhra Pradesh

*NILGIRI
Tamil Nadu,
Kerala and Karnataka

*AGASTHYAMALAI
Kerala

*GULF OF MANNAR
India and Sri Lanka

*GREAT NICOBAR
Andaman and Nicobar

NOTE
- The idea of 'Biosphere Reserves' was initiated by UNESCO in 1973-74 under its Man and Biosphere (MAB) Programme.
- A scheme called Biosphere Reserve is being implemented by Government of India since 1986.
- India has 18 biospheres reserves, of which 12 have been included in the MAB Programme. Panna (Madhya Pradesh) was included in MAB in 2020.
- Mura-Drava-Danube (MDD) is the world's first 'five-country biosphere reserve' (Austria, Slovenia, Croatia, Hungary and Serbia).

*World Network of Biosphere Reserve (MAB-UNESCO)

- ➤ **Around the World:**
  - ○ **About:**
    - There are **738 biosphere reserves in 134 countries,** including 22 transboundary sites, according to UNESCO.
  - ○ **Region-Wise:**
    - The highest number of reserves are in **Europe and North America** followed by Asia and the Pacific, Latin America and the Caribbean, Africa and Arab states.
    - In **South Asia,** over 30 biosphere reserves have been established. The first one was the **Hurulu Biosphere Reserve, in Sri Lanka,** with 25,500 hectares of tropical dry evergreen forest.
      - Bangladesh, Bhutan, and Nepal do not have biospheres as yet.
  - ○ **Country-Wise:**
    - The highest number of such sites are in **Spain, Russia and Mexico.**
  - ○ **World's First 5-country Biosphere Reserve:**
    - Stretching across **Austria, Slovenia, Croatia, Hungary and Serbia**, the world's first 5-country biosphere reserve, which has been declared by **UNESCO** in September 2021 covers 700 km of the Mura, Drava and Danube rivers.

- It is **Europe's largest riverine protected area**, covering almost 1 million hectares, and known as the **'Amazon of Europe'.**

Countries with highest biosphere reserves

Country	Value
Spain	53
Russia	48
Mexico	42
China	34
USA	28
Italy	20
Indonesia	19
Canada	19
India	18
France	16
Germany	16
Kazakhstan	15
Argentina	15

Rainbow & Climate Change

Why in News?

Recently, a research has found out that the **changes in cloud cover and liquid precipitation** due to **increased greenhouse gas emissions** are projected to lead to a **net increase in mean global annual rainbow days.**

- ➤ Mean days of rainbows are expected to go up globally by **4.0–4.9%** in a year by 2100.

What has the Study Revealed about Rainbows?

- ➤ **Areas with Lesser Rainbows:**
  - ○ Around 21–34% of land areas will lose rainbow days.
  - ○ Areas that will lose rainbow days are projected to have **lower total precipitation by 2100**, except those in **Central Africa, Madagascar and central South America.**
  - ○ All are projected to have **more annual dry days** and **less total annual cloud cover.**
- ➤ **Areas with Higher Rainbows:**
  - ○ Around 66–79% will gain rainbow days under **higher emission futures.**
  - ○ India is one of the countries where the **number of rainbow days will increase**.
 - ○ African countries like Mali, Niger, Chad, Sudan and Ethiopia are also likely to experience more rainbow days.
  - ○ Rainbow gain hotspots are mostly **located at higher latitudes or at very high elevations**, like the Tibetan Plateau, where warming is predicted to lead to less snow and more rain.

Note:

drishti

○ Two rainbow gain hotspots namely, **eastern Borneo and northern Japan**, will see overall precipitation increase but more dry days per year.

How is Rainbow & Climate Change Inter-related?

➢ **About:**
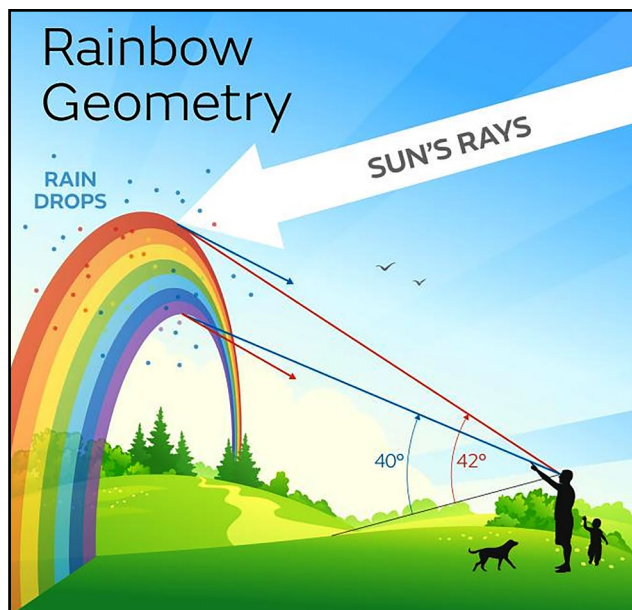
○ A rainbow is a **common atmospheric optical phenomenon**. It is a multicoloured arc in the sky that results **when water droplets refract sunlight.**
  ● When sunlight **hits a rain drople**t, some of the light is **reflected**. The **electromagnetic spectrum** is made of light with many different wavelengths, and **each is reflected at a different angle**. Thus, **spectrum is separated, producing a rainbow.**

○ Rainbows can also be viewed around **fog, sea spray, or waterfalls.**

○ It is an optical illusion; **it does not actually exist in a specific spot in the sky.**

○ Rainbows are the result of the **refraction and reflection of light.**
  ● Both refraction and reflection are phenomena that involve **a change in a wave's direction.**
  ● A **refracted** wave may appear "**bent**", while a **reflected** wave might seem to "**bounce back**" from a surface or other wavefront.

○ The colors on a primary rainbow are always in order of their wavelength, from **longest to shortest**: red, orange, yellow, green, blue, indigo and violet.

➢ **Linkage with Climate Change:**

○ Human activities such as **burning fossil fuels** are warming the atmosphere, which **changes patterns and amounts of rainfall and cloud cover.**

○ Climate change will **alter the distribution of rainbow occurrence** by affecting **evaporation and convergence of moisture.**
  ● This alters patterns of **precipitation and cloud cover.**

Tokhu Emong Festival

Why in News?

Nagaland is undertaking four-day **Tokhu Emong Bird Count (TEBC), the first avian documentation exercise to go beyond Amur falcons.**

➢ The exercise has been **timed with the post-harvest Tokhu Emong festival of the Lothas**, the Naga community that dominates Wokha district of Nagaland.

What is Tokhu Emong Festival?

➢ A perfect blend of religion, culture and entertainment, 'Tokhu Emong' is **widely celebrated in Wokha district.**

➢ **Celebrated on 7th November every year,** this color-filled festival stretches over to 9 days.

➢ **'Tokhu' means moving from house to house, collecting tokens and gifts** in form of naturals resources and food. However, the meaning of '**Emong'** is to **put a halt for the appointed time.**

➢ Significant attraction of this festival includes **community songs, dances, feast, fun** and **frolic.**

➢ Through the commencement of this festival, **people relive the stories of their ancestors composed decades before.**

➢ During the festival, **gracious offerings are made to the 'Sky God' and 'Earth God' seeking for blessings.**

What are Amur Falcons?

➢ Amur falcons, the **world's longest travelling raptors** start travelling with the onset of winters.

➢ The raptors **breed in southeastern Siberia and northern China**, and **migrate in millions across India** and **then over the Indian Ocean to southern Africa** before returning to Mongolia and Siberia.

Note:

○ Their 22,000-kilometre **migratory route is one of the longest** amongst all avian species.
➤ They get their **name from the Amur River** that forms the **border between Russia and China.**
➤ **Doyang Lake in Wokha, Nagaland** is better known as a **stopover for the Amur falcons during their annual migration from their breeding grounds to warmer South Africa.**
  ○ Thus, **Nagaland** (Pangti Village) is also known as the **"Falcon Capital of the World,".**
➤ The birds are the **least concern** under the **International Union for Conservation of Nature (IUCN) Red List**, but the species is **protected under the Indian Wildlife Protection Act, 1972, and the Convention on Migratory Species**, to which India is a signatory (which means it is mandatory to protect the birds).

Mathura-Vrindavan Carbon Neutral Target 2041

Why in News?

Recently, the Government of Uttar Pradesh has announced that Mathura-Vrindavan is aiming to become a "**net zero carbon emission**" tourist destination by 2041.
➤ This will be the **first such carbon neutral master plan** for a tourist destination in India.

What are the Major Announcements regarding the Target?

➤ **About Announcement:**
  ○ **Tourist vehicles will be banned** from the entire Braj region, which includes famous pilgrim centres such as Vrindavan and Krishna Janmabhoomi.
  ○ Only **electric vehicles** used as public transport will be allowed into the area.
  ○ All **252 water bodies and 24 forests** in the area will also be **revived**.
  ○ The plan divides the entire region into four clusters, each containing two of the eight key cities.
    • "The idea is to form small circuits called **'Parikrama Paths'** which the pilgrim can undertake either on foot or using electric vehicles.

• In case they want to travel from one destination to another they can avail **electric mini-buses.**
➤ **Mathura-Vrindavan's Cultural Significance:**
  ○ Mathura, situated **on the bank of river Yamuna**, is the **abode of Lord Krishna** and it has a great religious sanctity among the Hindus.
  ○ It also has **one of the oldest historical records**.
  ○ It is mentioned in **the epic Ramayan**. It is on record that Mathura was one of the **capitals of Kushan King Kanishka(130AD)**.
  ○ Some of the **famous temples** are Bankey Bihari Temple, Govind Dev Temple, Rangaji Temple, Dwarikadhish Temple and the ISKCON Temple.

What is Net Zero Carbon Emission?

➤ It is referred to as **carbon neutrality**, which **does not mean that a country/state would bring down its emissions to zero.**
  ○ Rather, it is a state in which a country's/state's emissions are **compensated by the absorption and removal of greenhouse gases from the atmosphere.**
➤ Further, absorption of the emissions can be increased by **creating more carbon sinks** such as forests.
  ○ While the removal of gases from the atmosphere requires futuristic technologies such as carbon capture and storage.
➤ More than 70 countries have promised to become **Net Zero** by the middle of the century **i.e., by 2050**.
➤ India has promised to cut its emissions to net zero by 2070 at the **conference of parties-26(COP) summit**.

Note:

Air Pollutants

Early Warning System in Himalayan Region

Why in News?

Recently, the National Geophysical Research Institute (NGRI) of the Council of Scientific and Industrial Research (CSIR) has begun field studies to put in place an **Early-Warning System in the Himalayan states against major and sudden floods, rockslides, landslips, glacier lake bursts and avalanches.**

What are the Early Warning Systems?

➢ **Early Warning System is an integrated system of hazard monitoring, forecasting and prediction, disaster risk assessment,** communication and preparedness activities systems and processes that enables individuals, communities, governments, businesses and others to take timely action to reduce disaster risks in advance of hazardous events.

➢ It helps **reducing harm to people and damage to assets ahead of impending hazards,** including **storms, tsunamis, droughts,** and heatwaves, to name a few.

➢ Multi-hazard early warning systems **address several hazards that may occur alone or simultaneously.**

➢ Increasing the availability of multi-hazard early warning systems and disaster risk information is one of seven global targets set by the **Sendai Framework for Disaster Risk Reduction** 2015-2030.

What are India's Efforts in Managing Disaster?

➢ **Establishment of NDRF:**
  ○ India has increasingly mitigated and responded to all types of disasters, including with the establishment of its **National Disaster Reaction Force (NDRF),** the world's largest rapid reaction force dedicated to disaster response.

➢ **Establishment of NDMA:**
  ○ The **National Disaster Management Authority (NDMA),** headed by the Prime Minister of India, is the apex body for Disaster Management in India. Setting up of NDMA and the creation of an enabling environment for institutional mechanisms at the State and District levels is mandated by the **Disaster Management Act, 2005.**
  ○ It lays down policies on disaster management

➢ **India's Role as a Foreign Disaster Relief:**
  ○ India's foreign humanitarian assistance has increasingly included its military assets, primarily deploying naval ships or aircraft to deliver relief.
  ○ In line with its diplomatic policy of **"Neighbourhood First,"** many of the recipient countries have been in the region of South and Southeast Asia.

➢ **Contribution to Regional Disaster Preparedness:**
  ○ Within the context of the **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC),** India has hosted DM Exercises that allow NDRF to demonstrate for

counterparts from partner states the techniques developed to respond to various disasters.

- Other NDRF and Indian Armed Forces exercises have brought India's first responders into contact with those from states in the **South Asian Association for Regional Cooperation (SAARC)** and the **Shanghai Cooperation Organisation (SCO).**

➢ **Managing Climate Change related Disaster:**
- India has adopted the **Sendai Framework for Disaster Risk Reduction**, the **Sustainable Development Goals (2015-2030), and the Paris Agreement** on Climate Change, all of which make clear the connections among DRR, Climate Change Adaptation (CCA), and sustainable development.

Center Restricts use of Glyphosate

Why in News?

The Ministry of Agriculture and Farmers Welfare has restricted the use of glyphosate, **a widely used herbicide**, citing health hazards for humans and animals.

➢ The new notification mandates that all certificates of registration for the chemical that companies have to get for its manufacture or sale have now to be returned to the registration committee.

➢ Failure to do so will result in appropriate action being taken under the **Insecticides Act of 1968.**

What is Glyphosate?

➢ **About:**
- It is an Herbicide, **developed in 1970.**
  - Herbicide is an agent, usually chemical, for killing or inhibiting the growth of unwanted plants, such as residential or agricultural weeds and invasive species
- Its **scientific name is N-(phosphonomethyl) glycine** under the **International Union of Pure and Applied Chemistry (IUPAC)** system of nomenclature.

➢ **Application:**
- It is applied to the leaves of plants to kill weeds.

➢ **Usage in India:**
- Glyphosate was highly accepted by **the tea planters** in the past two decades. It has a very good market size in the tea sector of West Bengal and Assam.

- Presently, **its consumption is highest in Maharashtra** as it is becoming a key herbicide in sugarcane, maize and many fruit crops.

What are the Concerns?

➢ **Health Impacts:**
- Health impacts of glyphosate range from **cancer, reproductive and developmental toxicity to neurotoxicity and immunotoxicity.**
  - Symptoms include irritation, swelling, burning of the skin, oral and nasal discomfort, unpleasant taste and blurred vision.
- Some 35 countries have **banned or restricted** the use of glyphosate.
  - These include Sri Lanka, Netherlands, France, Colombia, Canada, Israel and Argentina.

➢ **Illegal Use:**
- In India, glyphosate has been approved for use only in tea plantations and non-plantation areas accompanying the tea crop. Use of the substance anywhere else is illegal.
- However, a 2020 study by Pesticide Action Network (PAN) India on the state of glyphosate use in the **country had worrying findings,** glyphosate was being used **in more than 20 crop fields**.
- Majority of those using the weedicide **were not trained for doing so and did not have the appropriate safety** precautions.

➢ **Threatens Agro Ecological nature of Farms:**
- The rampant use of glyphosate in non-designated areas has severe consequences.
- Allowing continued use of glyphosate in India will contribute **to widespread use of illegal herbicide tolerant crops.**
- This will endanger the agroecological nature of Indian farms, apart from spreading the toxic effects to people, animals and the environment.

Mudumalai Tiger Reserve

Why in News?

The Forest Department is coming up with a **comprehensive strategy to deal with the spread of the invasive species like Senna spectabilis** which continues to spread rapidly in the buffer zone of the **Mudumalai Tiger Reserve (MTR)** in Nilgiris hill district.

Note:

- ➢ Invasive weeds such as *Senna spectabilis* and *Lantana camara*, as well as wattle, had taken over vast swathes of the Nilgiris.
- ➢ The invasive weed has a **negative effect on local biodiversity**, crowding out native species and limiting food availability for wildlife.

What are the Key Facts about Mudumalai Tiger Reserve?

- ➢ **About:**
  - ○ At the tri-junction of three states, namely **Karnataka, Kerala, and Tamil Nadu**, it is located in the Nilgiris District of Tamil Nadu.
  - ○ It has a common boundary with **Wayanad Wildlife Sanctuary** (Kerala) on the West, **Bandipur Tiger Reserve** (Karnataka) on the North, together forming a large conservation landscape for flagship species such as Tiger and **Asian Elephant**.
  - ○ Mudumalai tiger reserve is among the 14 Indian tiger reserves that were awarded the **Conservation Assured | Tiger Standards (CA|TS) status** for effective management of target species.
  - ○ The climate of Mudumalai is moderate. It experiences cold weather during the month of December or the beginning of January and hot weather is experienced during the months of March and April.
- ➢ **Important Flora and Fauna:**
  - ○ It has tall grasses, commonly referred to as "Elephant Grass", Bamboo of the giant variety, valuable timber species like Teak, Rosewood, etc.
  - ○ There are **several species of endemic flora.** Such a varied habitat is inhabited by a variety of animals which include tigers, elephants, Indian Gaur, Panther, Sambar, Spotted Deer, Barking Deer, Mouse Deer, Common Langur, Malabar Giant Squirrel, Wild Dog, Mongoose, Jungle Cat, Hyena, among others.
  - ○ This reserve has a wide variety of more than 260 species of birds.
    - ● **8% of bird species found in India** are recorded in Mudumalai.

What are the Other Tiger Reserves of Tamil Nadu?

- ➢ **Anamalai:**
  - ○ **About:**

- ● Carved out of the Anamalai hills, the tiger reserve falls within the **Western Ghats**, which in itself is one of the 25 Global Biodiversity Hotspots.
- ● The reserve consists of diverse habitats, including tropical forests, shola jungles, bamboo grove and vast grasslands.
  - ○ **Flora and Fauna:**
    - ● Some of the key animals found here apart from the tiger are the Gaur, sloth bear, elephants, pangolin, deer, and over 350 species of birds. Crocodiles can be spotted in the Amaravathy dam reservoir.
- ➢ **Kalakkad – Mundanthurai:**
  - ○ **About:**
    - ● Popularly known as KMTR, this **reserve was created in 1988 by combining the existing** and contiguous Kalakkad and Mundanthurai wildlife sanctuaries.
    - ● Kalakkad – Mundanthurai was declared as the first Tiger reserve in Tamil Nadu. It occupies the southern part of the Western Ghats and consists of wet evergreen forests; it is the catchment area of 14 rivers.
    - ● It is also part of the Agasthyamala Biosphere Reserve.
      - ■ **Agasthyamala Biosphere Reserve** is considered one of the five centres of plant diversity and endemism in India by the **International Union for Conservation of Nature (IUCN).**
  - ○ **Flora and Fauna:**
    - ● Apart from tigers, the forest is home to Sambar, spotted deer, elephants, leopards, wild dogs, etc., and a large number of bird species, reptiles, etc.
- ➢ **Sathyamangalam:**
  - ○ **About:**
    - ● A tiger reserve since 2013, it forms an important corridor between the Eastern and Western Ghats through the Nilgiris.
    - ● According to the 2019 census, it has an 83-individual tiger population and a 111-individual leopard population.
- ➢ **Srivilliputtur Megamalai:**
  - ○ **About:**
    - ● The latest tiger reserve in the state, the Srivilliputhur-Megamalai Tiger Reserve (SMTR),

Note:

was formed in February 2021 by combining the Megamalai and Srivilliputhur wildlife sanctuaries. It lies in the Western Ghats region.

- SMTR is also adjacent to the Kalakkad Mundanthurai reserve.
  - **Flora and Fauna:**
    - It's a blend of tropical evergreen and semi-evergreen forests, dry deciduous and moist mixed deciduous woods, and grassland in this area.

Not on Track to Achieve Forest Goals

Why in News?

According to a new report, the **world is not on track to achieve forest goals of ending and reversing deforestation by 2030**.

➤ Ending deforestation is **critical for a credible pathway to the Paris Agreement's goal** of limiting warming by 1.5°C.

What are the Highlights of the Report?

➤ **Only 24% of the necessary commitments for emissions reductions** have been made so far.

➤ **Forest-based actions** can make an essential contribution to meeting the Paris Agreement's ambition. It can provide nearly **27% of the solution** to help avert climate catastrophe.
  - Forest-based solutions provide a crucial annual mitigation potential of around four gigatonnes by 2030.
  - Indigenous peoples and local communities play a key role in achieving these outcomes.

➤ High-Forest-Low-Deforestation (HFLD) countries store 18% of tropical forest carbon worldwide and their access to sufficient climate finance must be rapidly improved.
  - **But current forest climate finance mechanisms are not adequate for rewarding their historical conservation** and resisting increasing pressures to deforest.

What are the Suggestions Given by the Report?

➤ Existing commitments must be transformed into reality and new commitments must urgently be made to **finance forests,** or we are at extreme risk of missing the milestone.
  - Only half of these commitments have been realised through **emissions reduction purchase agreements**. Funding for these commitments has not yet been disbursed.

➤ The countries must have **financial aid to scale up their actions** to develop and implement ambitious forest-based climate solutions.

➤ The **actions to protect, sustainably manage and restore forests** can deliver cost-effective climate change mitigation. These actions can also reverse declines in biodiversity and enhance resilience to climate change.

➤ **Emission reduction must be achieved every year post-2025 for the 2030 goals** to remain within reach.

What is the Paris Agreement?

➤ **About:**
  - The Paris Agreement (also known as the Conference of Parties 21 or COP 21) was adopted in 2015.
  - It replaced the **Kyoto Protocol** which was an earlier agreement to deal with climate change.

Note:

drishti

○ It is a **global treaty wherein some 200 countries agreed to cooperate** to reduce **Green House Gas (GHG)** Emissions and rein in climate change.

● It seeks to limit global warming to well below 2°C, preferably to 1.5°C, compared to pre-industry levels.

➢ **Working:**

○ The Paris Agreement **works on a 5- year cycle of increasingly ambitious climate action** carried out by countries. In 2020, countries had submitted their plans for climate action known as Nationally Determined Contributions (NDCs).

○ **Long-Term Strategies:**

● Long-term low greenhouse gas emission development strategies (LT-LEDS) provide the long-term horizon for the NDCs. Unlike NDCs, they are not mandatory.

➢ **Tracking Progress:**

○ With the Paris Agreement, countries established an **Enhanced Transparency Framework (ETF)**. Under the ETF, starting in 2024, countries will report transparently on actions taken and progress in climate change mitigation, adaptation measures and support provided or received.

● It also provides for international procedures for the review of the submitted reports.

● The information gathered through the ETF will feed into the Global stocktake which will assess the collective progress towards the long-term climate goals.

Mangrove Alliance for Climate

Why in News?

During the **COP27 climate summit** in Sharm El Sheikh, Egypt, **the UAE and Indonesia announced the "Mangrove Alliance for Climate."**

What is the Mangrove Alliance for Climate (MAC)?

➢ It includes **UAE, Indonesia, India, Sri Lanka, Australia, Japan, and Spain.**

➢ It seeks to **educate and spread awareness worldwide on the role of mangroves in curbing global warming** and its potential as a solution for climate change.

➢ However, the **intergovernmental alliance works on a voluntary basis** which means that there are no real checks and balances to hold members accountable.

➢ Instead, the parties will decide their own commitments and deadlines regarding planting and restoring mangroves.

➢ The members will also share expertise and support each other in researching, managing and protecting coastal areas.

What are Mangroves?

➢ **About:**

○ Mangroves are defined as **assemblages of salt tolerant trees and shrubs** that grow in the intertidal regions of the tropical and subtropical coastlines.

○ They grow **luxuriantly in the places where freshwater mixes with seawater** and where sediment is composed of accumulated deposits of mud.

➢ **Features:**

○ **Saline Environment:** They can **survive under extreme hostile environments** such as high salt and low oxygen conditions.

○ **Low oxygen:** Underground tissue of any plant needs oxygen for respiration. But in a mangrove environment, the oxygen in soil is limited or nil.

● For the purpose of breathing, they develop special roots called pneumatophores.

○ **Survival in Extreme Conditions:** With their roots submerged in water, mangrove trees thrive in hot, muddy, salty conditions that would quickly kill most plants.

○ **Viviparous:** Their **seeds germinate while still attached to the parent tree.** Once germinated, the seedling grows into a propagule.

● A propagule is a vegetative structure that can become detached from a plant and give rise to a new plant. Examples include a bud, sucker, or spore.

➢ **Significance:**

○ **Mangroves trap and cycle various organic materials,** chemical elements, and important nutrients in the coastal ecosystem.

○ They **provide one of the basic food chain resources** for marine organisms.

○ They **provide physical habitat and nursery grounds** for a wide variety of marine organisms, many of which have important recreational or commercial value.

○ Mangroves also serve as **storm buffers by reducing wind and wave action** in shallow shoreline areas.

➢ **Area Covered:**

○ **Global Mangrove Cover:**

● The total mangrove cover in the world is one 1,50,000 sq kms.

● Asia has the largest number of mangroves worldwide.

■ South Asia comprises 6.8% of the world's mangrove cover.

○ **Indian Mangrove Cover:**

● India's contribution is **45.8% total mangrove cover in South Asia.**

● According to the Indian State Forest Report 2021, Mangrove cover in India is 4992 sq. Km which is 0.15% of the country's total geographical area.

● **Largest Mangrove Forest:** Sundarbans in West Bengal are the largest mangrove forest regions in the world. It is listed as a **UNESCO World Heritage Site.**

■ It is followed by **Gujarat and Andaman, and Nicobar Islands.**

What are the Challenges with Mangrove Conservation?

➢ **Commercialisation of Coastal Areas:**

○ Aquaculture, coastal development, rice and palm oil farming and industrial activities are **rapidly replacing these salt-tolerant trees and the ecosystems they support.**

➢ **Shrimp Farms:**

○ The emergence of shrimp farms have **caused at least 35% of the overall loss of mangrove forests.**

● The rise of shrimp farming is a response to the increasing appetite for shrimp in the United States, Europe, Japan and China in recent decades.

➢ **Temperature Related Issues:**

○ **A fluctuation of ten degrees in a short period of time** is enough stress to damage the plant and freezing temperatures for even a few hours can kill some mangrove species.

➢ **Soil Related Issues:**

○ The soil **where mangroves are rooted poses a challenge for plants as it is severely lacking in oxygen.**

➢ **Excessive Human Intervention:**

○ During past changes in sea level, mangroves were able to move further inland, but in many places human development is now a barrier that limits how far a mangrove forest can migrate.

○ Mangroves also frequently suffer from oil spills.

What are the Related Initiatives?

➢ **UNESCO Designated Sites:** The inclusion of mangroves in Biosphere Reserves, World Heritage sites and UNESCO Global Geoparks contributes to improving the knowledge, management and conservation of mangrove ecosystems throughout the world.

➢ **International Society for Mangrove Ecosystem (ISME):** The ISME is a non-governmental organization established in 1990 to promote the study of mangroves with the purpose of enhancing their conservation, rational management and sustainable utilization.

➢ **Blue Carbon Initiative:** It is focused on mitigating climate change through the conservation and restoration of coastal and marine ecosystems.

○ It is coordinated by Conservation International (CI), IUCN, and the Intergovernmental Oceanographic Commission-UNESCO (IOC-UNESCO).

➢ **International Day for the Conservation of the Mangrove Ecosystem:** UNESCO celebrates this day on 26th July with the aim of raising awareness about mangrove ecosystems and to promote their sustainable management and conservation.

Methane Alert and Response System

Why in News?

Recently the United Nations **(UN)** has decided to set up a **satellite-based** monitoring system **"MARS: Methane Alert and Response System"** for tracking methane emissions and alerting governments and corporations to respond.

➢ The MARS initiative is intended to **strengthen the efforts to cut methane emissions**.

Note:

What is Methane Alert and Response System (MARS)?

➢ **About:**
- The **MARS** was launched at the **27th Conference of Parties (COP27)** to the **United Nations Framework Convention on Climate Change** in Sharm El-Sheikh, Egypt.
- The data-to-action platform was set up as part of the **UN Environment Programme's (UNEP)** International Methane Emissions Observatory (IMEO) strategy to get **policy-relevant data** into the right hands for emissions mitigation.
- The system will be the **first publicly available global system** to connect methane detection to notification processes transparently.

➢ **Objectives:**
- MARS will integrate data from a large number of **existing and future satellites** that have the ability to **detect methane emission events** anywhere in the world, and send out notifications to the relevant stakeholders to act on it.
- MARS will **track the large point emission sources**, mainly in the **fossil fuel** industry, but with time, would be able to detect emissions from **coal**, waste, livestock and rice fields as well.

Why do we Need to Cut Methane Emissions?

➢ **About Methane:**
- Methane is a **colourless** and **odourless** gas that occurs abundantly in nature and as a product of certain human activities.
- Methane is the **simplest member of the paraffin series of hydrocarbons** and is among the most potent of the **greenhouse gases**.

➢ **Concerns Regarding Methane:**
- Methane is the **second-most common of the six major greenhouse gases**, but is **far more dangerous than carbon dioxide** in its potential to cause global warming.
- **Accounting for about 17%** of the current global greenhouse gas emissions, methane is blamed for having **caused at least 25%- 30% of temperature rise** since the pre-industrial times.
- It accounts for a small portion of human-induced greenhouse gas emissions compared to carbon dioxide. But it is thought to be **80 times more efficient than carbon dioxide at trapping atmospheric heat** in the 20 years following its release.

What are the Initiatives to Cut Methane Emission?

➢ **Global:**
- **Global Methane Pledge:**
  - At the Glasgow climate conference (UNFCCC COP 26) in 2021, nearly 100 countries had come together in a voluntary pledge, referred to as the **Global Methane Pledge**, to cut methane emissions by **at least 30% by 2030 from the 2020 levels.**
  - More countries have joined in this initiative since then, bringing the total to nearly 130.
  - A 30% reduction in methane emissions by 2030 is expected to result in avoiding 0.2 degree rise in temperature by the year 2050, and is considered absolutely essential in the global efforts to keep the temperature increase below the **1.5 degree Celsius target**.
- **Global Methane Initiative (GMI):**
  - It is an **international public-private partnership** focused on **reducing barriers** to the recovery and use of methane as a **clean energy source**.
  - GMI provides **technical support to deploy methane-to-energy projects** around the world that enable Partner Countries to launch methane recovery and use projects.
  - **India is a partner country.**

➢ **National:**
- **'Harit Dhara' (HD):**
  - **Indian Council of Agricultural Research (ICAR) has** developed an anti-methanogenic feed supplement '**Harit Dhara**', which can cut down cattle methane emissions by 17-20% and can also result in higher milk production.
- **India Greenhouse Gas Program:**
  - The India GHG Program led by **World Resources Institute (WRI) India** (non-profit organization), **Confederation of Indian Industry (CII)** and **The Energy and Resources Institute (TERI)** is an industry-led voluntary framework to measure and manage greenhouse gas emissions.

Note:

- The programme builds **comprehensive measurement and management strategies** to reduce emissions and drive more profitable, competitive and sustainable businesses and organisations in India.
  - ○ **National Action Plan on Climate Change (NAPCC):**
    - **NAPCC** was launched in 2008 which aims at **creating awareness** among the representatives of the public, different agencies of the government, scientists, industry and the communities on the threat posed by climate change and the steps to counter it.

Rhino Horns are Shrinking

Why in News?

According to a recent study, the horns of **Rhinoceroses** may have become smaller over time due **to selective pressure of hunting.**

➤ The study used an interesting research approach— analyzing **artwork and photographs of the animal spanning** more than five centuries.

➤ The study relied on a repository of images maintained by the **Netherlands-based Rhino Research Center (RRC)**.

What are the Findings?

➤ The **five surviving rhino species** (White and Black Rhinos in Africa, and the Greater one-horned, Javan and Sumatran rhino species in Asia) are **still threatened by habitat loss and hunting**.

➤ The rate of decline in horn length **was highest in the critically-endangered Sumatran rhino** and lowest in the white rhino of Africa, which is the **most commonly found species** both in the wild and in captivity.

- ○ This observation follows patterns seen in other animals, such as **tusk size in elephants and horn length in wild sheep**, which have been driven down by directional selection due to trophy hunting

➤ During the age of European imperialism (between the 16th and 20th centuries), rhinos were commonly **portrayed as hunting trophies, but since the mid-20th century**, they have been increasingly portrayed in a conservation context, reflecting a change in emphasis from a more to less consumptive relationship between humans and rhinos.

What are the Key Facts about Rhino?

➤ **About:**
  - ○ There are **five species of rhino** – white and black rhinos in Africa, and the greater one-horned, Javan, and Sumatran rhino species in Asia.
  - ○ **IUCN Red List** Status:
    - **Black Rhino:** Critically endangered. Smaller of the two African species.
    - **White Rhino:** Near Threatened. Researchers have created an embryo of the northern white rhino by using In Vitro Fertilization (IVF) process.
    - **One-Horned Rhino:** Vulnerable
    - **Javan:** Critically Endangered
    - **Sumatran Rhino:** Critically Endangered. It has gone extinct in Malaysia.

➤ **Indian Rhino:**
  - ○ **About**
    - Only the **Great One-Horned Rhino** is found in India.
    - Also known as Indian rhino, it is the **largest of the rhino species.**
    - It is identified by a single black horn and a grey-brown hide with skin folds.
    - They primarily graze, with a diet consisting almost entirely of grasses as well as leaves, branches of shrubs and trees, fruit, and aquatic plants.

  - ○ **Habitat:**
    - The species is restricted to small habitats in Indo-Nepal terai and northern West Bengal and Assam.
    - In India, rhinos are mainly found in Assam, West Bengal and Uttar Pradesh.

Note:

- Assam has an estimated 2,640 rhinos in four protected areas, i.e. **Pabitora Wildlife Reserve,** Rajiv Gandhi Orang National Park, Kaziranga National Park, and **Manas National Park.**
  - About 2,400 of them are in the **Kaziranga National Park and Tiger Reserve (KNPTR).**
- **Protection Status:**
  - **IUCN Red List:** Vulnerable.
  - **CITES:** Appendix I.
  - **Wildlife Protection Act, 1972:** Schedule I.
- **Threats:**
  - Poaching for the horns
  - Habitat loss
  - Population density
  - Decreasing Genetic diversity.

What are the Conservation Efforts in India?

- The **five rhino range nations** (India, Bhutan, Nepal, Indonesia and Malaysia) have signed a declaration 'The New Delhi Declaration on Asian Rhinos 2019' for the conservation and protection of the species.
- In 2019, the Ministry of Environment Forest and Climate Change (MoEFCC) has begun a project to create **DNA profiles of all rhinos** in the country.
- **National Rhino Conservation Strategy**: It was launched in 2019 to conserve the greater one-horned rhinoceros.
- **Indian Rhino Vision 2020:** Launched in 2005, it was an ambitious effort to attain a wild population of at least 3,000 greater one-horned rhinos spread over seven protected areas in the Indian state of Assam by the year 2020.

World Heritage Glaciers under Threat: UNESCO

Why in News?

Recently, a study conducted by **UNESCO (United Nations Educational, Scientific and Cultural Organization)** has found that a third of the **glaciers** on the **UNESCO World Heritage** list is under threat, regardless of efforts to limit temperature increases.

- A glacier is a large, **perennial accumulation of crystalline ice**, snow, rock, sediment, and water that originates on land and moves down slope under the influence of its own weight and gravity. They are sensitive indicators of changing climate.

What are the Findings?

- **Threat to Glaciers:**
  - 50 UNESCO World Heritage sites are **home to glaciers, representing almost 10% of the Earth's total glacierized** area.
    - They include the highest (next to Mt Everest), the longest (in Alaska), and the last remaining glaciers in Africa.
  - These glaciers have been retreating at an accelerated rate **since 2000 due to CO_2 emissions**, which are **warming temperatures.**
  - They are currently losing **58 billion tons of ice every yea**r – equivalent to the combined annual water use of France and Spain – and are responsible for nearly 5% of observed global sea-level rise.
  - The glaciers under threat are in **Africa, Asia, Europe, Latin America, North America and Oceania.**
    - **Africa:** All World Heritage sites in Africa will very likely be **gone by 2050, including** Kilimanjaro National Park and Mount Kenya.
    - **Asia:** Glaciers in Three Parallel Rivers of **Yunnan Protected Areas (China)** – highest mass loss relative to 2000 (57.2%) and also the fastest melting glacier on the List.
    - **Europe:** Glaciers in **Pyrenees Mont Perdu (France, Spain)** – very likely to disappear by 2050.
- **Significance of Glaciers:**
  - Half of humanity depends directly or indirectly on glaciers as their water source for domestic use, agriculture, and power.
  - Glaciers are also pillars of biodiversity, feeding many ecosystems.
  - When glaciers melt rapidly, millions of peopl**e face water scarcity and the increased risk of natural disasters** such as flooding, and millions more may be displaced by the resulting rise in sea levels.
- **Suggestions:**
  - It is still possible to save the other two-thirds, if the rise in global temperatures did not exceed **1.5 degrees Celsius compared to the pre-industrial era.**
  - In addition to drastically reduced carbon emissions there is a need for the creation of **a new international fund for glacier monitoring and preservation.**

- Such a fund would **support comprehensive research, promote exchange networks between all stakeholder**s and implement early warning and disaster risk reduction measures.

  ○ There is an urgent need to **cut greenhouse gas emissions and invest in nature-based solutions,** which can help mitigate **climate change** and allow people to better adapt to its impacts.

What are UNESCO's World Heritage Sites?

➢ **About:**

  ○ A **World Heritage Site** is a place that is listed by UNESCO for its **special cultural or physical significance.**

  ○ The list of World Heritage Sites is maintained by the international '**World Heritage Programme',** administered by the UNESCO World Heritage Committee.

  ○ This is embodied in an international treaty called the Convention concerning the Protection of the **World Cultural and Natural Heritage, adopted by UNESCO in 1972.**

➢ **Sites:**

  ○ There are around 1,100 UNESCO listed sites across its 167 member countries.

  ○ In 2021, 'Liverpool — Maritime Mercantile City' in the United Kingdom was deleted from the World Heritage List due to "the irreversible loss of attributes conveying the outstanding universal value of the property".

   • In 2007, the UNESCO panel delisted the Arabian Oryx Sanctuary in Oman after concerns over poaching and habitat degradation, and the Elbe Valley in Dresden, Germany, in 2009 after the construction of the Waldschloesschen road bridge across the Elbe River.

➢ **Sites in India:**

  ○ India is home to a total of 3691 monuments and sites. Of these 40 are designated as UNESCO World Heritage Sites.

  ○ Including places like the Taj Mahal, **Ajanta Caves and Ellora Caves. World Heritage Sites also include natural sites like the Kaziranga National Park in Assam.**

   • Harappan city of **Dholavira** in Gujarat as India's **40th world heritage site**.

  • **Ramappa Temple (Telangana)** was India's **39th World Heritage Site.**

  • **Khangchendzonga National Park**, Sikkim has been inscribed as India's first and the only "Mixed World Heritage Site".

  ○ In 2022, the Union Ministry of Culture nominated **Sacred Ensembles of the Hoysalas temples** for consideration as a World Heritage site for the year 2022-2023.

The Waste-to-Energy Programme

Why in News?

Recently, the Central Government has issued guidelines for rolling out its **waste-to-energy programme**, paving the way for companies to produce **biogas and bioCNG, and electricity** from **urban, industrial and agricultural waste and residues**.

What is the Waste-to-Energy Program?

➢ **About:**

  ○ The program is part of an umbrella scheme, the **National Bioenergy Programme.**

  ○ The government will offer **financial assistance** to project developers, while implementing agencies, including inspection firms, will be paid **service charges** for commissioning the waste-to-energy plants.

➢ **Implementing Agency:**

  ○ **Indian Renewable Energy Development Agency (IREDA)** will be the implementing agency for the program.

   • IREDA will be paid a **service charge of 1% of Central Financial Assistance (CFA)** to process applications, besides **1% for the CFA** (minimum ₹50,000) for implementing, and monitoring the performance once the plants are commissioned.

➢ **Financial Assistance:**

  ○ The Centre will provide **financial assistance** of Rs 75 lakh per MW for new biogas plants and Rs 50 lakh per MW for existing units.

  ○ If the waste-to-energy plants are set up in special category states, such as the **North East, Himachal Pradesh, Sikkim, Jammu and Kashmir, Ladakh,**

Note:

Lakshadweep, Uttarakhand, and Andaman & Nicobar Islands, the eligible CFA will be **20% higher than the standard CFA pattern.**

What is National Bioenergy Programme?

➢ **About:**
- ○ **The Ministry of New and Renewable Energy (MNRE)** has notified the National Bioenergy Programme.

➢ **Sub-Schemes:**
- ○ **Waste to Energy Programme.**
- ○ **Biomass Programme:**
  - Scheme to Support Manufacturing of Briquettes & Pellets and Promotion of Biomass (non-bagasse) based cogeneration in Industries to support setting up of pellets and briquettes for use in power generation and non-bagasse-based power generation projects.
- ○ **Biogas Programme:**
  - To support setting up of family and medium size Biogas in rural areas.

What is Biogas & BioCNG?

➢ **Biogas:**
- ○ It mainly comprises **hydro-carbon** which is **combustible** and can produce heat and energy when burnt.
- ○ Biogas is produced through a **biochemical process** in which certain types of **bacteria convert the biological wastes into useful bio-gas.**
- ○ Since the useful gas originates from a biological process, **it has been termed as bio-gas.**

Methane gas is the main constituent of biogas.
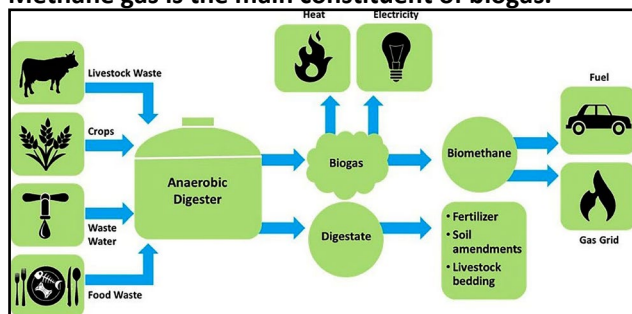
➢ **BioCNG:**
- ○ **Bio-CNG** is a **renewable fuel** obtained by purifying **biogas** – in contrast to **Compressed Natural Gas (CNG)**, a non-renewable source of energy. Biogas is produced when **microbes break down organic matter** like food, crop residue, waste water, etc.

- ○ It is similar to natural gas in terms of its composition and properties, and is a cleaner alternative to fuels such as petrol and diesel.

What are the Benefits of Bio Energy?

➢ **Pollution Free Cities:**
- ○ The biogas solution can help make our **cities clean and pollution-free.**
- ○ Leaching of toxic substances from landfills contaminates the groundwater.
- ○ Decomposing organic matter releases huge amounts of methane into the environment, causing **air pollution** and **global warming** as methane is a very potent GHG.

➢ **Handling Organic Waste:**
- ○ Installing large-scale municipal biogas systems can help cities **handle organic waste efficiently** to overcome the environmental and socio-economic challenges posed by overburdened landfills.
- ○ Municipal waste can be **fed into these plants to create clean and green fuel**, along with **biofertilizers**, while keeping the cities clean and hygienic.

➢ **Helpful for Women:**
- ○ Switching to biogas could be good for women because **they won't be exposed to harmful smoke and pollution.**
- ○ The female members of a household are affected by **indoor pollution** as they spend more time inside the house.

➢ **Will Transform Energy Dependence:**
- ○ Biogas can play a critical role in **transforming the energy dependence of rural and agricultural communities**, which majorly depends on burning wood, dung, charcoal, coal and other fossil fuels for their energy needs.
- ○ The high dependence on non-renewable sources is the leading cause of the long-standing energy problems in the country.

What are Government's Initiatives for Promoting Biogas & Waste Management?

➢ **Biogas:**
- ○ **SATAT Scheme**
- ○ The Indian government and Niti Aayog have outlined roadmaps to hasten our transition towards green fuels and promote LNG, hydrogen and methanol.

Note:

- **Waste Management:**
  - National Dashboard on Elimination of Single Use Plastic and Plastic Waste Management
  - Project REPLAN
  - Solid Waste Management Rules, 2016

New Species of Estuarine Crab

Why in News?

Recently, researchers have discovered a new species of **Estuarine Crab** at the **Mangroves of Parangipettai** near the **Vellar River estuary** (an area where river meets the ocean) **in Cuddalore district, Tamil Nadu.**

- The species has been named '**Pseudohelice Annamalai**' in recognition of **Annamalai University's 100 years of service** in education and research.

What are the Key Facts about Pseudohelice Annamalai?

- **About:**
  - This is the first ever record of this genus, **Pseudohelice**, collected from high intertidal areas in front of the **Centre of Advanced Study (CAS)**.
    - Till date, **only two species**, namely "**Pseudohelice Subquadrata**" and "**Pseudohelice Latreilli**" have been confirmed within this genus.

- **Geography:**
  - The species discovered is distributed around the **Indian subcontinent and the eastern Indian Ocean.**

- **Features:**
  - **Pseudohelice annamalai** is distinguished by **dark purple to dark grey colouring**, with irregular light brown, yellowish brown, or white patches on the posterior carapace with light brown chelipeds.
  - The new species is **small** and has a maximum width of up to 20 mm.
  - This species is **not aggressive** and can move fast like other intertidal crabs.

- **Habitat:**
  - The species inhabits **muddy banks of mangroves**, and the **burrows were located near the pneumatophores of Avicennia mangroves**.
  - Burrows have a depth of 25-30 cm and are branched, with larger pellets around the entrance.

- **Significance:**
  - The occurrence of Pseudohelice in India **links the distribution gap between the western Indian Ocean and the western Pacific Ocean**.
  - The new species provides additional **evidence of the geographic isolation of the eastern Indian Ocean** for some marine organisms.

Dynamic Ground Water Resource Assessment, 2022

Why in News?

Recently, the Union Minister of Jal Shakti released the Dynamic Ground Water Resource Assessment Report for the entire country for the year 2022.

What are the Highlights of the Assessment?

- **Findings:**
  - The total annual ground water recharge is 437.60 Billion Cubic Meters (BCM) and the annual ground water extraction is 239.16 BCM.
    - Assessment indicates an increase in ground water recharge.
    - By comparison, **an assessment in 2020 found that the annual groundwater recharge was 436 bcm** and extraction 245 bcm.
      - Groundwater Recharge is a **(hydrologic) process where the water from the surface of the earth seeps downwards** and gets collected in aquifers. So, the process is also known as deep drainage or deep percolation.
    - The 2022 assessment suggests that groundwater extraction is the lowest since 2004, when it was 231 bcm.
  - Further, out of the total 7089 assessment units in the country, **1006 units have been categorized as 'Over-exploited'.**
  - About **87% of total annual groundwater extraction** i.e., 208.49 bcm **is for irrigation use.** Only 30.69

Note:

bcm is for Domestic & Industrial use, which is about 13 % of the total extraction.

➢ **State wise Groundwater Extraction:**
- ○ The overall stage of **groundwater extraction in the country is 60.08%.**
- ○ The stage of ground water extraction is **very high in the states of Haryana, Punjab, Rajasthan, Dadra & Nagar Haveli and Daman & Diu** where it **is more than 100%**.
- ○ In the states of Delhi, Tamil Nadu, Uttar Pradesh, Karnataka and UTs of Chandigarh, Lakshadweep and Puducherry, the stage of **ground water extraction is between 60-100%.**
- ○ In the rest of the states, the stage of ground water extraction is below 60 %.

What is the Status of Groundwater in India?

➢ **About:**
- ○ **India is the largest user of groundwater** with a fourth of the total global withdrawal. Indian cities cater to about 48% of its water supply from groundwater.
  - • There are over 4,400 statutory towns and cities in India, with around 400 million residents, which will increase by up to 300 million by 2050.

➢ **Issues with Groundwater Depletion:**
- ○ The **unmanaged groundwater and increasing population may result in seasonal water shortages by 2050** for an estimated 3.1 billion people and perpetual water shortage for almost a billion.
- ○ Further, water and food security will also be compromised and lead to **poverty** in the cities despite having good infrastructure development.

What are the Challenges with Management of Groundwater in India?

➢ **Unregulated extraction**
- ○ **Groundwater, regarded as a "common pool resource",** has historically witnessed little control over its extraction.
- ○ Driven by a rising population, **urbanisation** and expansion of irrigation activities, groundwater extraction has been on the rise for several decades.

➢ **Excessive Irrigation:**
- ○ Groundwater irrigation popularised in the 1970s has led to socio-economic well-being, increased productivity and better livelihoods.

➢ **Poor Knowledge of Groundwater Management Systems:**
- ○ **The mismatch in demand and supply at the local level** represents a large part of the problem in India.
- ○ A growing population or rampant urban development are two examples of the reasons behind this phenomenon, but they may be less direct.
- ○ For example, better economic status of a population may assert more demand for water supply and distribution.

➢ **Groundwater Pollution:**
- ○ Water quality data obtained by the **Central Ground Water Board(CGWB) shows that groundwater in as many as 154 districts across 21 states has arsenic contamination.**
- ○ The quality is largely compromised on **accounts of anthropogenic activities and geogenic sources.**
- ○ This further **raises the level of contamination as heavy metal concentration** in the earth's crust is higher than on the surface.
- ○ Additionally, **surface water pollution also affects groundwater quality as pollutants at the water surface percolate through the layers of the land**, contaminating groundwater, and may even alter the soil structure in case of oil leakages or spillage.

➢ **Climate Change:**
- ○ The **cumulative effect of all the challenges mentioned above is intensified by the climate shocks** experienced by the country.
- ○ The **problems groundwater faces in India feeds into worsening the climate crisis**, which further deepens the distress associated with groundwater availability.
- ○ Disturbances in the hydrological cycle causing long spells of **floods** and **droughts** adversely affect the quality and quantity of groundwater.
  - • For example, flood events risk increased runoff of chemicals and biotic contaminants into groundwater.

What are the Initiatives Taken by the Government?

➢ **Atal Bhujal Yojana (Atal Jal):** It is a Rs. 6000 crore **Central Sector Scheme** with **World Bank** assistance, for sustainable management of ground water resources with community participation.

Note:

drishti

➢ **Jal Shakti Abhiyan (JSA):** It was launched in 2019 in 256 water stressed districts in the country to improve water availability including ground water conditions in these areas.

  ❍ It has special emphasis on creation of recharge structures, rejuvenation of traditional water bodies, intensive afforestation etc.

➢ **Aquifer Mapping and Management Programme:** The CGWB has taken up **Aquifer Mapping and Management Programme.**

  ❍ The program is aimed to delineate aquifer disposition and their characterization for preparation of aquifer/ area specific groundwater management plans with community participation.

➢ **Atal Mission for Rejuvenation and Urban Transformation (AMRUT):** The Mission focuses on development of basic urban infrastructure in the AMRUT cities, such as water supply, sewerage & septage management, storm water drainage, green spaces & parks, and non-motorized urban transport.

India's First Sovereign Green Bonds Framework

Why in News?

Recently, the **Union Minister for Finance & Corporate Affairs** has approved the final **Sovereign Green Bonds Framework of India.**

➢ **Sovereign Green Bonds will be issued** for mobilising resources for **green projects**.

What is Sovereign Green Bonds Framework?

➢ The Framework comes close on the footsteps of India's commitments under "**Panchamrit**" as elucidated by the Prime Minister at **Conference of Parties (COP) 26** at Glasgow in November 2021.

➢ It will further strengthen India's commitment towards its **Nationally Determined Contribution (NDCs)** targets, adopted under the **Paris Agreement**.

➢ **Green Finance Working Committee (GFWC)** was constituted to validate key decisions on issuance of Sovereign Green Bonds.

➢ The framework has been rated '**Medium Green**', with a "**Good**" governance score by a Norway-based independent second opinion provider **CICERO**.

  ❍ The '**Medium Green**' rating is assigned 'to projects and solutions that represent **significant steps towards the long-term vision**, but are not quite there yet.

➢ All **fossil fuel-related projects** have been kept **out of the framework**, along with **biomass-based renewable energy projects** that rely on feedstock from '**protected areas**'.

What are Sovereign Green Bonds?

➢ **About:**

  ❍ **Green bonds** are issued by companies, countries and multilateral organisations to exclusively **fund projects that have positive environmental or climate benefit**s and provide investors with fixed income payments.

  ❍ The projects can include **renewable energy, clean transportation** and **green buildings**, among others.

  ❍ Proceeds from these bonds are **earmarked for green projects**. This is unlike standard bonds, the proceeds of which can be utilized for various purposes at the discretion of the issuer.

  ❍ By the end of 2020, **24 national governments had issued Sovereign Green, Social and Sustainability bonds** totalling a cumulative USD 111 billion dollars, according to the London-based Climate Bonds Initiative.

➢ **Benefits of Sovereign Green Bonds:**

  ❍ **Sovereign green issuance** sends a powerful signal of **intent around climate action** and **sustainable development** to governments and regulators.

  ❍ With the **International Energy Agency's (IEA)** World Energy Outlook 2021, estimating that **70% of the additional USD 4 trillion spending** to reach **net-zero** is required in emerging/developing economies, sovereign issuance can help kickstart these large inflows of capital.

  ❍ Development of a sovereign green benchmark could eventually **lead to the creation of a vibrant ecosystem** of raising green bonds from **international investors.**

➢ **Status:**

  ❍ **Global Status:**

    ● **The Environmental, Social and Governance (ESG)** funds are estimated at USD 40 trillion with Europe accounting for about half this.

Note:

- It is estimated that by 2025, ESG assets will account for about one-third of the total global assets under management.
- The ESG debt funds pie is around USD 2 trillion, of which over 80% is "environmental" or green bonds, and the rest social and sustainability bonds.
- **National Status:**
  - According to the Climate Bonds Initiative, an international organization working to mobilize global capital for climate action, **Indian entities have issued green bonds for over USD 18 billion.**

What are Other Measures on Climate Action announced in the Budget?

➢ The budget included several measures on climate action such as:
  - **Battery swapping policy**.
  - Additional allocation under the **Performance Linked Incentive (PLI)** scheme for manufacturing high efficiency solar modules.
  - The government is introducing a new bill that aims to provide a regulatory framework for **Carbon Trading** in India to encourage penetration of renewables in the energy mix.

Wetlands Conservation

Why in News?

In this **Anthropocene** era, human interference can be seen in every component of Earth's ecosystem. Due to such human-mediated changes, the loss of Shallow Wetlands such as lakes, ponds are becoming a major concern.

➢ The **Anthropocene Epoch** is an unofficial unit of geologic time, used to describe the **most recent period in Earth's history** when human activity starte

➢ d to have a significant impact on the planet's climate and ecosystem.

What are the Shallow Water Wetlands?

➢ **About:**
  - These wetlands are **areas of permanent or semi-permanent water** with little flow. They include vernal ponds, spring pools, salt lakes and volcanic crater lakes.

- They are of enormous ecological importance and human need (such as drinking water and inland fisheries).
- Because of its shallow nature, s**unlight penetrates the bottom of the water body.**
- The temperature is isothermal, with a continuous mixing process (circulating top-to-bottom on a regular basis, **especially in a tropical country like India).**

➢ **Concerns:**
  - Over time, these water bodies **get filled by sediments coming from the catchment.**
  - Hence, the depth of the water column gradually declines. It is quite obvious that a small change in the temperature and rainfall pattern would have a cascade of ecological effects on this type of water body.
  - From 1901-2018, **India's average temperature has risen by 0.7 degrees Celsius**. The rise is attributed to greenhouse gas-induced warming as well as land-use and land-cover change, according to a 2020 report by the Union Ministry of Earth Sciences.
  - Such changes in temperature and heat distribution across the regional scale will have an impact on the rainfall pattern. Therefore, there is an **increasing threat to India's natural ecosystems,** freshwater resources, and agriculture, which ultimately impact biodiversity, food, water security, public health and society as a whole.
    - An example of **Surajpur Bird Sanctuary** (an urban wetland in Yamuna River basin) -In October 2019, the water level in Surajpur wetlands was low with high algal production as well as smell and odour issues.

What are Wetlands?

➢ **About:**
  - Wetlands are areas where water is the primary factor controlling the environment and the associated plant and animal life. They occur where the water table is at or near the surface of the land, or where the land is covered by water.
  - Wetlands are defined as: "lands transitional between terrestrial and aquatic eco-systems where the water table is usually at or near the surface or the land is covered by shallow water".

○ Often called **"nature's kidneys" and "nature's supermarket"**, wetlands support millions of people by providing food, and water, and controlling floods and storm surges.

➢ **Types:**

○ **Coastal Wetlands:**
  ● Coastal wetlands are found in the areas between land and open sea that are not influenced by rivers such as shorelines, beaches, mangroves and coral reefs.
  ● A good example is the mangrove swamps found in sheltered tropical coastal areas.

○ **Marshes:**
  ● These are periodically saturated, flooded, or ponded with water and characterized by herbaceous (non-woody) vegetation adapted to wet soil conditions. Marshes are further characterized as tidal marshes and non-tidal marshes.

○ **Swamps:**
  ● These are fed primarily by surface water inputs and are dominated by trees and shrubs. Swamps occur in either freshwater or saltwater floodplains.

○ **Bogs:**
  ● Bogs are waterlogged peatlands in old lake basins or depressions in the landscape. Almost all water in bogs comes from rainfall.

○ **Estuaries:**
  ● The area where rivers meet the sea and water changes from fresh to salt can offer an extremely rich mix of biodiversity. These wetlands include deltas, tidal mudflats and salt marshes.

What is the Importance of Wetlands?

➢ **Highly Productive Ecosystems:** Wetlands are highly productive ecosystems that provide the world with nearly two-third of fish harvest.

➢ **Integral Role in the Ecology of the Watershed:** The combination of shallow water, high levels of nutrients are ideal for the development of organisms that form the base of the food web and feed many species of fish, amphibians, shellfish and insects.

➢ **Carbon Sequestration:** Wetlands' microbes, plants and wildlife are part of global cycles for water, nitrogen and sulphur. Wetlands store carbon within their plant communities and soil instead of releasing it to the atmosphere as carbon dioxide.

➢ **Lowering Flood Heights and Reduces Soil Erosion:** Wetlands function as natural barriers that trap and slowly release surface water, rain, snowmelt, groundwater and flood waters. Wetland vegetation also slow the speed of flood waters lowering flood heights and reduces soil erosion.

➢ **Critical to Human and Planet Life:** More than one billion people depend on them for a living and 40% of the world's species live and breed in wetlands.

What are the Threats to Wetlands?

➢ **Urbanisation:** Wetlands near urban centres are under increasing developmental pressure for residential, industrial and commercial facilities. Urban wetlands are essential for preserving public water supplies.
  ○ Delhi has more than 1,000 lakes, wetlands and ponds, according to the estimates of the Delhi Wetland Authority.
    ● But most of these are threatened by **rampant encroachment (both planned and unplanned)**, p**ollution through dumping of solid waste** and construction debris.

➢ **Agriculture:** Vast stretches of wetlands have been converted to paddy fields. Construction of a large number of reservoirs, canals and dams to provide for irrigation significantly altered the hydrology of the associated wetlands.

➢ **Pollution:** Wetlands act as natural water filters. However, they can only clean up the fertilizers and pesticides from agricultural runoff but not mercury from industrial sources and other types of pollution.
  ○ There is growing concern about the effect of industrial pollution on drinking water supplies and the biological diversity of wetlands.

➢ **Climate Change:** Increased air temperature, shifts in precipitation, increased frequency of storms, droughts, and **floods, increased atmospheric carbon dioxide** concentration, and sea level rise could also affect wetlands.

➢ **Dredging:** The removal of material from a wetland or river bed. Dredging of streams lowers the surrounding water table and dries up adjacent wetlands.

➢ **Draining:** Water is drained from wetlands by cutting ditches into the ground which collect and transport water out of the wetland. This lowers the water table and dries out the wetland.

Note:

What are the Efforts towards Wetlands Conservation?

➢ **Initiatives at Global Level:**
- ❍ The **United Nations declared 2021-2030 the Decade on Ecosystem Restoration** with the aim to conserve and restore the terrestrial, aquatic and marine ecosystems.
  - ❍ **Ramsar Convention**
  - ❍ **Montreux Record**
  - ❍ **World Wetlands Day**

➢ **Initiatives at National Level:**
- ❍ **Wetlands (Conservation and Management) Rules, 2017.**
- ❍ **Action Plan of MoEFCC**

Provisional State of Global Climate Report, 2022

Why in News?

Recently, the **World Meteorological Organization (WMO)** released the provisional State of the Global Climate report, 2022.

➢ The full and final report is expected to be published in April, 2023.

What is the WMO State of the Global Climate report?

➢ The report is **produced on an annual basis**, complementing the most recent long assessment cycle provided by the **sixth IPCC Assessment Report.**

➢ The report provides an authoritative voice on the current state of the climate using key climate indicators and reporting on extreme events and their impacts.

What are the Highlights of the Report?

➢ **Increase in Concentration of Greenhouse Gases:**
- ❍ The concentrations of three main greenhouse gases, carbon dioxide (CO_2), methane (CH_4) and Nitrous oxide (NO_2), were all at record highs in 2021. **Xenotransplantation**
- ❍ The **emissions of methane, which is 25 times more potent than carbon dioxide** in causing global warming, in fact, increased at the fastest pace ever.

- ● At the **climate change conference in Glasgow**, **countries had pledged to cut global methane emissions** by at least 30% by the year 2030.

➢ **Temperature:**
- ❍ The **global average temperature in 2022 is estimated to be about 1.15 °C above** the 1850-1900 average.
- ❍ 2015 to 2022 are likely to be the **eight warmest years on record**.
- ❍ **La Niña** (a cooling of sea-surface waters in the equatorial Pacific Ocean) conditions have dominated since late 2020 and are expected to continue until the end of 2022.
  - ● **Continuing La Niña** has kept **global temperatures relatively low for the past two years** - albeit higher than the last significant La Niña in 2011.

➢ **Glaciers and Ice:**
- ❍ In the European Alps, **glacier melt records were shattered in 2022**. Average thickness losses of between 3 and over 4 metres were measured throughout the Alps, substantially more than in the previous record year 2003.
- ❍ In Switzerland, **6% of the glacier ice volume was lost between 2021 and 2022,** according to initial measurements.
- ❍ For the first time in history, **no snow outlasted the summer season even at the very highest measurement sites** and thus no accumulation of fresh ice occurred.

➢ **Sea Level Rise:**
- ❍ **Global mean sea level has risen by an estimated 3.4 ± 0.3 mm per year** over the 30 years (1993-2022) of the satellite altimeter record.
- ❍ The rate has **doubled between 1993-2002 and 2013-2022** and sea level increased by about 5 mm between January 2021 and August 2022.

➢ **Ocean Heat:**
- ❍ The **ocean stores around 90% of the accumulated heat** from human emissions of greenhouse gases.
- ❍ The **upper 2000m of the ocean continued to warm to record levels in 2021**.
- ❍ Overall, **55% of the ocean surface experienced at least one marine heatwave** in 2022.
- ❍ In contrast only 22% of the ocean surface experienced a marine cold spell. Marine heatwaves are becoming more frequent, in contrast to cold waves.

➢ **Extreme Weather:**
  ○ In East Africa, **rainfall has been below average in four consecutive wet seasons,** the longest in 40 years, with indications that the current season could also be dry.
  ○ Record breaking rain in July and August, 2022 led to extensive flooding in Pakistan.
    ● The **flooding came hard on the heels of an extreme heatwave** in March and April in both India and Pakistan.
  ○ **Large parts of the northern hemisphere were exceptionally hot and dry.**
    ● China had the most extensive and long-lasting heatwave since national records began and the second-driest summer on record.
  ○ Large parts of **Europe sweltered in repeated episodes of extreme heat**.
    ● The United Kingdom saw a new national record on 19th July,2022 when the temperature topped more than 40°C for the first time.

What are the Steps taken to tackle Climate change?

➢ **National:**
  ○ **NAPCCC:**
    ● To counter the emerging threats from climate change, India released its **National Action Plan to Combat Climate Change (NAPCC)**. It has 8 sub missions including **National Solar Mission**, National Water Mission etc.
  ○ **India Cooling Action Plan:** It provides an integrated approach towards cooling and related areas including reduction in the cooling demand. This would help reduce emissions thereby combating global warming.

➢ **Global:**
  ○ **Paris Agreement:**
    ● It seeks to keep the rise in global temperatures **"well below" 2°C from pre-industrial times**, while "pursuing efforts" to limit it to 1.5°C.
  ○ **UN SDGs:**
    ● These are 17 broad goals for achieving sustainable development in the society. Amongst them **Goal 13 exclusively focuses on tackling climate change.**
  ○ **Glasgow Pact:**
    ● It was finally adopted by 197 parties in 2021 during the COP26 negotiations.
    ● It has emphasized that stronger action in the current decade was most **critical for achieving the 1.5-degree target**.

What is the World Meteorological Organization (WMO)?

➢ The WMO is an **intergovernmental organization** with a membership of 192 Member States and Territories.
  ○ India is a member of WMO.

➢ It originated from the **International Meteorological Organization (IMO)**, which was established after the 1873 Vienna International Meteorological Congress.

➢ Established by the ratification of the WMO Convention on 23rd March 1950, WMO became the specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences.'

➢ WMO is **headquartered in Geneva, Switzerland.**

●●●

Note:

History

Highlights

- Megalithic Burial Sites
- Mangarh Massacre
- Guru Nanak Dev Jayanti
- Maulana Abul Kalam Azad
- Jawaharlal Nehru
- Acharya Kripalani
- Nadaprabhu Kempegowda
- Afzal Khan Tomb

Megalithic Burial Sites

Why in News?

According to recent findings, **Andhra Pradesh has the largest anthropomorphic burial site collection in Tirupati district.**

➢ Anthropomorphic sites are **those marked by a representation of human form** above the megalithic burials.
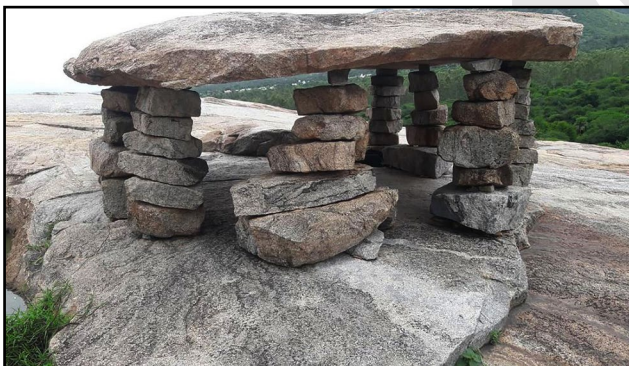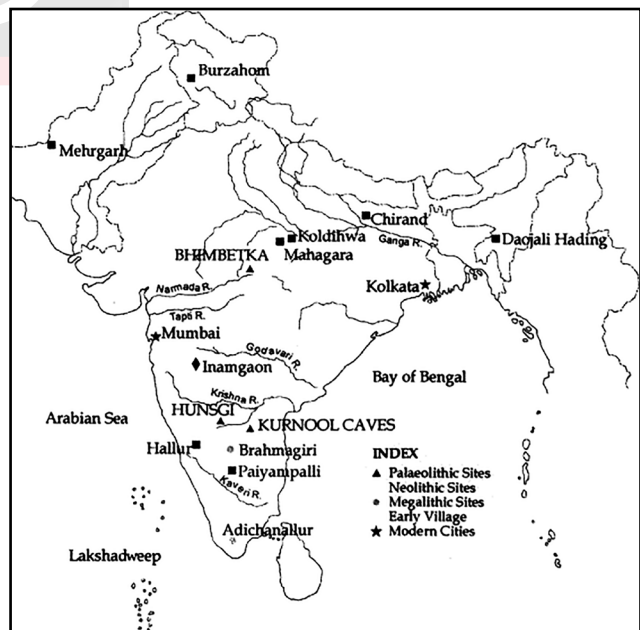

What are Megaliths?

➢ **A megalith is a large stone that has been used to construct a prehistoric structure** or monument, either alone or together with other stones.

➢ Megaliths were constructed either as burial sites or commemorative (non-sepulchral) memorials.

  ○ The **former are sites with actual burial remains,** such as dolmenoid cists (box-shaped stone burial chambers), cairn circles (stone circles with defined peripheries) and capstones (distinctive mushroom-shaped burial chambers found mainly in Kerala).

➢ The urn or the sarcophagus containing the mortal remains was usually made of terracotta. Non-sepulchral

megaliths include memorial sites such as menhirs.

➢ In India, archaeologists trace the majority of the megaliths to **the Iron Age** (1500 BC to 500 BC), though some sites precede the Iron Age, extending up to 2000 BC.

➢ Megaliths are spread across the Indian subcontinent. The majority of megalithic sites are found in **Peninsular India,** concentrated in the states of **Maharashtra** (mainly in Vidarbha), **Karnataka, Tamil Nadu, Kerala, Andhra Pradesh, and Telangana.**

What are the Different Types of Megalithic Structure?

➢ **Stone Circles:** Stone circles are **commonly called "cromlechs"** (a word in the Welsh language); the English word "cromlech" is sometimes used in that sense.

Note:

- ➤ **Dolmen:** A **dolmen is a megalithic structure formed by placing a large capstone** on two or more support stones, forming a chamber below, sometimes closed in on three sides. Often used as a tomb or burial chamber.

- ➤ **Cist:** Cist is a small stone-built coffin-like box or ossuary used to hold the bodies of the dead. Burials are megalithic forms very similar to dolmens in structure. These types of burials were completely underground. There were single- and multiple-chambered cists.

- ➤ **Monolith:** Any single standing stone erected in prehistoric times. Sometimes synonymous with "megalith" and "menhir"; for later periods, the word monolith is more likely to be used to describe single stones.

- ➤ **Capstone style:** Single megaliths placed horizontally, often over burial chambers, without the use of support stones.

Mangarh Massacre

Why in News?

A horrifying tragedy occurred in **Mangarh** (Banswada, Rajasthan) **killing more than 1,500 Bhil tribals** on 17th November, 1913.

- ➤ The **Mangrah hillock,** situated at the Gujarat-Rajasthan border, is **also known as the Adivasi Jallianwala.**

What led to the Mangarh Massacre?

- ➤ The **Bhils**, a tribal community **faced great troubles at the hands of the rulers of the princely states and the British.**

- ➤ By the end of the 20th century, the Bhils **living in Rajasthan and Gujarat became bonded labour.**

- ➤ The **great famine of 1899-1900** across the Deccan and Bombay Presidency, which killed over six lakh people, only **made the situation worst for the Bhils.**

- ➤ Mobilised and trained by social activist **Guru Govindgiri, also known as Govind Guru**, the **Bhils placed a charter of 33 demands before the British by 1910** primarily relating to forced labour, high tax imposed on Bhils and harassment of the guru's followers by the British and rulers of princely states.

- ➤ The **Bhils rejected the British's attempt to placate them and refused to leave Mangarh Hill,** vowing to declare freedom from British rule.

- ➤ The **British then asked the Bhils to leave Mangarh Hill before 15 November 1913.**
  - ○ But that didn't happen and on **17 November 1913, the British Indian Army fired indiscriminately on Bhil protesters** and it is said that **over 1,500 people, including women and children died in the tragedy.**

Who was Govind Guru?

- ➤ **Govind Guru was a revolutionary/ leader of the tribals of Mangarh** that included present-day **Udaipur, Dungarpur and Banswara in Rajasthan, Gujarat's Idar** and **Malwa in Madhya Pradesh.**

- ➤ Guru was a **living legend among the Bhil and Garasiya tribal communities,** a man who united thousands of tribals with his voice.

- ➤ Before Govind Guru became a leader in India's freedom struggle, he played **an important role in India's renaissance movement.**

- ➤ At the age of 25, he **impressed Swami Dayanand Saraswati,** a central figure of that movement in north India.
  - ○ He along with Swami Dayanand Saraswati initiated a wave of **social reforms in the tribal areas.**
  - ○ In 1903, Govind Guru pledged not to drink alcohol, shifting his focus to eradicating social evils, boycotting foreign goods, ending forced labour, educating girls, and resolving mutual disputes among tribes instead of taking them to the courts.

- ➤ This led to the **creation of a Sump (Unity) Sabha, whose first meeting was held on the hilltop in Mangarh.**
  - ○ This historical event solidified Mangarh's significance in Indian history as it became central to the tribal movement in this area.

- ➤ **Bhagat movement initiated in 1908 by Govind Guru** where tribals gathered around the fire to reaffirm their oath was **seen by the British as a threat.**

- ➤ The consequence of the Mangarh massacre was cruel. **Govind Guru was given a death sentence, and his wife was arrested.**
  - ○ But fearing that the movement of tribal Bhils would turn violent, the **British postponed his execution and sentenced him to 20 years of imprisonment** on an isolated island.
  - ○ When he was released from jail, all the princely states came together to exile him.
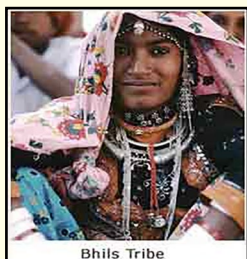
Note:

○ He lived his **last years in Kamboi, Gujarat,** where he **died on October 30, 1931.**

What is Bhil Tribe?
➢ **About:**
   ○ **Bhils** are commonly referred to as **Rajasthan's bowmen**. They are India's most widely dispersed tribal communities.

Bhils Tribe

   ○ As per Census 2011, Bhils are **India's largest tribe.**
   ○ They are broadly classified into **two types:**
      ● Central or Pure Bhils
      ● Eastern or Rajput Bhils.
   ○ The central Bhils can be found in the mountain regions of Madhya Pradesh, Maharashtra, Gujarat, and Rajasthan in India, and also can be found in Tripura's northwestern regions.
   ○ They are considered as **Schedule Tribe** in Andhra Pradesh, Chhattisgarh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tripura.
➢ **Historical Perspective:**
   ○ Bhils are members of the pre-Aryan race.
   ○ The term **'Bhil' is derived from the word villu or billu, which is known as Bow in the Dravidian language.**
   ○ The name Bhil is also **mentioned in the ancient epics of Mahabharata and Ramayana.**

Guru Nanak Dev Jayanti

Why in News?

Recently, the 553rd birth anniversary of **Guru Nanak Dev** was celebrated.

Who was Guru Nanak Dev?

➢ **Birth:**
   ○ In 1459 at Talwandi Rai Bhoe village near Lahore, which was later renamed as Nankana Sahib.
   ○ He was the **first of the 10 Sikh gurus and the founder of Sikhism**.
➢ **Contributions:**
   ○ Initiated inter-faith dialogue way back in the 16th century and had conversations with most of the religious denominations of his times.
   ○ Wrote compositions which were included in the **Adi Granth**, compiled by **Guru Arjan (1563-1606)**, the fifth Sikh guru.
      ● This came to be known as **Guru Granth Sahib** after the additions made by the **10th Sikh guru – Guru Gobind Singh (1666-1708).**
   ○ Advocated the **'Nirguna' (devotion to and worship of formless divine) form of bhakti.**
   ○ **Rejected sacrifices,** ritual baths, image worship, austerities.
   ○ Set up rules for **congregational worship (Sangat)** involving collective recitation.
   ○ Gave the basic mantra of **'Ek Onkar'** to his followers and **insisted on treating all human beings equally,** without discriminating on the basis of caste, creed and gender.
➢ **Death:**
   ○ In 1539 at Kartarpur, Punjab.

What is the Relevance of Guru Nanak Dev for Modern India?

➢ **Building an Egalitarian Society:** His idea of equality can be deduced by the following innovative social institutions, as given by him:
   ○ **Langar:** Collective cooking and sharing of food.
   ○ **Pangat:** Partaking food without distinctions of high and low caste.
   ○ **Sangat:** Collective decision making.
➢ **Social Harmony:**
   ○ According to him, the **whole world is God's creation, and all are born equal.** There is only one universal creator i.e. **"Ek Onkar Satnam".**
   ○ Apart from it, forgiveness, patience, forbearance, and kindness are the core of his teachings.
➢ **Creating a Just Society:**

Note:

○ He placed the motto of **"kirat karo, naam japo and vand chhako"** (work, worship and share) before his disciples.

○ He stood for karma as the basis of dharma, and he transformed the idea of spiritualism into the ideology of social responsibility and social change.

○ He **advocated the concept of "dasvandh" or donating one-tenth of one's earnings among needy persons.**

➤ **Gender Equality:**

○ According to him, **"Women as well as men share the grace of God and are equally responsible for their actions to him."**

○ Respect for women and gender equality is perhaps the most important lesson to be learnt from his life.

➤ **Bringing Peace:**

○ According to Indian philosophy, **a Guru is the one who provides illumination, dispels doubt and shows the right path.**

○ In this context, **the ideas of Guru Nanak Dev can help promote peace, equality and prosperity across the globe.**

Maulana Abul Kalam Azad

Why in News?

Prime Minister of India paid tributes to **India's first education minister** Maulana Abul Kalam Azad on his **134th birth anniversary.**

➤ **11th November** is observed as **National Education Day** every year since 2008 to commemorate his birth anniversary**.**
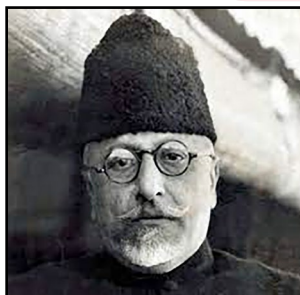
Who was Maulana Abdul Kalam Azad?

➤ **Birth:** Maulana Abul Kalam Azad, originally named Muhiyuddin Ahmad, was born in **1888 in Mecca, Saudi-Arabia.**

○ Azad was a brilliant debater, as indicated by his name - "Abul Kalam" which literally means "Lord of Dialogues".

➤ **Brief Profile:**

○ He donned many hats of being a journalist, freedom fighter, politician, and educationist.

➤ **Contributions (Pre-Independence):**

○ He was a proponent of **Hindu Muslim unity, opposed to Partition.**

● In 1912, he started a weekly journal in Urdu called **Al-Hilal** which played an important role in forging Hindu-Muslim unity after the bad blood created between the two communities in the aftermath of **Morley-Minto reforms (1909).**

■ Under the 1909 reforms, the provision of separate electorates for Muslims was resented by Hindu.

● The government regarded Al- Hilal as a propagator of secessionist views and banned it in 1914.

● Maulana Abul Kalam Azad then started another weekly called **Al-Balagh** with the same mission of propagating Indian nationalism and revolutionary ideas based on Hindu-Muslim unity.

■ In 1916, the government banned this paper too and expelled Maulana Abul Kalam Azad from Calcutta and exiled him to Bihar from where he was released after the **First World War 1920.**

○ **Azad supported the Non-Cooperation Movement (1920-22)** started by Gandhiji and entered the Indian National Congress in 1920.

● In 1923, he was elected as the president of Indian National Congress. At an age of 35, he became the youngest person to serve as the President of the Indian National Congress.

○ Maulana Azad was arrested in 1930 for violation of the salt laws as part of **Gandhiji's Salt Satyagraha.** He was put in Meerut jail for a year and a half.

○ He again became the president of Congress in 1940 and remained in the post till 1946.

➤ **An Educationist:**

○ In the field of education, Maulana Azad had been an uncompromising exponent of universalism, a truly liberal and humanitarian educational system.

○ Azad's ideal was a fusion of **the Eastern and Western concepts of man,** to create a fully integrated personality. Whereas the Eastern concept dwelt on spiritual excellence and individual salvation, the Western concept laid stress on worldly achievements and social progress.

○ He was one of the founding members of the Jamia Millia Islamia University, originally established at Aligarh in the United Provinces in 1920.

Note:

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- ➤ **His Works:** Basic Concept of Quran, Ghubar-eKhatir, Dars-e-Wafa, India Wins Freedom, etc.
- ➤ **Contributions (Post-Independence):**
  - ○ In 1947, he became the first education minister of free India and remained at this post till his death in 1958. In his tenure, he did tremendous work for the upliftment of the country.
    - The first IIT, IISc, School of Planning and Architecture and the University Grants Commission were established under his tenure as the education minister.
  - ○ **Indian Council for Cultural Relations,** for introduction of Indian culture to other nations.
  - ○ Following three **academics were formed:**
    - **Sahitya Academy** for development of literature;
    - **Sangeet Natak Academy** for the development of Indian music and dance;
    - **Lalit Kala Academy** for the development of painting.
- ➤ Maulana Abul Kalam Azad was posthumously awarded India's highest civilian honour, **Bharat Ratna in 1992.**

Jawaharlal Nehru

Why in News?

India is celebrating **Children's Day** on **14th November 2022** to commemorate the **133rd birth anniversary** of the **Pandit Jawaharlal Nehru**.

- ➤ **World Children's Day** is celebrated on **20th November** each year.

Who was Jawaharlal Nehru?

- ➤ **About:**
  - ○ **Birth:** 14th November 1889 in Allahabad, Uttar Pradesh.
  - ○ **Father's Name:** Motilal Nehru (a lawyer who held the office of **Indian National Congress** as President two times.)
  - ○ **Mother's Name:** Swarup Rani
- ➤ **Brief Profile:**
  - ○ Author, politician, social activist, and lawyer who rose to prominence as the face of Indian national movement against British rule of India.
- ➤ **Education:**

- ○ **Nehru** received his education at home from **English governesses** and **tutors** until the age of **16.**
- ○ He attended **Harrow,** a prestigious English school, in **1905,** where he spent two years.
- ○ He spent **three years** at **Trinity College** in **Cambridge** where he earned a degree in **natural science.**
- ○ He qualified as a barrister from the **Inner Temple, London.**
- ➤ **Return:**
  - ○ In 1912, when he returned to India, he immediately entered in to politics.
- ➤ **Contribution in Indian Freedom Movement:**
  - ○ **Nehru** participated in the **Bankipore Congress** as a delegate in **1912.**
  - ○ In 1916, he joined **Annie Besant's Home Rule League.**
    - He became Secretary of the **Home Rule League, Allahabad** in **1919**.
  - ○ When the **Non-Cooperation Movement** began in **1920**, he interacted with **Mahatma Gandhi** and joined the **national independence movement.**
  - ○ In **1921**, he was detained on suspicion of engaging in **anti-government activity.**
  - ○ **Nehru** was appointed as **General Secretary** of the **All India Congress Committee** in **September 1923.**
  - ○ Since **1927**, he has twice served as the **general secretary** of the **Congress party.**
  - ○ **Nehru** was **lathi-charged** in **Lucknow** in **1928** while leading a protest against the **Simon Commission.**
  - ○ **Nehru** was elected as **president** of the **Lahore Session** of **Indian National Congress** in **1929.**
    - **Nehru** advocated for India's **complete independence** in this session.
  - ○ In **1929-31**, he drafted a resolution called **Fundamental Rights and Economic Policy,** which outlined the congress's main goals and the nation's future.
    - The resolution was ratified by the Congress party during the Karachi Session in 1931, which was presided over by **Saradar Vallabhai Patel.**
  - ○ He participated in the **Salt Satyagraha** in **1930** and was put in jail.
  - ○ **Nehru** became a more **prominent leader** within the **Congress** and grew close to **Mahatma Gandhi.**
 - ○ In **1936,** he presided over the **Lucknow session** of the **Indian National Congress.**

○ **Nehru** was arrested for attempting to organize an **individual satyagraha** to oppose India's forced participation in the war.

○ He took part in the **civil disobedience movement in 1940,** for which he received a four-year jail term.

○ **Nehru** introduced the historic **'Quit India' movement** at the **All-India Congress Committee session** in **Bombay** in **1942.**

○ **Nehru** along with other leaders was arrested on **August 8, 1942** and taken to **Ahmednagar Fort.**

○ He was released in **1945** and went on to arrange legal defence for officers and troops accused with disloyalty in the **Indian National Army (INA).**

○ He was chosen to serve as the **president** of **Indian National Congress** fourth time in 1946.

○ To recommend a strategy for the transfer of power, the **Cabinet Mission** was dispatched to India in **1946.**

  ● An **interim government** headed by **Jawaharlal Nehru** as **Prime Minister** was formed.

○ On August 15, 1947, India attained independence but also suffered the pain of partition.

➤ **First Prime Minister of India:**

○ A princely state must join in the constituent assembly, according to Nehru, who also affirms that there would be no princely states in an independent India.

○ He assigned **Vallabhbai Patel** to oversee the effective integration of the states.

○ India became a **sovereign democratic republic** on **January 26, 1950,** when the new Indian Constitution came into effect.

○ In order to divide up states according to **languages, Jawaharlal Nehru** created the **states reorganization committee** in **1953.**

○ In addition to promoting **democratic socialism,** he promoted India's **industrialization** by carrying out the **first five-year plans.**

○ The **Non-alignment movement (NAM)** is regarded as his greatest **geopolitical accomplishment.**

  ● **India** decided to not align with any superpower during the **cold war era** after **World War II.**

○ His final term as prime minister was troubled by the **Sino-Indian War, 1962.**

○ He promoted democratic socialism during his 17 years as prime minister, highlighting the necessity for India to attain both democracy and socialism.

○ His internal policies were founded on the four tenets of democracy, socialism, unification, and secularism. He was able to incorporate these pillars into the construction of new independent India.

➤ **Books Written:** The Discovery of India, Glimpses of World History, An Autobiography, Letters from a Father to His Daughter.

➤ **Death:** 27th May 1964.

Acharya Kripalani

Why in News?

Recently, the Prime Minister of India has paid tributes to **Acharya Kripalani on his Jayanti**.
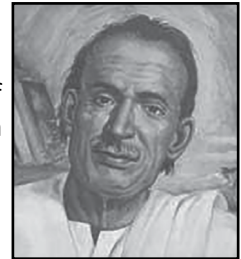
Who was Acharya Kripalani?

➤ **About:**

○ He was born on **11th November 1888 in Hyderabad, Sindh.**

○ His original name was **Jivatram Bhagwandas Kripalani** but was popularly known as Acharya Kripalani. He was an independence activist, Indian politician and an Educationist.

➤ **Educationist:**

○ From 1912 to 1927, he taught at various places before becoming wholly involved in the freedom movement.

○ He earned the moniker 'Acharya' around 1922 when he was teaching at the Gujarat Vidyapith, founded by the Mahatma a couple of years before.

➤ **An Environmentalist:**

○ He, along with Vinoba Bhave, was involved in preservation and conservation activities throughout the 1970s.

➤ **Independence Activist:**

○ He was associated with Gandhi by 1917 after Gandhi had taken up the cause of indigo workers in Gujarat.

○ He was part of the **Non-Cooperation Movement (1920-22)** and the Civil Disobedience movements (started in 1930) and **Quit India Movement (1942)**.

○ He was the President of **Indian National Congress (INC)** at the time of independence. He served in the Interim government of India (1946–1947) and the Constituent Assembly of India.

Note:

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➢ **Political Career:**
  ○ He became **one of the founders of the Kisan Mazdoor Praja Party (KMPP)** after independence leaving congress.
  ○ He was elected to the Lok Sabha in 1952, 1957, 1963 and 1967 as a member of Praja Socialist Party.
  ○ He moved the **first-ever No confidence motion** in Lok Sabha in 1963, immediately after the India-China War (1962).
    ● In 1963, Sucheta Kripalani, a Congress leader became the Chief Minister of Uttar Pradesh, a first for any woman in the country while her husband Acharya remained an opponent to the Congress.
  ○ He was a critic of Nehru's policies and Indira Gandhi's rule. He was arrested during Emergency (1975).
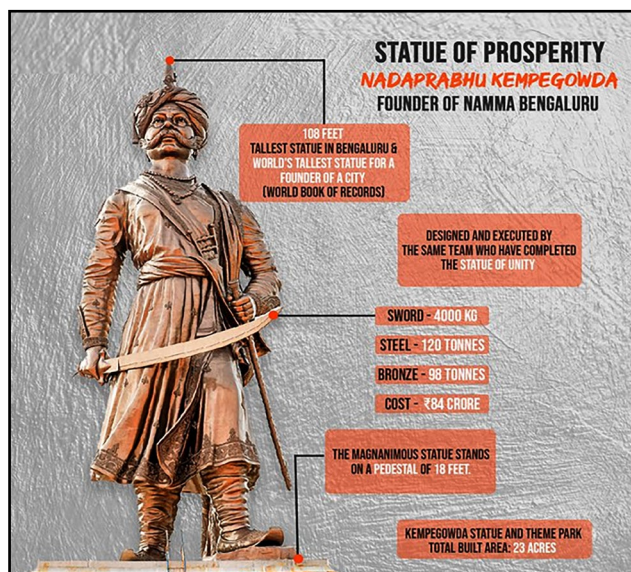➢ **Books:**
  ○ **My Times,** his autobiography published posthumously in 2004.
  ○ Kripalani was the author of several books, including **Gandhi: His Life and Thought (1970).**

Nadaprabhu Kempegowda

Why in News?

Recently, the **Prime Minister of India** unveiled a 108-foot statue of **Nadaprabhu Kempegowda** and inaugurated **Terminal 2 of Bengaluru airport**, which is named after the 16th-century figure credited with founding the city.
➢ The status is called the **"Statue of Prosperity".**

STATUE OF PROSPERITY
NADAPRABHU KEMPEGOWDA
FOUNDER OF NAMMA BENGALURU

108 FEET
TALLEST STATUE IN BENGALURU &
WORLD'S TALLEST STATUE FOR A
FOUNDER OF A CITY
(WORLD BOOK OF RECORDS)

DESIGNED AND EXECUTED BY
THE SAME TEAM WHO HAVE COMPLETED
THE STATUE OF UNITY

SWORD - 4000 KG
STEEL - 120 TONNES
BRONZE - 98 TONNES
COST - ₹84 CRORE

THE MAGNANIMOUS STATUE STANDS
ON A PEDESTAL OF 18 FEET.

KEMPEGOWDA STATUE AND THEME PARK
TOTAL BUILT AREA: 23 ACRES

What are the Key Features of the Statue of Prosperity?

➢ As per the 'World Book of Records', it is the **first and the tallest bronze statue** of a founder of a city.
➢ Renowned sculptor and **Padma Bhushan** awardee **Ram Vanji Sutar** has designed the statue.
  ○ Sutar had built the '**Statue of Unity**' in Gujarat and the statue of **Mahatma Gandhi** in Bengaluru's **'Vidhana Soudha'.**
➢ As a precursor to the unveiling, '**Mruthike**' (sacred mud) was collected from over 22,000 locations across the state, which was mixed symbolically with the mud beneath one of the four towers of the statue.

Who was Nadaprabhu Kempegowda?

➢ **About:**
  ○ He was born in 1513 in a village near **Yelahanka**.
  ○ He was the **chieftain under the Vijayanagara Empire** of the 16th century.
  ○ He is an iconic figure among **Vokkaligas**, Karnataka's second most dominant community after Lingayats.
➢ **Education:**
  ○ He studied for nine years in a **GuruKula near Aigondapura** (present day Hessaraghatta) where he learnt **statecraft and martial skills.**
➢ **Achievements:**
  ○ He is widely acknowledged as the **founder of Bengaluru, Karnataka.**
    ● It is said that he conceived the idea of a new city while **hunting with his minister**, and later marked its territory by e**recting towers in four corners of the proposed city.**
  ○ He is also credited with having **developed around 1,000 lakes** in the city to cater to its **drinking and agricultural needs.**
  ○ Kempegowda has been credited for **abolishing the practice of cutting the fingers of the left hand** of an unmarried woman during a custom known as '**Bandi Devaru**', an important custom of **Morasu Vokkaligas**.
➢ **Death:**
  ○ He died in 1569, **having ruled for about 56 years.**
➢ **Recognition:**
  ○ State governments have dedicated important landmarks after him – the **Kempegowda**

Note:

International Airport, the **Kempegowda Bus Stand**, and the **Nadaprabhu Kempegowda Metro Station.**

Afzal Khan Tomb

Why in News?

Recently, the **Supreme Court (SC)** has sought reports from the Maharashtra government on the demolition drive conducted around the tomb of Afzal Khan.

➤ The court stated that these reports should indicate the nature of the structures and **whether due process was followed in removing** the alleged unauthorized structures.

➤ The Maharashtra government stated that the demolition drive was over and illegal structures built on government and forest land were razed.

What is the Controversy over the Tomb of Afzal Khan?

➤ Hindu groups have alleged the Hazarat Mohammad Afzal Khan Memorial Society has **expanded the tomb by carrying out unauthorised constructions.**

➤ In 2004, a **Public Interest Litigation (PIL)** application was filed by a person demanding the demolition.

➤ The Hindu groups also claimed the Society was glorifying an "enemy of Swaraj" in "Shivaji's own land" by hosting various activities in the slain commander's honour.

Who was Afzal Khan?

➤ He was a 17th-century commander of the **Adil Shahi dynasty of Bijapur.**

➤ With **Chhatrapati Shivaji's** rise and increasing control of the region, Afzal Khan was seen as the **man to subdue him in the Deccan.**

➤ Khan put together a force of 10,000 cavalry and marched from Bijapur to Wai, plundering **Shivaji's territory along** the way.

➤ Shivaji called a council of war at the fort of Pratapgarh, where most of his advisers urged him to make peace. However, Shivaji was not eager to back down and he set up a meeting with Khan.

➤ During the meeting, an embrace between the two turned into an attack in which **Shivaji emerged victorious.** This was followed by a rout of the **Adilshahi army at the hands of the Marathas.**

➤ As per Maratha sources, Khan's remains were buried **at the fort and a tomb was constructed on Shivajij's orders.**

➤ In an act of grace Shivaji erected a tomb over the remains of Afzul Khan and built a tower in his honour, which is still known by the name 'Afzul Buruj' at Pratapgarh.

➤ The sword of Afzul Khan was preserved a**s a valued trophy in the armoury of Shivaji and his descendants.**

●●●

Note:

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Geography

Highlights

- *Ganga Utsav 2022*
- *Earthquake*
- *Machchhu River*
- *Black Sea*
- *Mauna Loa Volcano*
- *Mountain Ranges in India*
- *Types of Eclipses*

Ganga Utsav 2022

Why in News?

Recently, the Ministry of Jal Shakti by the collaboration of The **National Mission for Clean Ganga (NMCG)** has organized **Ganga Utsav- The River Festivals 2022.**

What is Ganga Utsav 2022?

➢ **About:**
  ❍ The **NMCG** celebrates the festival **every year to strengthen the Public – River Connection.**
    ● NMCG is the implementation wing of **National Ganga Council,** set up in 2016, which replaced the National Ganga River Basin Authority (NRGBA).
    ● The NMCG has been registered in **the Guinness Book of World Records on the first day of Ganga Utsav 2021** for the highest number of photos of handwritten notes that were uploaded on Facebook in an hour.
  ❍ It highlights the significance of **Jan Bhagidari (People's Participation)** in the revival of Ganga, with a focus on encouraging stakeholder engagement and public participation towards the rejuvenation of river Ganga.
➢ **Ganga Utsav 2022:**
  ❍ Dedicating the grand event to the 75 years of Indian Independence (Azadi ka Amrit Mahotsav), the aim is to **hold similar events at more than 75 locations in states to celebrate** the rivers of India.
  ❍ The festival will include a **blend of art, culture, music, knowledge, poetry, dialogue, and stories.**
  ❍ Several awareness activities will take place in districts to **establish a connection with the locals, and promote Namami Gange** as a mass movement.

What are the Government Initiatives on River Ganga?

➢ **Ganga Action Plan:** It was the first river action plan to improve the water quality by the interception, diversion and treatment of domestic sewage.
  ❍ The National River Conservation Plan is an extension to this plan, which aims at cleaning the Ganga River under the Ganga Action Plan phase-2.
➢ **National River Ganga Basin Authority:** It was formed in the year 2009 under Section-3 of the **Environment Protection Act 1986.**
➢ **Clean Ganga Fund:** In 2014, it was formed for cleaning up of the Ganga, setting up of waste treatment plants and conservation of biotic diversity of the river.
➢ **Bhuvan-Ganga Web App:** It ensures the involvement of the public in the monitoring of pollution entering into the river Ganga.
➢ **Ban on Waste Disposal:** In 2017, the **National Green Tribunal (NGT)** banned the disposal of any waste in the Ganga.

What are the Key Points of River Ganga?

➢ It is the **longest river of India** flowing over 2,510 km of mountains, valleys and plains and is revered by Hindus as the most sacred river on earth.
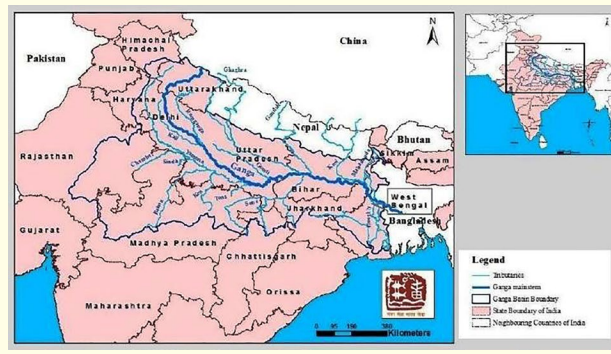
Note:

- The Ganga basin outspreads in **India, Tibet (China), Nepal and Bangladesh** over an area of 10,86,000 Sq.km.
- In India, it covers states of **Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, West Bengal, Uttarakhand, Jharkhand, Haryana, Chhattisgarh, Himachal Pradesh and Union Territory of Delhi** draining an area of 8,61,452 Sq.km which is nearly 26% of the total geographical area of the country.
- It originates in the snowfields of the **Gangotri Glacier in the Himalayas** .
- At its source, the river is called as the Bhagirathi. It descends down the valley upto **Devprayag** where after joining another hill stream Alaknanda, it is called **Ganga**.
- The **principal tributaries** joining the river from **right** are the **Yamuna and the Son**.
- The **Ramganga, the Ghaghra, the Gandak, the Kosi and the Mahananda** join the **river from left**. The Chambal and the Betwa are the two other important sub- tributaries.
- The Ganga River basin is one of the most fertile and densely populated areas of the world and covers an area of 1,000,000 sq. km.
- The **Ganges River Dolphin is an endangered animal that specifically habitats this river.**
- The Ganga joins the Brahmaputra in Bangladesh and continues its run under the name Padma or Ganga.
- **The Ganga widens out into the Ganges Delta in the Sundarbans** swamp of Bangladesh, before it ends its journey by emptying into the Bay of Bengal.

Earthquake

Why in News?

Recently, Powerful tremors were felt in India after an **earthquake** of magnitude 6.6 struck Nepal, which killed a few people and destroyed multiple houses.

What Caused these Tremors?

- According to the **United States Geological Survey (USGS)** the tremors are attributed to the continental collisions of **India and Eurasia Plates**, which is the dominating force for the Seismicity in the Himalayas.

- These plates are converging at a relative rate of 40-50 millimeters per year.
- Northward under thrusting of India beneath Eurasia generates numerous earthquakes and consequently **makes this area one of the most seismically hazardous regions on Earth.**
  - The Himalayas and their vicinity have witnessed some of the most lethal earthquakes such as one of magnitude 8.1 Bihar in 1934, the 1905 magnitude 7.5 quake in Kangra and the 2005 magnitude 7.6 quake in Kashmir.

What is an Earthquake?

- **About:**
  - An earthquake in simple words is the shaking of the earth. It is a natural event. It is caused due to release of energy, which generates waves that travel in all directions.
  - The vibrations called **seismic waves** are generated from earthquakes that travel through the Earth and are recorded on instruments called seismographs.
  - The location below the earth's surface where the earthquake starts is called the **hypocenter,** and the location directly above it on the surface of the earth is called the **epicenter**.
  - **Types of Earthquake:** Fault Zones, Tectonic Earthquakes, Volcanic Earthquake, Human Induced Earthquakes.
  - The earthquake events are scaled either according to the magnitude or intensity of the shock. The magnitude scale is known as the **Richter scale**. The magnitude relates to the energy released during the quake. The **magnitude is expressed in absolute numbers, 0-10**.
  - The **intensity scale is named after Mercalli,** an Italian seismologist. The intensity scale takes into account the visible damage caused by the event. The **range of intensity scale is from 1-12.**
- **Distribution of Earthquake:**
  - **Circum-Pacific Seismic Belt:** The world's greatest earthquake belt, the circum-Pacific seismic belt, is found along the rim of the Pacific Ocean, where about **81% of our planet's largest earthquakes occur**. It has earned the nickname **"Ring of Fire".**
    - The belt exists along boundaries of tectonic plates, where plates of mostly oceanic crust

Note:

are sinking (or subducting) beneath another plate. Earthquakes in these subduction zones are caused by slip between plates and rupture within plates.

○ **Mid-Continental Belt:** The Alpine-Himalayan belt (mid-Continental belt) extends from Europe to Sumatra through the Himalayas, the Mediterranean, and out into the Atlantic.

● This belt accounts for about 17% of the world's largest earthquakes, including some of the most destructive.

○ **Mid-Atlantic Ridge**: Mid-Atlantic Ridge marks where two tectonic plates are spreading apart (a divergent plate boundary).

● Most of the mid-Atlantic Ridge is deep underwater and far from human development.
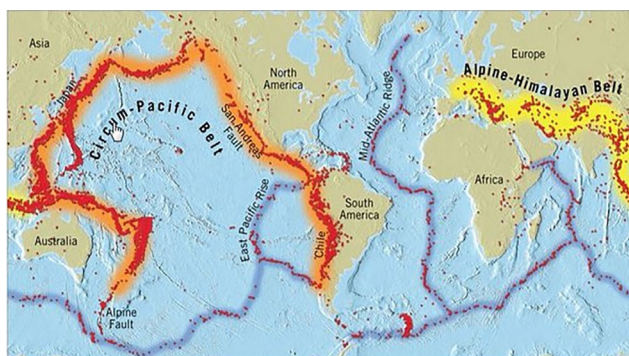
What is the Seismic Hazard Map of India?

➢ India is one of the highly earthquakes affected countries because of the presence of technically active young fold mountains - Himalayas.

➢ India has been divided into **four seismic zones (II, III, IV, and V)** based on scientific inputs relating to seismicity, earthquakes that occurred in the past and tectonic setup of the region.

➢ Previously, earthquake zones were divided into five zones with respect to the severity of the earthquakes but the **Bureau of Indian Standards (BIS)** grouped the country into four seismic zones by unifying the first two zones.

○ BIS is the official agency for publishing the seismic hazard maps and codes.

➢ **Seismic Zone II:**

○ Area with minor damage earthquakes corresponding to intensities V to VI of MM scale (MM-Modified Mercalli Intensity scale).
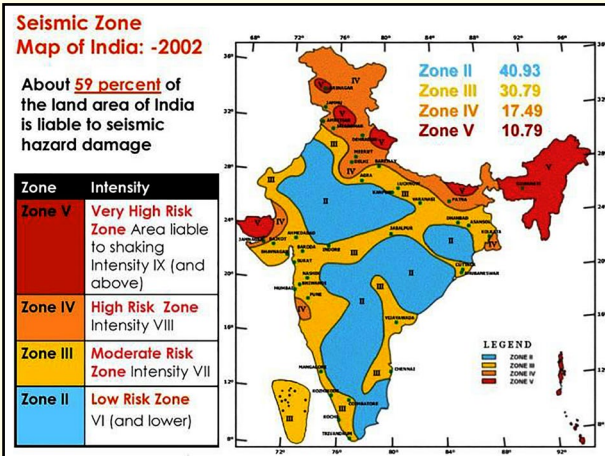
➢ **Seismic Zone III:**

○ Moderate damage corresponding to intensity VII of MM scale.

➢ **Seismic Zone IV:**

○ Major damage corresponding to intensity VII and higher of MM scale.

➢ **Seismic Zone V:**

○ Area determined by the seismics of certain major fault systems and is seismically the most active region.

○ Earthquake zone V is the most vulnerable to earthquakes, where historically some of the country's most powerful shocks have occurred.

○ Earthquakes with magnitudes in excess of 7.0 have occured in these areas, and have had intensities higher than IX.

Machchhu River

Why in News?

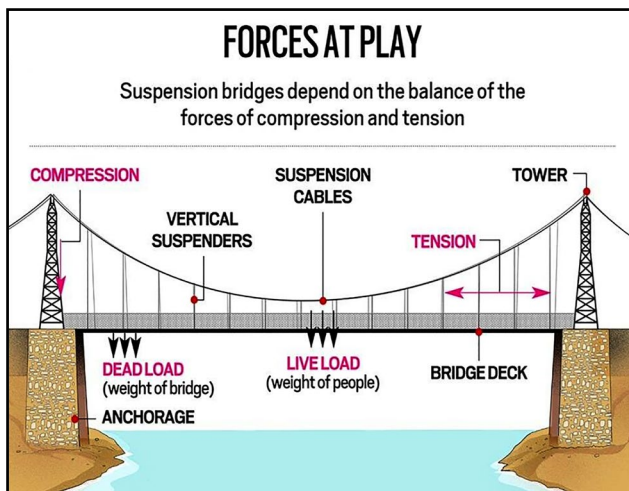Recently, a suspension bridge collapsed **over the river Machchu, in Gujarat's Morbi district**, which killed almost 135 people.

➢ The suspension bridge, or **Jhulta Pul,** was built by the ruler of the princely state of Morbi, Sir Waghji Thakor, in 1877.

➢ It was made to reflect the '**progressive and scientific nature of the rulers of Morbi**'. It was inaugurated by the then-Bombay governor, Richard Temple, in 1879.

What is Suspension Bridge?

➢ A suspension bridge is a type of bridge in which **the deck is hung below suspension cables** on vertical suspenders.

➢ The basic structural components include stiffening girders, two or more main suspension cables, and towers and anchorages for cables at either end of the bridge.

➢ The main cables are suspended between the towers and are connected to the anchorage or the bridge itself. The vertical suspenders carry the weight of the deck and the commuter load on it.

➢ The design ensures that t**he load on the suspension cables is transferred to the towers at the two ends**, which transfer them further by **vertical compression** to the ground by way of the anchorage cables.

FORCES AT PLAY
Suspension bridges depend on the balance of the forces of compression and tension

COMPRESSION   SUSPENSION CABLES   TOWER
VERTICAL SUSPENDERS   TENSION
DEAD LOAD (weight of bridge)   LIVE LOAD (weight of people)   BRIDGE DECK
ANCHORAGE

What is Machchhu River?

About: The Machchhu river **originates from Madla hills in the Surendranagar district of Gujarat and ends 141.75 km downstream in the Rann of Kutch.**

➢ **Tributaries:** Beti, Asoi, Jamburi, Benia, Machchhori, Maha are the tributaries of Machchhu river.

➢ **Dams:** It has two dams to augment irrigation to alleviate droughts in Saurashtra.

What is the Significance of Morbi District?

➢ It is famous for its **ceramic industry**. Around 70% of India's ceramics are produced in Morbi, and ceramic tiles manufactured here are exported to countries in the **Middle East, East Asia, and Africa**.

Black Sea

Key Points

➢ **Physical Geography:**
  ○ **Bordering Countries:** Ukraine, Russia, Georgia, Turkey, Bulgaria and Romania.
  ○ Also known as the **Euxine Sea.**
  ○ Surrounded by the **Pontic** (south), **Caucasus** (east), and **Crimean Mountains** (north).
  ○ The **Turkish straits system** - the **Dardanelles, Bosporus and Marmara Sea** -
  ○ forms a transitional zone between the Mediterranean and the Black Sea.
  ○ **Sea of Azov** forms a **northern extension of the Black Sea** linked by the Strait of Kerch.
  ○ **Has anoxic water;** significant absence of oxygen in the water.

➢ **Russia – Ukraine Conflict:**
  ○ **Area of Russian Military Control in Ukraine:**

Note:

drishti

- **Donbass region, comprising Donetsk and Luhansk** (2022)
  - **Crimea:** Russia annexed Crimea in 2014.
- **Mariupol and Odessa:** Russia has its focus on:
  - Mariupol, **the Sea of Azov port in Donetsk.**
  - Odessa, **to the west of Crimea.**
- **Bosporus and Dardanelles Straits:** The Montreux convention gives Turkey certain control over the passage of warships from the Dardanelles and Bosphorus Straits that connect the Aegean, Marmara, and Black Sea.
- **Naval Exercise 'Sea Breeze'**: Involving NATO states and their allies.
- **Environmental Concern:**
  - **Turkey's Sea of Marmara:** The largest outbreak of 'sea snot'.

Mauna Loa Volcano

Why in News?

Mauna Loa, the largest active **volcano** in the world, may erupt in the near future.
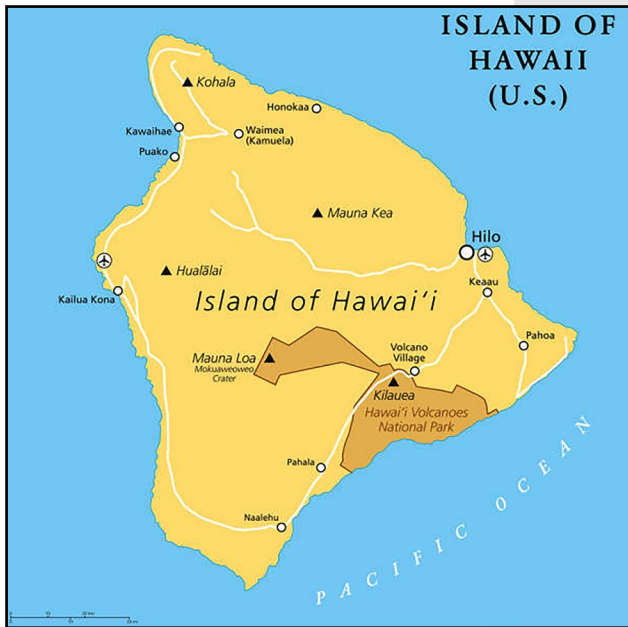
ISLAND OF HAWAII (U.S.)

Where is Mauna Loa?

- Mauna Loa is **one of five volcanoes** that together make up the Big Island of Hawaii.
- It is the **southernmost island in the Hawaiian archipelago.**

- It's **not the tallest** (that title goes to Mauna Kea) but it's the largest and makes up about half of the island's land mass.
- It **sits immediately north of Kilauea volcano**, which is currently erupting from its summit crater.
  - Kilauea is **well-known for a 2018 eruption** that destroyed 700 homes and sent rivers of lava spreading across farms and into the ocean.
- Mauna Loa last erupted 38 years ago.

What about the Other Volcanoes?

- **Recently Erupted:**
  - **Sangay Volcano: Ecuador**
  - **Taal Volcano: Philippines**
  - **Mt. Sinabung, Merapi volcano, Semeru volcano (Indonesia)**
- **Volcanoes in India:**
  - Barren Island, Andaman Islands (India's only active volcano)
  - Narcondam, Andaman Islands
  - Baratang, Andaman Islands
  - Deccan Traps, Maharashtra
  - Dhinodhar Hills, Gujarat
  - Dhosi Hill, Haryana

How are Volcanoes Distributed around the World?

- Volcanoes are distributed all around the world, mostly along the edges of **Tectonic Plates**, although there are intra-plate volcanoes that form from mantle Hotspots (e.g., Hawaii).
- Some volcanic regions, such as Iceland, happen to occur where there is both a hotspot and a plate boundary.
- **World Distribution of Volcano:**
  - **Circum-Pacific Belt:**
    - The **Pacific "Ring of Fire" is a string of volcanoes** and sites located on most of the Earth's subduction zones having high seismic activity, around the edges of the Pacific Ocean.
    - The **Pacific Ring of Fire has a total of 452 volcanoes**.
    - Most of the active volcanoes are found on its western edge, from the Kamchatka Peninsula in Russia, through the islands of Japan and Southeast Asia, to New Zealand.

Note:

- ○ **Mid-Continental Belt:**
  - This volcanic belt extends along the **Alpine Mountain system of Europe, north America**, through Asia Minor, Caucasia, Iran, Afghanistan and Pakistan to the Himalayan Mountain system, including Tibet, the pamir, Tien-Shan, altai, and the mountains of China, Myammar and eastern Siberia.
  - This belt includes the volcanoes of Alps mountains, Mediterranean Sea **(Stromboli, Vesuvius, Etna, etc.)**, volcanoes of Aegean Sea, Mt. Ararat (Turkey), Elburz, Hindukush and Himalayas.
- ○ **Mid Atlantic Ridge:**
  - The Mid-Atlantic Ridge separates the **North and South American Plate from the Eurasian and African Plate.**
  - Magma rises through the cracks and leaks out onto the ocean floor like a long, thin, undersea volcano. As magma meets the water, it cools and solidifies, adding to the edges of the sideways-moving plates.
  - This process along the divergent boundary has created the longest topographic feature in the form of Mid oceanic ridges under the Oceans of the world.
- ○ **Intra-Plate Volcanoes:**
  - The 5% of known volcanoes in the world that **are not closely related to plate margins** are generally regarded as intraplate, **or "hot-spot," volcanoes**.
    - A hot spot is believed to be related to the rising of a **deep-mantle plume**, which is caused by very slow convection of highly viscous material in Earth's mantle.
  - It can be represented by a single oceanic volcano or lines of volcanoes such as the **Hawaiian-Emperor seamount chains.**
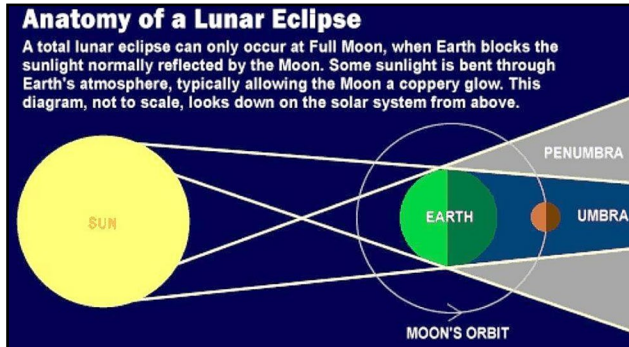
Mountain Ranges in India

Types of Eclipses

Why in News?

Recently, a **Total Lunar Eclipse (TLE)** occurred on 8th November, 2022.

➢ Earlier Indian witnessed a Partial Solar Eclipse in October 2022.

What is the Lunar Eclipse?

➢ **About:**
  - ○ Lunar eclipse takes **place when the Moon moves** into the Earth's shadow. The Earth has to be **directly between the Sun and the Moon**, and a lunar eclipse can only take place during a full Moon.
  - ○ First, the Moon moves into the penumbra – the part of the Earth's shadow where not all of the light

- from the Sun is blocked out. Part of the **Moon's disc will look dimmer than a regular full Moon.**
- And then the Moon moves into the Earth's umbra, where direct light from the Sun is totally blocked out by the Earth. This means the **only light reflecting off the Moon's disc has already been refracted,** or bent, by the Earth's atmosphere.

Anatomy of a Lunar Eclipse

A total lunar eclipse can only occur at Full Moon, when Earth blocks the sunlight normally reflected by the Moon. Some sunlight is bent through Earth's atmosphere, typically allowing the Moon a coppery glow. This diagram, not to scale, looks down on the solar system from above.

➢ **Total Lunar Eclipse:**
- A Total Lunar Eclipse happens when the **earth is positioned between the sun and the moon** and casts a shadow on the latter.
- During this, the whole of the lunar disc **enters the Earth's umbra**, so the Moon appears reddish (Blood Moon).
- The moon takes on a reddish hue due to a phenomenon called **Rayleigh scattering**.
  - **Rayleigh scattering** is the scattering of light by particles in a medium **without a change in wavelength.** This is also the **reason why the sky appears blue**.
- The moon turns red during the eclipse since the only sunlight reaching it is passing through the earth's atmosphere. The sunlight scatters due to the dust or clouds in the atmosphere producing the red colour.
- Total lunar eclipses occur, on average, about once every year and a half, according to **NASA (National Aeronautics and Space Administration).**
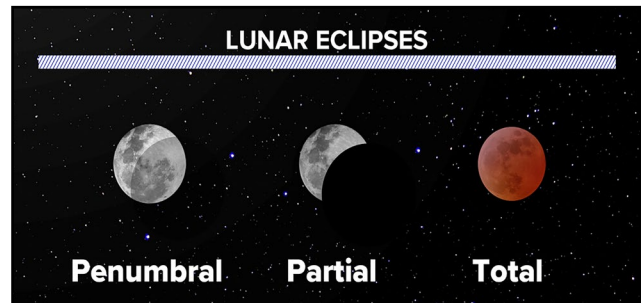
➢ **Partial lunar eclipse:**
- An imperfect alignment of Sun, Earth and Moon results in the Moon passing through only part of Earth's umbra.
- The shadow grows and then recedes without ever entirely covering the Moon.

➢ **Penumbral eclipse:**
- The Moon travels through Earth's penumbra, or the faint outer part of its shadow.

- The Moon dims so slightly that it can be difficult to notice.
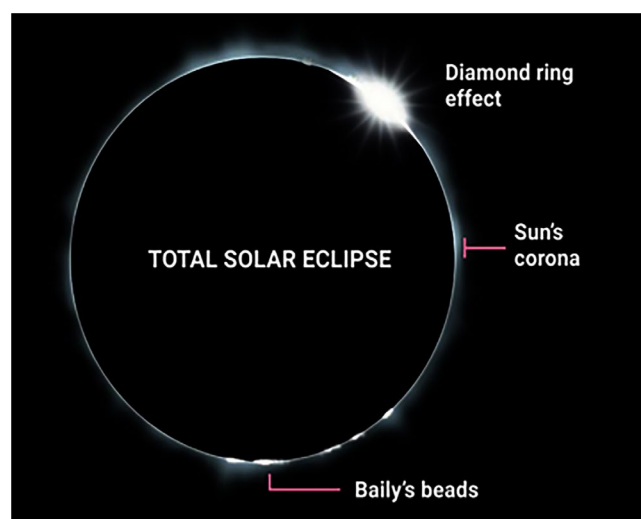

What is Solar Eclipse?

➢ **About:**
- A solar eclipse happens when **the Moon passes between the Sun and Earth,** casting a shadow on Earth that either fully or partially blocks the Sun's light in some areas.

➢ **Types:**
- **Total Solar Eclipse:**
  - Total **solar eclipses** occur when the New Moon comes between the Sun and Earth and casts the darkest part of its shadow, the umbra, on Earth. A full solar eclipse, known as totality, is almost as dark as night.
  - During a total eclipse of the Sun, the Moon covers the entire disk of the Sun.
  - When the Moon completely covers the disk of the Sun, only the Sun's corona is visible.
  - It is called Total eclipse because at the maximum point of the eclipse (midpoint of time of totality), the sky goes dark and temperatures can fall.

Note:

○ **Annular Solar Eclipse:**

- An annular solar eclipse happens when the **Moon passes between the Sun and Earth,** but when it is at or near its farthest point from Earth.

- Because the Moon is farther away from Earth, it appears smaller than the Sun and does not completely cover the Sun.

- As a result, the Moon appears as a dark disk on top of a larger, bright disk, creating what looks like a ring around the Moon.
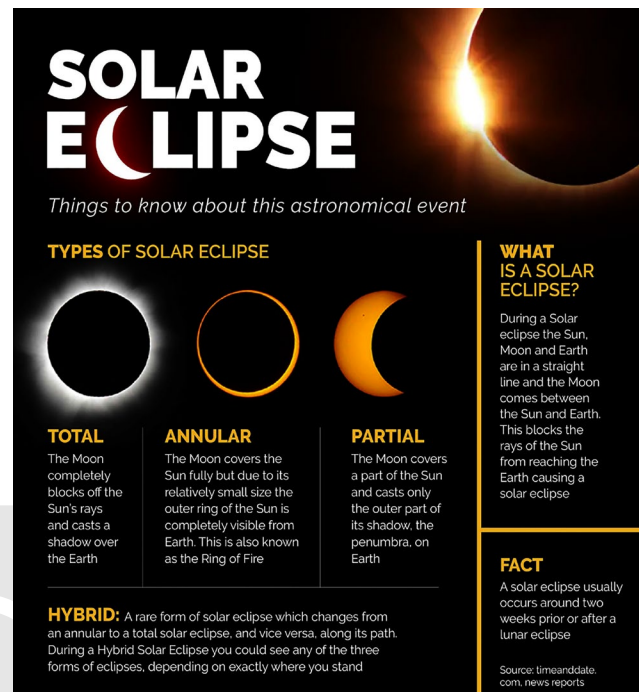
○ **Partial Solar Eclipse:**

- A partial solar eclipse happens when the Moon passes between the Sun and Earth but the Sun, Moon, and Earth are not perfectly lined up.

- Only a part of the Sun will appear to be covered, **giving it a crescent shape.** During a total or annular solar eclipse, people outside the area covered by the Moon's inner shadow see a partial solar eclipse.

○ **Hybrid Solar Eclipse:**

- Because Earth's surface is curved, **sometimes an eclipse can shift between annular and total as the Moon's shadow** moves across the globe.

- This is called a hybrid solar eclipse.

SOLAR ECLIPSE

Things to know about this astronomical event

TYPES OF SOLAR ECLIPSE

TOTAL
The Moon completely blocks off the Sun's rays and casts a shadow over the Earth

ANNULAR
The Moon covers the Sun fully but due to its relatively small size the outer ring of the Sun is completely visible from Earth. This is also known as the Ring of Fire

PARTIAL
The Moon covers a part of the Sun and casts only the outer part of its shadow, the penumbra, on Earth

HYBRID: A rare form of solar eclipse which changes from an annular to a total solar eclipse, and vice versa, along its path. During a Hybrid Solar Eclipse you could see any of the three forms of eclipses, depending on exactly where you stand

WHAT IS A SOLAR ECLIPSE?
During a Solar eclipse the Sun, Moon and Earth are in a straight line and the Moon comes between the Sun and Earth. This blocks the rays of the Sun from reaching the Earth causing a solar eclipse

FACT
A solar eclipse usually occurs around two weeks prior or after a lunar eclipse

Source: timeanddate.com, news reports

Note:

Art and Culture

Highlights

- *National Tribal Dance Festival 2022*
- *Wangala Dance*

National Tribal Dance Festival 2022

Why in News?

Artists from across the world take part in the **3rd Edition of National Tribal Dance Festival in Raipur, Chhattisgarh** on the event of **state foundation day.**

➢ Nearly **1,500 dancers from across India and countries like** Mozambique, Mongolia, Tonga, Russia, Indonesia, Maldives, Serbia, New Zealand and Egypt **arrived for the festival.**

What is National Tribal Dance Festival?

➢ National Tribal Dance Festival is one of **Chhattisgarh's grand festivals which celebrates diverse tribal communitie**s and their culture not just in India but from across the globe.

➢ It is organised under the **Tourism and Culture Department of Chhattisgarh.**

➢ This festival aims to **unite the tribal communities and provides an opportunity to educate about their rich culture** for all.

➢ The **first National Tribal Dance Festival** was organised in **2019** and second in **2021**.

What are the Indian Folk and Tribal Dances of India?

➢ **Indian folk and tribal dances** are **simple dances**, and are performed to **express joy and happiness among themselves.**

➢ Folk and tribal dances are performed for **every possible occasion, to celebrate the arrival of seasons, birth of a child, a wedding and festivals.**

➢ **Men and women perform some dances exclusively**, while in some performances **men and women dance together.**

➢ **Major Folk and Tribal Dance Forms of India**

➢ **State: Folk/Tribal Dance Form**
  o Assam: Bagurumba, Bihu, Bhortal , Jhumur
  o Arunachal Pradesh: Bardo Chham
  o Chhattisgarh: Raut Nacha
  o Goa: Fugdi
  o Gujarat: Dandiya Raas, Garba
  o Himachal Pradesh: Nati
  o Haryana: Ras Leela
  o Jammu and Kashmir: Dumhal
  o Kerala: Chakyar Koothu, Duffmuttu, Margamkali, Oppana, Padyani, Theyyam, Thirayattam
  o Karnataka: Hulivesha, Pata Kunitha
  o Madhya Pradesh: Grida, Maanch, Matki, Phulpati
  o Nagaland: Chang Lo
  o Mizoram: Cheraw
  o Maharashtra: Lavani, Parvi Nach
  o Punjab: Bhangra, Giddha, Kikkli,
  o Odisha: Chhau, Goti Pua, Baagh Naach, Dalkhai, Dhap, Gumra, Karma Naach, Keisabadi
  o Puducherry: Garadi
  o Rajasthan: Ghoomar, Kalbelia, Kachchhi Ghodi
  o Tamil Nadu: Parai Attam, Kaaragattam, Kolattam, Mayil Attam, Paampu Attam, Oyilattam, Puliyattam, Poikal Kudirai Attam, Theru Koothu
  o Tripura: Hojagiri
  o Uttar Pradesh: Mayur Nritya, Charukala
  o West Bengal: Gambhira, Alkap, Domni
  o Sikkim: Singhi Chaam

Wangala Dance

Why in News?

The opening ceremony of the **Rising Sun Water Fest-2022 was conducted** amidst the pristine surroundings of Umiam Lake (man-made reservoir) at Meghalaya.

Note:

- Members of the **Garo tribal community perform Wangala dance** on the occasion of 'The Rising Sun Water Fest-2022'.

What is Wangala Dance?

- The Wangala is also known as the **Festival of Hundred Drums** and is celebrated with different forms of dances on the tunes of folk songs played on drums and primitive flute made of buffalo horns.
- The festival is celebrated in **honour of the Sun God and marks the end of the long harvest season.**
- The celebration also **signifies the end of a long toil period in the field** for the Garo tribe before the start of the winters.
- For the Garo Tribe in Meghalaya, the **festival is a way to preserve and promote their cultural identity** and they exhibit their tradition in their celebrations.

Who are the Garo Community?

- The Garos, who call themselves **A'chiks, are the second largest tribe in Meghalaya.**
  - The other **two major tribes of Meghalaya are** the Khasi People and the Jaintia tribe.
- The Garos have a **strong tradition that they have come from Tibet.** They have a number of dialects and cultural groups. Each of them originally settled at a particular area of the Garo Hills and outlying plain lands.
- However, the **culture of the modern Garo community** has been greatly influenced by Christianity. Nokpantes are the glory of the past and all children are given equal care, rights and importance by modern parents.
- The **Garo marriage is regulated by two important laws,** viz., Exogamy and A'Kim according to the belonging to the same clan. Marriages are not allowed within the same clan.
  - According to the law of A·Kim, a man or a woman who has once contracted marriage will **never be free to remarry person of another clan**, even after the death of his/ her spouse.
- The Garos are **one of the few remaining matrilineal societies** in the world.
  - The individuals **take their clan titles from their mothers**. Traditionally, the youngest daughter inherits the property from her mother.
  - Sons leave the parents' house at puberty, and are trained in the village bachelor dormitory (Nokpante). After getting married, the man lives in his wife's house. Garos are **only a matrilineal society, but not matriarchal.**

●●●

Note:

Security

Highlights

- IMT TRILAT
- New Products in Make-II Project
- Projects to Track Small Fishing Vessels

IMT TRILAT

Why in News?

Recently, the **Indian Navy** participated in the first edition of **India-Mozambique-Tanzania Trilateral Exercise (IMT TRILAT)**, a **Joint Maritime Exercise** among the **Indian, Mozambique and Tanzanian navies** commenced at **Dar Es Salaam, Tanzania.**

What are the Key Highlights of the Exercise?

➤ **India's Participation:**
  ○ The Indian Navy is represented by the guided missile frigate, **INS Tarkash**, a **Chetak helicopter** and **MARCOS (Special Forces).**

➤ **Objectives:**

  ○ Capability development to address common threats through training and sharing of best practices.
  ○ Enhancing interoperability.
  ○ Strengthening maritime cooperation.

➤ **Significance:**
  ○ These exercises reflect India's and the Indian Navy's commitment to enhancing maritime security and cooperation with maritime neighbours in the Indian Ocean Region and promoting **SAGAR, Safety and Growth for All in the Region.**

New Products in Make-II Project

Why in News?

Recently, the **Indian Army** has approved five **Project Sanction Orders (PSOs)** for the development of niche technology by the Indian industry under the **Make-II route** of **defence procurement.**

What is the Make-II Project?

➤ **About:**
  ○ Make II projects are essentially **industry funded projects** involving design, development and innovative solutions by Indian vendors for **development of prototypes.**
  ○ **22 out of 43 projects** are now in prototype development stage, which is 66% of projects by cost, ₹18,000 crore out of ₹27,000 crore.

➤ **New Additions under the Project:**
  ○ **High Frequency Man Packed Software Defined Radios (HFSDR):**
    ● These radio sets will replace the existing **High Frequency radio sets in the inventory**, which have **limited data handling capability and obsolete technology**.

Note:

- Light weight HFSDR will provide long distance radio communication through enhanced data capability and band width coupled with enhanced security
  - ○ **Drone Kill Systems:**
    - **Drone** kill system is a hard kill anti-drone system against low Radio Cross Section drones.
    - It is being developed to function in all types of terrains, both during day and night.
  - ○ **Infantry Training Weapon Simulator (IWTS):**
    - It is the first triservice Make-II project with the Army as the lead service.
  - ○ **Medium Range Precision Kill Systems (MRPKS):**
    - The MRPKS, once launched can 'Loiter' in the air for upto two hours and can acquire, designate and engage real time high value targets upto 40 km.
  - ○ **155mm Terminally Guided Munitions (TGM)**

What is the 'Make' Category of Capital Acquisition?

- ➤ The '**Make**' category of capital acquisition is the cornerstone of the **Make in India** initiative that seeks to **build indigenous capabilities through the involvement of both public and private sector.**
- ➤ '**Make-I**' refers to **government-funded projects** while '**Make-II**' covers i**ndustry-funded programmes.**
  - ○ **Make-I** is involved in development of **big-ticket platforms** such as light tank and communication equipment with Indian security protocols.
  - ○ **Make-II** category involves prototype development of **military hardware or its upgrade for import substitution** for which no government funding is provided.
- ➤ Another sub-category under 'Make' is '**Make-III**' that covers **military hardware** that may **not be designed and developed indigenously,** but can be manufactured in the country for **import substitution**, and Indian firms may manufacture these in collaboration with foreign partners.

What are the other Initiatives to Boost Domestic Production of Defence Equipment?

- ➤ **Defence Industrial Corridors**
- ➤ **Corporatization of the Ordnance Factory Boards**
- ➤ **Defence India Startup Challenge**

- ➤ **Draft Defence Production and Export Promotion Policy 2020**
- ➤ **Innovations for Defence Excellence (iDEX)**
- ➤ **Mission Raksha Gyan Shakti**

Projects to Track Small Fishing Vessels

Why in News?

Recently, it has been reported that projects launched to **track small fishing vessels along India's coast** are making progress.

- ➤ The third edition of the 'pan-India' coastal defence **Exercise Sea Vigil**-**22** is also scheduled to be held on 15th-16th November to test **coastal security**.

What are Different Projects to Track Small Fishing Vessels?

- ➤ **Automatic Identification System:**
  - ○ An **Automatic Identification System (AIS)** was made **compulsory for all vessels above 20 metres** after the 2008 terrorist attacks in Mumbai.
  - ○ The decision was taken by the **National Committee on Strengthening Maritime and Coastal Security**, set up to look into issues related to coastal security.
  - ○ However, for vessels under 20 metres, the process has been delayed for several reasons.
- ➤ **Vehicle Management System:**
  - ○ **The Vehicle Management System (VMS)** has advanced features and **enables two-way communication**. The technology has been handed over to four companies for commercial production.
  - ○ Trials were conducted in association with the **Indian Space Research Organisation** on one of their communication satellites last year along the coasts of Gujarat and Tamil Nadu.
- ➤ **ReALCraft:**
  - ○ Verification and monitoring of a large number of fishing vessels in India has been greatly eased by the creation of the online **ReALCraft (Registration and Licensing of Fishing Craft)**.
- ➤ **Biometric Identity Cards:**
  - ○ Issuance of **biometric identity cards** to the majority of fishermen and composite card readers to the maritime security agencies has been done to

Note:

enable biometric verification of the identity of fishing vessel crews at sea.

➢ **Indo-Pacific Maritime Domain Awareness (IPMDA):**

○ As part of overall efforts for **Maritime Domain Awareness (MDA)** on the high seas, the **Quad** grouping, at the **Tokyo summit 2022** announced an ambitious **Indo-Pacific Maritime Domain Awareness (IPMDA)** initiative to track **"dark shipping"** and build a "**faster, wider, and more accurate maritime picture of near-real-time activities in partners' waters**" integrating three critical regions in the Indo-Pacific - the **Pacific Islands**, **Southeast Asia**, and **Indian Ocean Region** (IOR).

What is Exercise Sea Vigil?

➢ **About:**

○ The **inaugural edition of the exercise** was conducted in January 2019.

○ It is billed as India's **largest coastal defence drill.**

○ The exercise is a build up towards the major **Theatre Level Readiness Operational Exercise (TROPEX)**, which the **Indian Navy** conducts every two years.

➢ **2022 Edition:**

○ **Exercise Sea Vigil-22** will provide realistic assessment of India's strengths and weaknesses and thus will help in further strengthening maritime and national security.

○ The exercise will see activation of the **coastal security apparatus** across India and is being conducted by the **Indian Navy** in coordination with **Coast Guard and other Ministrie**s entrusted with the task of maritime activities.

○ The exercise will be undertaken along the entire **7,516 km coastline and Exclusive Economic Zone of India** and will involve all the **Coastal States and Union territories along with other maritime stakeholders**, including the fishing and coastal communities.

➢ **Significance:**

○ Sea Vigil and TROPEX together will cover the **entire spectrum of maritime security challenges**, including transition from peace to conflict.

○ It provides opportunity, at the apex level, to assess the country's preparedness in the domain of maritime security and coastal defence.

●●●

Note:

Ethics

Two-Finger Test

Why in News?

Recently, the **Supreme Court** has said that **those conducting the 'two-finger test' on alleged rape victims will be held guilty of misconduct.**

What is the Two-Finger Test?

➢ **About:**

○ The two-finger test, carried out by a medical practitioner, **involves the examination of her vagina to check if she is habituated to sexual intercourse.**

- The practice is unscientific and does not provide any definite information. Moreover, such 'information' has no bearing on an allegation of rape.

○ A woman who has been **sexually assaulted undergoes a medical examination** for ascertaining her health and medical needs, collection of evidence, etc.

○ A handbook released by the **World Health Organization (WHO)** on dealing with sexual assault victims says, "There is no place for virginity (or 'two-finger') testing; it has no scientific validity."

➢ **Supreme Court's Observation:**

○ In 2004, a bench of Supreme Court stated that **"whether a woman is 'habituated to sexual intercourse' or 'habitual to sexual intercourse' is irrelevant** for the purposes of determining whether the ingredients of Section 375 (rape) of the IPC are present in a particular case.

○ The court stated that it is **patriarchal and sexist to suggest that a woman cannot be believed** when she states that she was raped, merely for the reason that she is sexually active.

○ In May 2013, the apex court had held that the **two-finger test violates a woman's right to privacy** and asked the government to provide better medical procedures to confirm sexual assault.

○ Invoking the **International Covenant on Economic, Social, and Cultural Rights 1966** and the **UN Declaration of Basic Principles of Justice for Victims of Crime and Abuse of Power 1985**, the apex court said **rape survivors are entitled to legal recourse that does not re-traumatise them** or violate their physical or mental integrity and dignity.

○ In April 2022, the **Madras High Court directed the state to ban the two-finger test.**

What the Government's Guidelines say?

➢ After the 2013 **Justice Verma Committee** report on amendments to criminal law for a faster trial, and enhanced punishment in sexual assault cases, the Union Health Ministry brought out detailed guidelines for the medical examination of victims of sexual assault in early 2014.

➢ According to the guidelines **'two-finger test', must not be conducted for establishing rape/sexual violence.**

➢ The guidelines state that a **rape victim's consent (or her guardian's, if she is minor/mentally disabled) is necessary for any medical examination.** Even if the consent is not provided, the victim cannot be denied medical treatment.

➢ **However, these are guidelines and are not legally binding.**

Adoption of Self-Driving Cars

Why in News?

In a series of lawsuits and a criminal case arising out of fatal Tesla accidents, **Tesla faces its biggest challenge since launching Autopilot in 2015.**

What are the Moral Dilemmas Self-Driving Cars Face?

➢ **Predetermined Decisions:**
  ○ Self-driving cars are **basically robots that have been programmed using algorithms.** So, they are most likely to follow set rules or patterns in all cases.

➢ **Giving Control to the Driver:**
  ○ One of the biggest dilemmas of self-driving cars is **whether it would be right to hand over the control to the driver at the last instant.**
  ○ This will not only raise a question about the ethics of self-driving cars but also about the ethics of the driver.

➢ **Rightful Deciders of the Ethics of Self-Driving Cars:**
  ○ There is a debate about who should decide the ethics of self-driving cars, according to some.
  ○ It can be **argued that no one is the right owner to decide the ethics of self-driving cases.** The decision must lie in the hands of the driver of the car.

➢ **Program the Car to Make an Impartial Decision:**
  ○ Some also argue that the best way for a **self-driving car is to make an impartial decision in case of accidents**.
  ○ They **must not discriminate between humans based on age, gender, or other parameters.** They should always make the decision that causes the least impact.

➢ **The Hacking Dilemma:**
  ○ There is **always a risk of a cyber-criminal hacking** into the car's system to gain access to sensitive data or to carry out a misdeed.
  ○ For example, what if **the autonomous car is hacked by a cybercriminal and commanded to carry out an accident** to implicate the driver?

What are Self Driving Cars or Autonomous Cars?

➢ **About:**
  ○ An autonomous car is a **vehicle capable of sensing its environment and operating without human involvement.**
  ○ A **human passenger is not required to take control of the vehicle** at any time, nor is a human passenger required to be present in the vehicle at all.
  ○ An autonomous car can go anywhere a traditional car goes and do everything that an experienced human driver does.

➢ **Benefits:**
  ○ Reduce traffic congestion
  ○ Cut transportation costs by 40%
  ○ Improve walkability and livability
  ○ Free up parking lots for other uses
  ○ Reduce urban CO_2 emissions by 80% worldwide

Ethical Mode of Governance for India

Why in News?

The Former Governor of West Bengal has spoken about the significance of ethical governance in India.

What is Ethical Governance?

➢ Ethical governance is a **way of governing which infuses high standards of moral values** and behaviour in the governance process.
  ○ **For example**, a bureaucrat is bound to serve the people that come to his office, but he couldn't be penalized if he doesn't make provisions for a glass of water to an elderly couple who might be tired after waiting too long in the queue. Those will be the ethics of public service and altruism that will make him do that.
  ○ Similarly, an official should allow disbursal of **Public Distribution System (PDS)** ration to beneficiaries particularly for women and senior citizens, even if there is a failure of Aadhaar identification due to mismatch of biometric data. It is important to understand that denial of such services may cost a person his life. Hence, **compassion and human dignity forms the basis of ethical governance.**

➢ **Ethical governance is the much-needed approach for establishing trust** and mutual cooperation between citizens and public servants.

What are the Key Elements of Ethical Governance?

➢ Ethical governance means **governance based on a certain value premise,** which is also "good". For example, **probity, integrity, compassion, empathy,**

Note:

responsibility, social justice etc. without which ethical issues can't be upheld.

- ○ **Probity would ensure that the sole purpose of administration is public interest,** thereby devoid of any wrongdoing.

- ○ **Responsibility**, not merely accountability, ensures the inculcation of internal accountability for every act of omission or commission in the form of judgement based on one's conscience. If this is attained then there would be no question of corruption.

➢ In order for a nation to compete globally, **eliminating corruption is not just a moral imperative, but also an economic necessity.**

➢ **Rule of law should be one of the most important elements of ethical governance** in order to eliminate corruption and reduce bureaucratic delays.

- ○ Rule of law checks arbitrariness in governance, thereby reducing chances of misusing discretion.

What are the Ethical Issues in the Indian Governance?

➢ **A Violation of Authority or Rank Position:** Officials make actions that are out of their position, responsibilities and rights that, finally, **cause damage to the interests of the state or certain citizens.**

➢ **Negligence:** A **public official either does not perform his professional responsibilities or performs them in** **a delinquent manner**, causing damage to the state or community.

➢ **Bribery:** Corruption and bribery have become acceptable parts of society, lubricating the wheels of commerce.

➢ **Complacency:** There is a core of exceptionally hardworking, dedicated and conscientious officers, but they are overwhelmingly outnumbered by the complacent, who are obsessed with status, rank, and emoluments and addicted to habits of personal luxury.

➢ **Patronization:** The post-retirement assignment of senior officers to Regulatory bodies and other important posts is largely done on patronage with no set guidelines.

➢ **Administrative Secrecy:** The purpose of administrative secrecy is to serve the public interest while maintaining private interests. Therefore, transparency is one of the most important virtues of ethical governance

➢ **Nepotism:** Neglecting the merit principle by appointing relatives or friends to public positions may degrade the quality of public services.

➢ **Lack of Compassion:** Indifference towards the feelings or the convenience of individuals and by an obsession with the binding and inflexible authority of departmental decisions, precedents, arrangements or forms, regardless of how badly or with what injustice they work in individual cases.

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Miscellaneous

Highlights

- Football4Schools Initiative
- Falcon Heavy Rocket
- National Geoscience Awards -2022

- World Puzzle Championship
- Chhattisgarh Foundation Day
- Selection of Vice-Chancellors

Football4Schools Initiative

Why in News?

Recently, the Ministry of Education has signed an MoU with **Federation Internationale de Football Association (FIFA)** and All India Football Federation (AIFF) for the **'Football4Schools' initiative in India.**

What is Football4Schools Initiative?

- **About:**
  - The Football4Schools program is a step towards translating Prime Minister's vision of making sports a **way of life as well as creating well-rounded citizens.**
  - It aims to empower 25 million young boys and girls in India through sports-integrated learning.
  - It espouses the spirit of **National Education Policy (NEP), 2020.**
- **Objectives:**
  - **Empower learners (boys and girls)** with valuable life skills and competencies
  - Empower and provide **coach-educators with the training to deliver sport and life-skills activities**
  - Build the capacity of stakeholders (Schools, Member Associations and public authorities) **to deliver training in life skills** through football
  - **Strengthen the cooperation** between governments and participating schools to enable partnerships, alliances and intersectoral collaboration.

What is FIFA?

- **About:**
  - FIFA is **the highest governing body of football in the world.**

  - It is the international governing body of association football, futsal, and beach soccer.
  - FIFA is **a non-profit organisation.**
  - Founded in 1904, FIFA was launched to oversee international competition among the national associations of Belgium, Denmark, France, Germany, Netherlands, Spain, Sweden, and Switzerland. FIFA now comprises 211 member nations.
  - It is **headquartered in Zurich, Switzerland.**
- **Objectives:**
  - The primary objective of FIFA is to **spread football internationally and promoting integrity and fair play.**
  - It is responsible for the organization and promotion of international tournaments, including the men's **World Cup, which started in 1930, and the women's World Cup, which began in 1991.**
  - It is **affiliated with the International Olympic Committee** and is also a member of the **International Football Association Board**, which is responsible for setting the rules of football.
  - **Six Regional confederations affiliated with FIFA:**
    - The Asian Football Confederation (AFC) is the governing body for Asia and Australia.
    - Confederation of African Football (CAF),
    - Confederation of North, Central American and Caribbean Association Football (CONCAF),
    - Confederation Sudamericana de Fútbol (CONMEBOL) is the South American federation,
    - Oceania Football Federation (OFC) has 14 members including New Zealand,
    - Union of European Football Associations (UEFA) is the governing body for Europe.

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Falcon Heavy Rocket

Why in News?

Recently, **SpaceX launched the Falcon Heavy rocket into a geosynchronous Earth orbit** from Launch Complex 39A at the Kennedy Space Center in Florida, US.

➤ This is the **fourth launch of the giant rocket system**, and the first one in nearly three years since its last launch in 2019.

What is the Current Mission?

➤ The rocket is carrying satellites to space for the U.S. military in a mission named as **US Space Force (USSF)-44.**

○ The mission deployed **two spacecraft payloads,** one of which is the **TETRA 1 microsatellite** created for various prototype missions in and around the geosynchronous earth orbit. **The other payload is for national defence purposes.**

○ It will place the satellites for the **Space Systems Command's Innovation and Prototyping.**

What is the Falcon Heavy Rocket?

➤ SpaceX claims Falcon Heavy to be the **most powerful rocket in the world** by a factor of two.

➤ The rocket has a **height of 70 m, a width of 12.2 m** and a **mass of 1,420,788 kg.**

➤ Falcon Heavy has **27 Merlin engines** which together generate more than **five million pounds of thrust at lift-off,** equaling around eighteen 747 aircraft at full power which makes it the most capable rocket flying.

○ Merlin is a **family of rocket engines developed by SpaceX** for use on its **Falcon 1, Falcon 9 and Falcon Heavy launch vehicles.**

○ Merlin engines use **RP-1 and liquid oxygen as rocket propellants** in a gas-generator power cycle.

○ These engines were **designed for recovery and reuse.**

➤ The rocket has a **lifting capacity of around 64 metric tonnes** into orbit.

➤ The Falcon Heavy **uses three boosters for added thrust** and **lift capacity.**

➤ SpaceX last **launched its Falcon Heavy rocket in June 2019** from NASA's Kennedy Space Center.

○ It carried **24 satellites** as part of the Department of Defense's Space Test Program-2.

National Geoscience Awards -2022

Why in News?

The Ministry of Mines invites nominations for the **National Geoscience Awards (NGA)-2022** for contributions in the field of fundamental/applied geosciences, mining, and allied areas.

➤ Geoscience is an all-encompassing term used to refer to the **Earth Sciences.** Geoscientists can come from such fields as the atmospheric sciences, geology, hydrology, mineralogy, petrology, pedology, and oceanography.

What are the Key Points of the Awards?

➤ **About:**

○ It was instituted by the **Ministry of Mines in 1966** and given annually.

○ It is an initiative to **encourage geoscientists** to strive toward excellence.

○ Any citizen of India with a significant contribution in any of the fields specified in **Clause-2 of the NGA Regulation 2022** will be eligible for these awards.

○ Broad Disciplines: -

● Mineral Discovery & Exploration

● Mining, Mineral Beneficiation & Sustainable Mineral Development

Note:

- Basic Geosciences
- Applied Geosciences

➤ **Categories:**

❍ **National Geoscience Award for Lifetime Achievement:**
- Award for Lifetime Achievement shall be **given to an individual with an exceptionally high lifetime achievement** for sustained and significant contributions in any of the disciplines mentioned in Clause-2 of NGA Regulation 2022.
- The award carries a cash prize of **Rs. 5,00,000/- and a certificate.**

❍ **National Geoscience Award:**
- National Geoscience Award shall be given to individuals or team(s) in **recognition of meritorious contribution** in any of the disciplines mentioned in Clause-2 of NGA Regulation 2022.
- Each award carries a cash prize of **Rs. 3,00,000/- and a certificate**. In the case of a team award, the award money will be equally divided.

❍ **National Young Geoscientist Award:**
- Young Geoscientist Award shall be given for outstanding **research work in any field of geosciences** to an individual **below 35 years of age** as on the 31st December 2021.
- The award carries a cash prize of **Rs. 1,00,000 plus a research grant of Rs. 5,00,000/-** spread over five years subject to satisfactory yearly progress and a certificate.

World Puzzle Championship

Why in News?

Prasanna Seshadri has won **India's first silver medal** after 11 years of trying at the World Puzzle Championship (WPC).

➤ The WPC gold this year went to Japan's Ken Endo.

What is the World Puzzle Championship?

➤ The World Puzzle Championship is an annual international puzzle competition run by the World Puzzle Federation. All the puzzles in the competition are **pure-logic problems based on simple principles**, designed to be playable regardless of language or culture.

❍ The **World Puzzle Federation** is an association of legal bodies with an interest in puzzles. Only one organization per country can belong to the WPF.

Chhattisgarh Foundation Day

Why in News?

Recently, the third edition of the **National Tribal Dance Festival** to be held from **1st November to 3rd November, 2022** was inaugurated at **Raipur, Chhattisgarh on the event of state foundation day.**

➤ Over **1,500 tribal artistes from around India and 10 countries**, including Mozambique, Mongolia, Tongo, Russia, Indonesia, Maldives, Serbia, New Zealand and Egypt will be hosted at the event.

What are the Key Facts about Chhattisgarh?

➤ **About:**
❍ **Chhattisgarh** was **carved out of Madhya Pradesh on 1st November, 2000** with its **16 Chhattisgarhi speaking districts.**
❍ It is the **10th largest state in India** with an area of 135,190 sq-km.
❍ It is an **important hub for the production of steel and electrical power in India**, producing about **15% of the total steel produced in India.**
❍ Chhattisgarh is **mainly famous for its agriculture** accounting for **about 80% of the work force.** It is also known as **'Dhan Ka Katora'** meaning **'Bowl of Rice'** for the production of rice.

➤ **Borders:**
❍ It is surrounded by **seven states: Madhya Pradesh, Maharashtra, Andhra Pradesh, Telangana, Orissa, Jharkhand** and **Uttar Pradesh.**

➤ **Capital:**
❍ **Raipur**.

➤ **Language:**
❍ The native language of people of Chhattisgarh is **Chhattisgarhi.**
- However, **Hindi is more prominent here.**

➤ **Tribes:**
❍ The most familiar tribes found in the state are **Miriam, Baiga, Kamars, Halbas, Gonds, Bhumja, Kawars, etc.**

Note:

➢ **Important Festivals:**
   - ○ Few of the remarkable festivals celebrated by the tribal societies comprises **Bastar Dussehra, Bastar Lokotsav, Koriya Mela, Fagun Wadai, Madai Festival, Goncha Festival, Pola Festival,** and others.

➢ **Mineral Resources:**
   - ○ It is a leading producer of minerals such as **coal, iron ore** and **dolomite.**
     - Moreover, considerable reserves of **bauxite, limestone** and **quartzite** are available in the state.
     - The state accounts for **35.4% of tin ore reserves of India.** Chhattisgarh is the **only state in India that produced tin concentrates.**

➢ **Important Rivers:**
   - ○ There are four main catchment areas in the state, mainly **Mahanadi, Ganga, Godavari,** and **Narmada.**
     - Under this, the Mahanadi, Shivnath, Arpa, Indravati, Sabari, Leelagar, Hasdo, Pairi, and Sondur are main rivers.

➢ **National Parks:**
   - ○ Indravati National Park
   - ○ **Guru Ghasidas National Park**
   - ○ Kanger Valley National Park

➢ **Wildlife Sanctuaries:**
   - ○ Tamor Pingla Wildlife Sanctuary
   - ○ Pamed Wildlife Sanctuary
   - ○ Gormada Wildlife Sanctuary
   - ○ Badalkhol Wildlife Sanctuary
   - ○ Bhoramdeo Wildlife Sanctuary
   - ○ Bhairamgarh Wildlife Sanctuary
   - ○ Seramsot Wildlife Sanctuary
   - ○ Barnawapara Wildlife Sanctuary
   - ○ Sitanadi Wildlife Sanctuary
   - ○ Nandan Van Wildlife Sanctuary
   - ○ Python Forest Wildlife Sanctuary
   - ○ Narsinghgarh Wildlife Sanctuary
   - ○ Udanti Wild Buffalo Wildlife Sanctuary

➢ **Tiger Reserve:**
   - ○ National Tiger Conservation Authority (NTCA) has designated the **combined areas of the Guru Ghasidas National Park and Tamor Pingla Wildlife Sanctuary as a Tiger Reserve.**
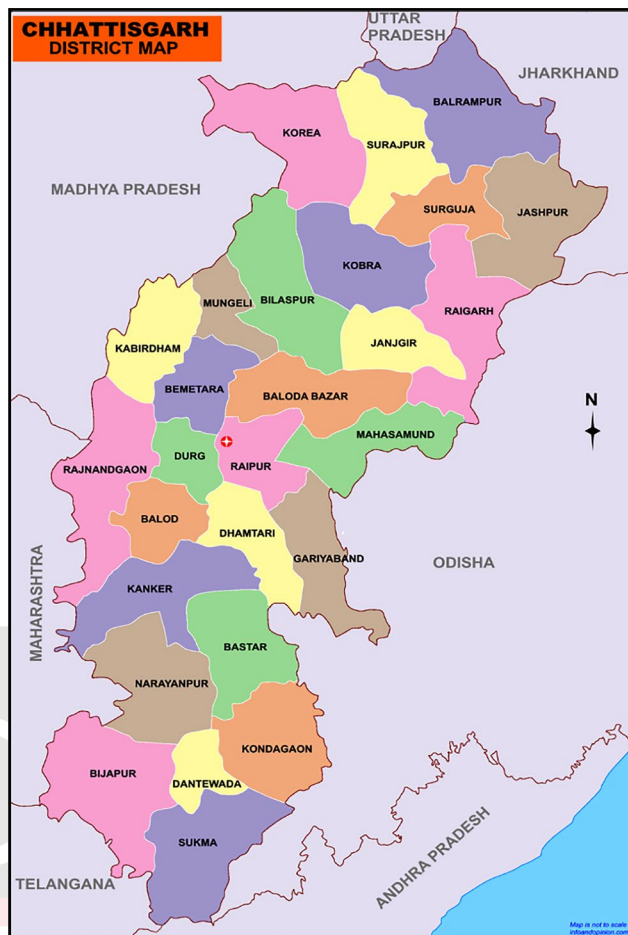
Selection of Vice-Chancellors

Why in News?

Recently, the **Supreme Court** said in a judgment that a **Vice-Chancellor should have a minimum teaching experience of 10 years as a professor** in a university and his or her name should be recommended by a search-cum-selection committee.

➢ The court referred to **Section 10(3) of the University Act, 2019** which provided that the committee should prepare a list of three persons for appointment as VC based on their qualification and eligibility.

What is the Process of the Appointment of a Vice Chancellor?

➢ According to the University Grants Commission (UGC) Regulations, 2018, the **VC of a university, in general, is appointed by the Visitor/Chancellor**, from a panel of three to five names recommended by the duly constituted Search cum Selection Committee.

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- A visitor is empowered to call for a set of fresh names in case of dissatisfaction with the given panel.
- In Indian universities, **the President of India is the ex-officio Visitor** of all the Central Universities and the **Governor** of the respective states is the Chancellor of all the state universities.
- Necessarily this system is not uniform in all the universities. As far as the procedures adopted by different states are concerned, they vary.
- Where there is a conflict between the **State University Act and the UGC Regulations, 2018** to the extent State legislation is repugnant, the UGC Regulations, 2018 shall prevail.
  - According to **Article 254(1)**, if any provision of a state law is repugnant to a provision in a law made by the Parliament, which the Parliament is competent to enact, or with any existing law regarding any matter in the **Concurrent List**, then the **Parliamentary law would prevail over the State law**.

What is the Role of Vice-Chancellor?

- As per the constitution of the University, **the Vice-Chancellor (VC) is considered the 'Principal Academic and Executive Officer of the University'.**

- As head of the University, **he/she is expected to function as a 'bridge'** between the executive and the academic wing of the university.
- It is to **facilitate this expected role that universities are always in search of persons** with values, personality characteristics and integrity in addition to academic excellence and administrative experience.
- The reports of the **Radhakrishnan Commission (1948), Kothari Commission (1964-1966), Gnanam Committee (1990) and Ramlal Parikh Committee (1993)** have highlighted the importance of the role of VC in maintaining the quality and relevance of universities, in addition to its growth and development, keeping in view, the much-needed changes from time to time.
- He shall be the **ex-officio Chairman of the Court, Executive Council, Academic Council, Finance Committee and Selection Committees** and shall, in the absence of the Chancellor preside at any convocation of the university for conferring degrees.
- It shall be the duty of the Vice-Chancellor to see that the provisions of the Act, Statutes and Ordinances and Regulations are fully observed and he should have the power necessary for the discharge of this duty.

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Key Points

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Summary

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