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Dear Students,

Memorisation and recollection of information in Current Affairs is as important as understanding the articles. In order to enhance the learning outcomes from the Monthly Current Affairs Magazine, we are introducing following additions:



A thematic based colors has been used in the document in the boxes, tables etc to enable easy identification and recollection of various concepts and topics.



Questions are an important tool to assess and retain information. To enable this we are adding a Smart Quiz at the end of each section in the document for practicing the questions.



A wide variety of infographics have been added to ensure smoother learning experience and enhanced retention of the information. This will also help in effective presentation of information in the answer writing as well.



Places and persons in news are being presented in an objective manner through Maps, Tables & Pictures. This will help in easier recollection of factual information.

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1. POLITY AND GOVERNANCE

1.1. UNIFORM CIVIL CODE

Why in the news?

Recently, the 22nd Law Commission of India (LCI) sought suggestions from various stakeholders on a Uniform Civil Code (UCC).

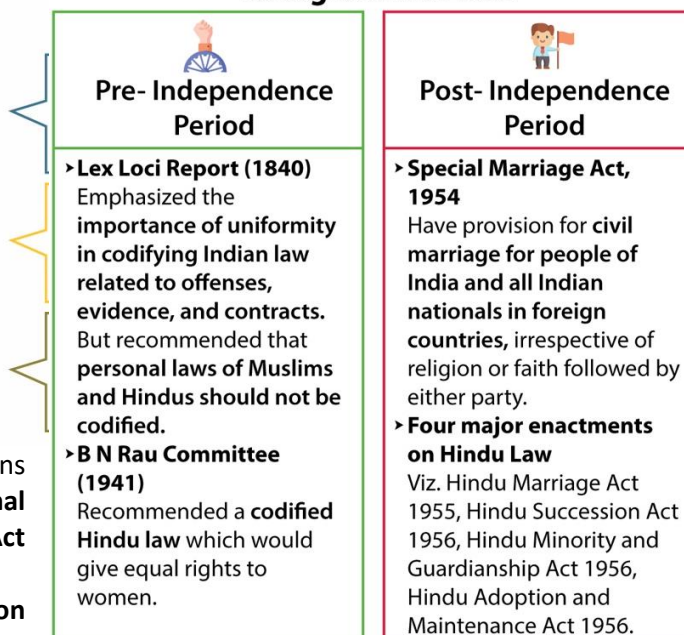
About Uniform Civil Code (UCC)

- A UCC provides for the formulation of **one law for the entire country, which would apply to all religious communities** in their personal matters such as marriage, divorce, inheritance, adoption, and succession.
 - Currently, Indian personal law is complex, with **each religion adhering to its specific laws.**
 - ✓ For instance, **Hindu Succession Act 1956** governs Hindus, Sikhs, Jains and Buddhists; **Muslim Personal Law** governs Muslims; and **Indian Succession Act 1925** applies to Christians, Parsis, and Jews.
- Earlier, the Law Commission had furnished a **consultation paper on “Reform of Family Law” in 2018**, which stated that
 - A UCC was **“neither necessary nor desirable at this stage”**.
 - It recommended that **existing family laws across religions required to be amended and codified to tackle discrimination, inequality** in personal laws and **limit “ambiguity in interpretation”** and application.
- **Goa** is the only place in India where a form of common civil code is in practice, the **Portuguese Civil Code of 1867**.

Arguments in favour of UCC

- **Constitutional Mandate:** Article 44 under Directive Principles of state policy.
- **Promotes Secularism:** Implementing a UCC would **uphold the principles of a secular state**, where religious beliefs do not dictate civil matters.
- **National unity and integration:** UCC would **foster national unity by transcending religious and community divisions**, promoting common citizenship, and creating a more unified legal system.
- **Gender Justice:** Promotes gender equality and women's rights by **eliminating discriminatory practices** in certain religious personal laws.
 - **United Nations Human Rights Committee (UNHRC)** has called on India to implement a UCC that would help India to **demonstrate its commitment to the principles of equality and non-discrimination.**
- **Simplification of Laws:** UCC will **simplify the complex laws** around marriage ceremonies, divorce, inheritance, succession etc.
 - For example, individuals seeking a divorce would follow a standardised procedure, irrespective of their religious background, ensuring faster and more efficient resolution of disputes.
- **Adapting to Modern Times:** Implementing a UCC would enable the incorporation of **modern principles and ensure that laws align with the evolving social landscape, promoting inclusivity** and individual freedoms.

Background of UCC



Important Judicial Pronouncements related to UCC



Arguments against UCC

- **Against Diversity:** Imposing a UCC could **undermine the cultural and religious identities of different communities** of the country and could **violate religious freedom** (Article 25 of the Constitution).
 - Imposing a common civil code may **dilute the unique rights and protections enjoyed by minority groups and erode their cultural autonomy**.
- **Lack of Consensus:** Each community has traditions, customs, and religious laws they wish to preserve. **Implementing a UCC without the consent** and agreement of all communities could **lead to social unrest**.
- **Federal Structure:** Several experts argued that UCC could encroach upon states' legislative competence, thereby infringing on principles of cooperative federalism.
 - It is argued that **states are better positioned to assess and legislate personal laws** to suit their people's needs, given their proximity to grassroots realities.

Way forward

- **Consensus:** Government must engage in a constructive dialogue with all stakeholders, including religious leaders and community representatives.
- **Strong Political Will:** Government must ensure that the **implementation of UCC is not used as a tool for political gains** and that it is undertaken in a non-partisan and inclusive manner.
- **Awareness:** The **common citizen must understand the rationale behind UCC and benefits**. This will require a concerted effort by the government, civil society, and the media to sensitise the public on this issue.
- **Eradicating discrimination:** It is essential that UCC requires a thorough review of the existing personal laws to **ensure that UCC is in line with the principles of justice, equality, and non-discrimination**.
- **Adopting a piecemeal approach:** The goal of a UCC should ideally be reached in a piecemeal manner, like the **recent amendment** on the age of marriage. This could also pave the way for internal reform and change within the religious dispensation.
 - Certain Indian laws already follow a **uniform code in most civil matters** – Indian Contract Act, Civil Procedure Code, Partnership Act, Evidence Act etc.
- **Codification of all personal laws:** By codifying laws, one can establish **universal principles that promote fairness** instead of enforcing a rigid uniform code, which may deter people from resorting to legal recourse, as marriage and divorce matters can be resolved through extrajudicial means.

1.2. JUDICIAL PENDENCY

Why in the news?

The Ministry of Law and Justice recently informed the Rajya Sabha that over 5.02 crore cases were pending in various courts.

Reasons for the pendency of cases

- **Low ratio of judges to population** and **delay in filling the vacancies** of judicial officers and judges.
- **Frequent Adjournments:** The laid down **procedure of allowing a maximum of three adjournments per case is not followed** in over 50 per cent of the matters being heard by courts, leading to rising pendency of cases.
- **Lack of infrastructure:** Court complexes **lack adequate funds, internet, lackadaisical working style of staff, and courtrooms** to occupy judges (if new appointments are made)
- **Delayed investigation:** Delay in processing both civil and criminal cases due to **non-availability of counsel, misaligned incentives, the complexity of facts involved**, nature of evidence etc. leads to rising judicial pendency.

Know the term

- **Judicial pendency** refers to the **clogged state of judicial system in India** where the quantum of litigations is spiking exponentially but the output in form of judgments or settling of disputes moves at the slow pace.

Data Bank

- **69.76 thousand, 60.6 lakh, and 4.4 crore cases** are pending in Supreme Court, High courts, and district and subordinate courts.
- **21 judges for every million people** whereas Law Commission had recommended **50 Judges per million**.
- **0.08-0.09%** of the GDP is the budgetary allocation to the judiciary.

- **Other issues:** abusing contempt of court power, improper courtroom behaviour etc.

Way forward

- **Appointment of judges:** Collegium should take adequate safeguards and transparency in selecting judges so that judges of high calibre and impeccable integrity are appointed to the higher courts.
 - An **all-India judicial services examination** can be considered to maintain high standards in the judiciary.
 - **Articles 224A and 128** of the Constitution can be invoked to appoint ad hoc Judges.
- **Promoting Alternative Dispute Resolution (ADRs)** mechanisms such as Lok Adalat, Arbitration, Mediation, Conciliation etc. for civil cases can help to reduce the burden on courts and facilitate robust legal practice.
- **Strengthen infrastructure:** Government should provide adequate funds for developing and upgrading the judicial infrastructure, training judicial staff etc.
- **Setting a Time Limit:** A time limit should be set for hearing a case and deciding.
 - Consider and explore options for setting up fast-track courts and fixing time limits or deadlines for certain categories of cases, especially in subordinate courts.
- **Changes in criminal justice and procedural laws**
 - **Reduce the criminalization of violations** and move towards the compounding of minor offences.
 - **Reform forensics and ballistics testing** by outsourcing to accredited laboratories.
- **Grievance Redressal:** Government departments **must establish a strong internal grievance redressal mechanism and empower designated officers to decide** disputes between employees and departments.
- **Create a law-abiding society:** Introduce incentive and sanction-based models of motivation to ensure that citizens abide by the law.
 - Prohibitive penalties should be imposed to check traffic violations, civic violations including littering in public, first-time petty offenders, etc.

Initiatives taken to curb Judicial Pendency

- **Memorandum of procedure, 2016:** It has been under discussion to **bring transparency in judicial appointments and setting up a permanent secretariat in SC** for maintaining records of high court judges.
- **Project Sahyog** to reduce pending cases.
- **Legal Information Management and Briefing System (LIMBS)**, a web-based application for monitoring cases involving the central government of India, more effectively and transparently.
- **Mediation Bill, 2023** provides pre-litigation mediation by parties.
- **e-Courts** to improve access to justice using technology.
- **National Litigation Policy (NLP)** is under consideration to lay down guidelines for preventing, controlling and reducing litigation.
- **Administrative Mechanism for Resolution of Disputes (AMRD)** to resolve Inter-Ministerial/ Departmental disputes.
- **Fast Track Courts (FTCs)** are dedicated courts expected to ensure swift dispensation of justice.

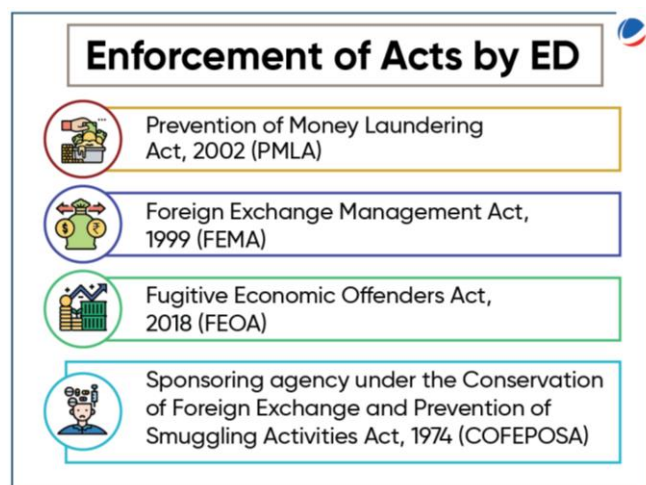
1.3. DIRECTORATE OF ENFORCEMENT

Why in the news?

Recently, Supreme Court declared the **third extension given to the Directorate of Enforcement (ED)** chief invalid.

More on news

- **SC upheld the amendment to the Central Vigilance Commission (Amendment) Act, 2021, Delhi Special Police Establishment (Amendment) Act, 2021,** and the Fundamental (Amendment) Rules, 2021.
 - Amendments allow the **tenures of Directors of the Central Bureau of Investigation and the ED a maximum of three annual extensions.**



- However, the SC ruled that the current **ED chief's term extension was unlawful** for violating the mandate of the **Supreme Court's 2021 judgment**, wherein the court had barred further extensions.

About the Directorate of Enforcement (ED)

- ED is a **multi-disciplinary organisation** mandated to investigate **economic crimes and violations of foreign exchange laws**.
 - Works under **the Department of Revenue, Ministry of Finance**.
 - It is **headquartered at New Delhi**.
- **Appointment of Director of ED**
 - ED director is appointed as per **provisions of the CVC Act 2003**.
 - **Tenure should be "not less than two years,"** and any **transfer has to be sanctioned by the appointing committee chaired by CVC**.
 - ✓ The mandatory two-year appointment period is **followed by a maximum of three annual extensions** under the Central Vigilance Commission Act of 2021.

Powers of the Directorate of Enforcement

- **Power to seize assets:** ED has the authority to **undertake "search and seizure" against any individual** based on information in the officer's possession and by establishing in writing exact "reasons to suspect".
- **Power to summon:** FEMA has empowered the ED to **hold an enquiry against any person/entity who is alleged to have committed a contravention** of the provisions of FEMA or rules and regulations made thereunder.
 - Moreover, under **ED has the same power as a civil court** regarding discovery, inspection, production of evidence, summons, examining, issuing commissions, etc.
- **Power to arrest:** ED can **investigate and make arrests for violation** of the Prevention of Money Laundering Act (PMLA) 2002 and FEMA 1999 without waiting for registration of a formal FIR by police.
- **Record Admissibility:** In 2022, the Supreme Court ruled that **statements recorded by ED officials can be admitted as evidence in court**, as they are not police officials and are **thus not subject to challenge on the grounds of being self-incriminatory**.
- **Recovery of Fines, Penalties and Arrears of Penalties:** ED can take necessary steps to recover fines, penalties, or arrears of penalties by the concerned person under the FEMA act.

Issues with the Directorate of Enforcement

- **Abysmal convictions rate:** From 2014-2022, ED's **conviction rate is as low as 0.5 per cent**.
- **Lack of transparency:** There is a **lack of clarity and transparency about ED's selection of cases to investigate**, which **exacerbates** perceptions of being used as a political tool by the ruling party.
- **Falling credibility:** The **image** of investigative agencies like ED, CBI, and SFIO has been tarnished by allegations of **corruption, lack of impartiality, and a close nexus with the political class**.
- **Lack of workforce:** ED needs more resources, **infrastructure, and workforce** to deal with rising complexities and economic offences.

Way forward

- **Enhancing capacity:** ED requires an increased workforce and proper training in modern technology to effectively address the surge in high-value money laundering, cybercrimes, and cryptocurrency-related cases.
- **Regulation:** The discretion exercised by ED under PMLA should be **guided by the rule of law** and must be transparent, non-arbitrary and based on facts of the case rather than politically motivated.
- **Reducing Pendency:** Measures such as Fast Track courts and special benches should be constituted to expedite the adjudication process.
- **Oversight Committee:** A committee should be constituted to **overlook and streamline the case selection process** based on objective criteria and to boost transparency in the functioning of the ED.
- **Awareness and Protection:** Public **awareness should be generated about the ED's role**, reform its image, and **encourage whistleblowers to come forward**.

1.4. MULTI-STATE CO-OPERATIVE SOCIETIES (AMENDMENT) BILL, 2023

Why in the news?

The both houses has passed the Multi-State Co-operative Societies Bill, 2022, to **amend the Multi-State Co-operative Societies (MSCS) Act, 2002.**

About Multi-State Cooperative Societies Act, 2002

- **Objective:** Consolidate and amend the law relating to cooperative societies, with objects not confined to one State and serving the interests of members in more than one State.
- **Key provisions of the Act:**
 - **Application:** The Act applies to all cooperative societies, with objects not confined to one State.
 - **Registration:** All MSCS shall be registered under the Act through a Central Registrar (appointed by the Central Government.)
 - **Internal Governance:** Every multi-state cooperative society may make its **bye-laws** consistent with the provisions of this act for its internal governance.
 - **Reorganization:** Central Registrar to prepare a scheme of amalgamation or reorganisation of a cooperative bank.
 - ✓ This is done on the direction of the Central Government, with prior approval of RBI and in accordance with the Banking Regulation Act, 1949.
- **Other developments:**
 - Cabinet has approved **three national-level MSCS** under MSCS Act, 2002 namely National Multi-State Cooperative Export Society, National Multi-State Cooperative Organic Society and National Multi-State Cooperative Seed Society.

Do you know ?

- > The Supreme Court, in **Union of India vs Rajendra Shah and others, 2021** stated that Part IXB of the Constitution of India applies only to multi-State co-operative societies (MSCS).

Need for the amendment bill

- **Consistency with Part IX-B:** MSCS act needs to be amended to bring consistency with the **Constitution (Ninety-Seventh) (Amendment) Act, 2011**, which incorporated Part IX-B in the Constitution of India.
- **Fulfilment of Cooperative Principles:** It also aims to plug loopholes in the existing legislation and strengthen governance in the MSCS in accordance with the **Cooperative Principles**.
- **Need for reforms in MSCS:** Easier and digital registration process, more vibrant and active membership, increased transparency through information officer, grievance redressal etc.
- **Revival of sick MSCS through a dedicated fund:** A sick multi-state co-operative society is one that has:
 - **accumulated losses equal to or exceeding the total of its paid-up capital, free reserves, and surpluses, and**
 - **suffered cash losses in the past two financial years.**

Cooperative Principles

- Voluntary and Open Membership
- Member's Economic Participation
- Education, Training and Information
- Democratic Member Control
- Autonomy and Independence
- Concern for Community

Key features of the Bill

- **Establishment of Co-operative Election Authority:** Presently, elections to the board of a multi-state co-operative society are conducted by its existing board.
 - Bill specifies that the **central government will establish the Co-operative Election Authority** to conduct elections to the board of multi-state cooperative societies.
 - The Authority will consist of a **chairperson, vice-chairperson, and up to three members** appointed by the central government on the recommendations of a selection committee.
- **Amalgamation and division of co-operative societies:** The Act provides for the amalgamation and division of multi-state co-operative societies.
 - The Bill allows co-operative societies (registered under state laws) to merge into an existing multi-state co-operative society.
- **Fund for sick co-operative societies:** The Bill establishes the **Co-operative Rehabilitation, Reconstruction and Development Fund** to revive sick multi-state co-operative societies.

- **Multi-state co-operative societies that are in profit** for the preceding three financial years **shall finance the Fund**. They will deposit either one crore rupees or one per cent of their net profit into the Fund, whichever is less.
- **Restriction on redemption of government shareholding:** Presently, the Act provides that the shares held in a multi-state co-operative society by certain government authorities can be redeemed based on the society's bye-laws.
 - The Bill amends this to provide that any shares held by the central and state governments **cannot be redeemed without the shareholder's approval**.
- **Redressal of complaints:** As per the Bill, the central government will appoint **one or more Co-operative Ombudsman** with territorial jurisdiction.
 - **Appeals** against the directions of the Ombudsman may be filed with the **Central Registrar**.
- **Composition of board of directors:** Under the Act, the board of a multi-state co-operative society will have a **maximum of 21 directors**.
 - The board may co-opt **two additional directors**.
 - The Bill amends the composition of the board of directors to mandate the inclusion of:
 - ✓ one Scheduled Caste or Scheduled Tribe member, and
 - ✓ two women members.

Conclusion

For the reorganization of Multi-State Cooperative Societies (MSCS) to be successful, efforts will have to be made on capacity-building and handholding of its members and technology adoption for improved governance.

Scan the QR code to know more about **Cooperative Sector**.

Weekly Focus #48: Cooperatives: Prosperity through Cooperation



1.5. CINEMATOGRAPH (AMENDMENT) BILL, 2023

Why in the news?

Recently, both the houses passed the Cinematography (Amendment) Bill, 2023.

More about news

- Bill amends the **Cinematograph Act 1952, enacted to make provisions for certifying cinematograph films for exhibition and regulating exhibitions using cinematographs**.
 - Act provides for establishing the **Central Board of Film Certification (CBFC)** for certifying films for exhibition.
 - Such certifications may be subject to modifications/deletions.
 - Board may also refuse the exhibition of films.
- The proposed amendments aim to make the **certification process more effective** and in tune with the present by introducing new certification categories.



CENTRAL BOARD OF FILM CERTIFICATION
केन्द्रीय फिल्म प्रमाणन बोर्ड

Central Board of Film Certification (CBFC)



HQ
Mumbai

About: Statutory body under **Ministry of Information and Broadcasting**. It regulates public exhibition of films under provisions of Cinematograph Act 1952.

Vision: To ensure the **good and healthy entertainment** in accordance with provisions of **Cinematograph Act 1952 and Cinematograph (Certification) Rules 1983**.

Mission: Make certification process transparent and responsible;


- Develop CBFC as a Centre of Excellence;
- Adopt modern technology for certification process etc.

Composition: Consists of **non-official members and a Chairman** (all of whom are appointed by Central Government).

Nine Regional offices: At Mumbai, Kolkata, Chennai, Bangalore, Thiruvananthapuram, Hyderabad, New Delhi, Cuttack and Guwahati are **assisted in the examination of films by Advisory**.

Key provisions of Bill

Specifications	Details
Age-Based Certification	<ul style="list-style-type: none"> Bill introduces three age-based certifications under 'UA' category —'UA 7+', 'UA 13+' and 'UA 16+'. These age-based markers meant for parents or guardians to consider whether their children should view such a film. These are only recommendatory.
Separate certificate for television/other media	<ul style="list-style-type: none"> Films with an 'A' or 'S' certificate will require a separate certificate for exhibition on television, or any other media prescribed by the central government.
Certificates to be perpetually valid	<ul style="list-style-type: none"> Certificates will be perpetually valid as opposed to the present validity of 10 years.
Revisional powers of central government	<ul style="list-style-type: none"> Bill omits section 6(1) of the Act as directed by Supreme Court in Union of India vs KM Shankarappa Case, 2000 which states that Centre cannot exercise revisional powers on films already certified by the CBFC.
Makes film piracy a punishable offence	<ul style="list-style-type: none"> The Bill prohibits the unauthorised recording and unauthorised exhibition of films and makes it a punishable offence under the provisions of Copyright Act, 1957.
Penalty	<ul style="list-style-type: none"> Bill proposes penal action in case of violation.

 Categories of Film Certification	
Category	Certified Audience
U	Universal and without restriction
UA	Without restriction, but subject to guidance of parents or guardians
A	Only for Adults
S	Only to members of any profession or class of persons

Conclusion

The bill tends to address the existing problems faced by the film industry and regulates the content by new certification categories. Meanwhile, the current viewership is starting to tilt towards the **OTT platforms, and early regulation of them is necessary for the betterment of society and the industry.**

1.6. NEWS IN SHORTS

1.6.1. RIGHT TO SILENCE

- Supreme Court said that all accused have a right to silence, and investigators cannot force them to speak up or admit guilt.
- Right to silence emanates from Article 20(3)**, which states that no one can be compelled to be a witness against himself.
 - Protection is limited only to **criminal proceedings**.
 - Right is not available to a person being interrogated under **Customs Act, 1962, or Foreign Exchange Management Act, 1999**, since the person is not "accused of an offence" and isn't entitled to a lawyer.
 - In **Nandini Satpathy v. P.L. Dani case**, SC stated that compelling a person to answer a question within the **limits of the police station** may result in a violation of Article 20(3).

1.6.2. SOP TO CHECK THE USE OF FREEBIES, LIQUOR TO LURE VOTERS

- Central Board of Indirect Taxes and Customs (CBIC) issues SoP to limit the usage of freebies, liquor to attract voters
- SoP aims to **prevent suspicious cash, illicit liquor, drugs/narcotics, freebies and smuggled goods** during assembly and general elections.
 - Earlier, **Election Commission had also expressed concerns** that smuggled goods/contraband, and other illicit articles may be used to lure voters.
- Key highlights of SoP**
 - GST and Customs officials to monitor** the distribution of **coupon-based or free fuel or cash** for alluring prospective voters.
 - Setting up flying squads and static surveillance teams** for vehicles check and verification of warehouses.
 - Movement of items like saris, party flags etc.**, associated with candidates or political parties **without an e-way bill may be confiscated**.



Central Board of Indirect Taxes and Customs(CBIC)

New Delhi



- i **About:** **Administrative authority** for Central Excise, Central GST Commissionerates, Custom houses and Central Revenues Control Laboratory.
- M **Ministry:** Ministry of **Finance (Department of Revenue)**
- C **Composition:** Headed by **Chairman** along with members from all subordinate bodies.
- O **Objective:** It deals with formulation of **policy concerning levy and collection of Customs and Central Excise duties, prevention of smuggling and matters relating to Customs, Central Excise and Narcotics etc.**

1.6.3. DEMARCATION OF ROLES OF MCA AND MEITY

- Centre has **demarcated the role** of both ministries to **remove the possibility of duplicity of regulations** on digital markets.
 - India's digital market is **expected to touch \$ 1 trillion** by 2025-26.
- **The Ministry of Corporate Affairs (MCA)** would be the nodal Ministry to **look into all the competition issues** in the digital market.
- **Ministry of Information Technology (MeitY)** will look into **sector-specific issues**.
- The government is working towards **introducing legislation, including Digital India Act and Digital Competition Law**, for regulating various facets of the digital market in India.



1.6.4. DARK PATTERNS

- The Advertising Standards Council of India (ASCI) has **issued guidelines for "dark patterns"**.
- It is to be implemented from 1st September 2023.

- A dark pattern is a user interface crafted to trick or manipulate users into making choices detrimental to their interests. E.g.
 - Buying a more expensive product,
 - paying more than what was initially disclosed etc.
- **Misleading advertisements** are defined under the **Consumer Protection Act of 2019**.
- **Guideline** address **four online advertising techniques**
 - **Drip Pricing:** The **elements of the costs are not revealed up front**, and the total price is only revealed at the end of the buying process.
 - ✓ The guidelines suggest that the price shall include all non-optional taxes, duties, fees etc, which applies to all or most buyers.
 - **False Urgency:** A **phenomenon when companies state or imply that quantities of a product or service are more limited than they actually are**.
 - ✓ The advertisers would be required to demonstrate that the stock position at the time of the appearance of the limited quantity message was of a level of urgency communicated.
 - **Distinguished ads:** Advertisements **resembling editorial or organic content** must disclose that it is an advertisement like paid reviews, influencer posts etc.
 - **Bait and Switch:** **Advertising one product or service but delivering another**, often of lower quality.

About ASCI

- Established in **1985** by professionals from the advertising and media industry to keep Indian ads decent, fair and honest.
- It is a **voluntary self-regulatory organisation** comprising members from India's marketing, creative, media, and allied companies.
- ASCI has been committed to **protecting Indian consumers' interests through self-regulation in advertising**.

 <p style="font-weight: bold; font-size: 1.2em; margin-top: 10px;">SMART QUIZ</p>	<p>You can scan this QR code to practice the Smart Quiz of Polity at our open test online platform for testing your understanding and recalling of the concepts.</p>	
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2. INTERNATIONAL RELATIONS

2.1. INDIA-SRI LANKA

Why in the news?

Recently, India and Sri Lanka released a statement titled **“Promoting Connectivity, Catalysing Prosperity: India-Sri Lanka Economic Partnership Vision.”**

More on News

- Also, several MoUs like operationalising **UPI digital payments in Sri Lanka** and designating the Indian Rupee as currency for trade, **renewable energy and economic development projects in Trincomalee were signed.**
- Both countries have also decided to start passenger ferry services between **Nagapattinam in Tamil Nadu and Kankasanturai in Sri Lanka.**

Role of India in Helping Sri Lanka in the 2022 Economic Crisis

- India was the first country to hand over **its letter of support for financing and debt restructuring of Sri Lanka to the International Monetary Fund.**
- India has extended nearly **US\$4 billion in food and financial assistance to Colombo** (including currency swaps and credit lines).
- **India dispatched several shipments of essentials** such as fuel, food, and fertilizers to its neighbour.
- **India had in-depth talks** with the Sri Lankan government, IMF, and the Paris Club through which debt relief and finances were finalized.

About India-Sri Lanka Economic and Connectivity Ties

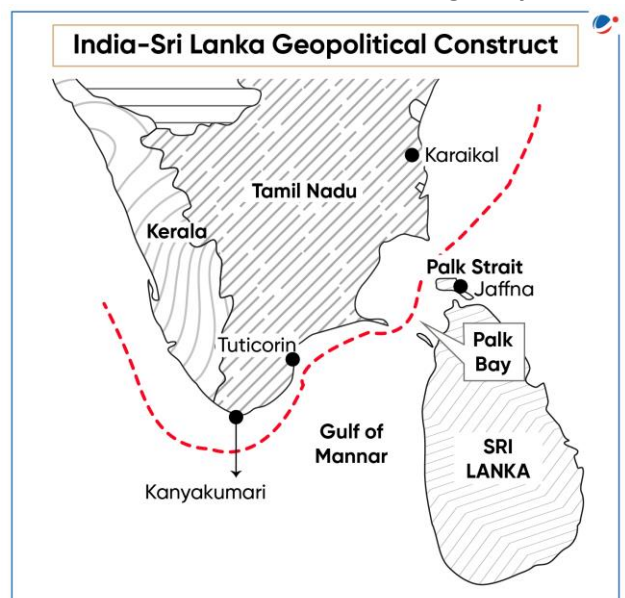
- **Overall Trade: India-Sri Lanka Free Trade Agreement (ISFTA) signed in 1998 which came into force in 2000.**
 - India was Sri Lanka’s largest trading partner with an overall bilateral merchandise trade of US\$ 5.45 billion in 2021.
 - India is also one of the largest contributors to Foreign Direct Investment in Sri Lanka.
- **Connectivity:** Agreements like **Open Sky, Air Bubble arrangements** exist to restore air connectivity between the two countries.

Other Areas of Convergence between India-Sri Lanka

- **Trade: Two-thirds of the world’s oil and half of the world’s container transportation** passes through the south of Sri Lanka.
- **Geopolitical interest:** Sri Lanka is an essential partner in India’s **“Neighbourhood First” policy and SAGAR (Security and Growth for All in the Region) vision.**
- **Military significance:** Sri Lanka lies at the juncture of the Arabian Sea and the Bay of Bengal, it is close to the zone meant for switching of Indian Naval fleets.
 - The military exercise called **Mitra Shakti and the Naval exercise called “Slinex”** are conducted regularly.
- **Cultural significance:** Both countries share long and historical cultural ties with Buddhism as the common link.
 - Sri Lanka has a substantial Tamil Population with close people-to-people ties with Tamils in India.

Divergence in India-Sri Lanka Relations

- **Trust deficit:** The asymmetrical nature of relations between India-Sri Lanka played an important role in shaping the majority view against India in Sri Lanka.
- **Fishing Disputes:** Incidents of the Sri Lankan Navy firing on Indian fishermen in the Palk Strait have led to tensions between the two countries due to disagreements over fishing rights and the use of mechanized trawlers.
 - In 1974, an agreement was signed to cede the resource rich Katchatheevu islet to Sri Lanka, which the Tamil fishermen had traditional fishing rights for centuries.



- **Economic and political crisis:** Recent crisis has affected the country's ability to engage with India and implement policies that promote economic cooperation and regional stability.
- **Strategic issues due to increased Chinese presence:** As part of the Maritime Silk Route (MSR) policy, China built Colombo and Hambantota ports.
- **Tamil Question:** The issue of Tamil minority rights in Sri Lanka remains a sensitive topic, with India advocating for national reconciliation through a political settlement (13th amendment) of the ethnic issue.
 - 13th Amendment to **allow devolution of power to provinces has not been implemented.**

Way Forward

- **Continued efforts:** the role of India as the “first responder” in light of the recent financial and political crises, which can bolster better relations with Sri Lanka.
- **Regional Cooperation:** Leveraging regional platforms like BIMSTEC and SAARC can provide opportunities for broader cooperation and addressing common challenges.
- **Permanent solution for the fisherman issue:** Both countries should try to find a permanent solution to the fishermen’s issue through bilateral engagements.
- **Combating terrorism:** Recent attacks influenced by Islamic State ideology in Sri-lanka, necessitates greater cooperation in counter-terrorism efforts at the bilateral as well as regional levels in combating terrorism.
- **Building trust:** India must be mindful of the sensitivities of Sri Lanka as a small state. India must see how Sri Lanka’s fears and suspicion can be minimised.
- **People-to-People Ties:** Encouraging cultural exchanges, tourism, and educational cooperation can further deepen the understanding and goodwill between the people of both countries.

2.2. INDIA-FRANCE

Why in the news?

Marking 25 years of their strategic relations, India and France, in their recent meeting, outlined the trajectory of their bilateral ties till 2047 launching the **Horizon 2047 framework**.

More about the news

- The Horizon framework includes sectors from **defence, nuclear energy & space, to eliminating single-use plastic and a five-year Schengen visa.**
- **The two nations adopted three pillars** focusing on security, planet, and people guiding the bilateral ties for the next 25 years.
- The two countries also reinforced ties on **critical technology** especially in artificial intelligence, and quantum computing among others.

Convergence between India-France Relations

- **Modernization of the defense sector:** France has been instrumental in assisting India's defense modernization efforts through technology transfers, enabling indigenous production capabilities, and joint ventures.
 - France has emerged as **the second-largest exporter of defense equipment to India. P-75 Scorpene technology transfer and Rafale aircraft** are some major examples.

The key outcome of the visit

- Joint commitment to **eliminate single-use plastic products pollution, including a ban on single-use plastic products**
- A roadmap for **the Indo-Pacific was adopted.**
- Opening of the **Consulate General of India in Marseille and a Bureau de France in Hyderabad announced.**
- France to support the 2nd phase of the **Indian program on sustainable cities - CITIIS 2.0, co-financed with Germany and the EU**
- Head of Agreement (HoA) between Indian Oil Corporation Limited and M/s Total Energies Gas and Power Ltd (Total Energies) to establish a **long-term LNG Sale and Purchase Agreement (SPA).**

Timeline of India-France relations



- **Economic Cooperation:** France is the 11th largest foreign investor in India, with a total FDI stock of USD 10,389 million from April 2000 to September 2022.
 - India's NPCI International Payments Limited (NIPL) and France's Lyra Collect signed an **agreement to roll out UPI in France and Europe**
- **Countering terrorism:** Both countries have resolved to work together for the adoption of the Comprehensive Convention on International Terrorism (CCIT) in the UN.
- **Strengthening development:** Agence Française de Développement (AFD) has allocated 200 million Euros to support welfare measures and the most vulnerable sections of society in India.
- **Tackling Climate Change: Launched the International Solar Alliance (ISA) which is** a dedicated platform for cooperation among solar resource-rich countries.
- **Strategic autonomy:** France-India's strategic relationship is built on respect for each other's strategic autonomy.
- **International cooperation:** France supports India's claim for permanent membership of the United Nations Security Council (UNSC) and UN reforms.
 - Helped India's accession to **the Missile Technology Control Regime (MTCR), Wassenaar Arrangement (WA) and Australia Group (AG).**
- **Geo-Strategic:** Both are committed to ensuring a free and rule-based Indo-pacific region.
 - In 2018, India and France agreed on a '**Joint Strategic Vision of India-France Cooperation in the Indian Ocean Region**'.
 - Under this roadmap, the two sides decided to work on finalizing an Indo-French development fund for third countries
 - The trilateral grouping with the United Arab Emirates aims to ensure security from the east coast of Africa to the Pacific.

Challenges between India and France relation

- **France has joined the Belt and Road Initiative (BRI) of China** whereas India has always opposed the BRI, as it violates India's territorial integrity and sovereignty.
- **Delivery of the Rafale plane** was delayed and there were charges of corruption against the middleman.
- **Bilateral trade remains far below potential.** Trade with France constitutes only 1.41% of India's total international trade.
- **There are technical, financial, and civil nuclear liability issues** that both sides have to resolve on Jaitapur nuclear power reactors.

Way forward

- **Completing the stalled project:** In order to swiftly finish the projects that are stalled, a joint working group can be established by properly addressing the factors obstructing their completion.
- **The free trade agreement with EU:** India can make use of its positive relations with France to progress the India-EU Broad Based Trade and Investment Agreement (BTIA).
- **Linking civil societies:** To sustain partnership in the long run, India and France also need robust civil society linkages.
- **Strengthening people-to-people contract:** Language is one of the biggest challenges for mobility, encouraging French in educational institutions will be crucial.
 - Developing business-to-business and person-to-person ties is crucial for a stronger partnership.

2.3. NEIGHBOURHOOD FIRST POLICY

Why in the news?

The 22nd report of the **Committee on External Affairs on India's Neighbourhood First Policy** was submitted to the Parliament.

India's Neighbourhood Policy

- The Policy forges a strong neighbourhood relation **based on a consultative, non-reciprocal, outcome-oriented approach** with India's Neighbours.
- It uses the **principles of Samman (respect), Samvad (dialogue), Shanti (peace), Samridhi (prosperity) and Sanskriti (culture)** for better engagement.
- The policy is required **to handle India's external threats better, achieve the necessary support in multilateral forums** like the UN, curtail Chinese Influence in the region etc.

India's initiatives in Neighbourhood



Infrastructure projects like road from Delaram to Zaranj and parliament building in Afghanistan; Greater Male Connectivity Project in Maldives.



Developmental assistance to Bhutan's five year's Plan.



Humanitarian assistance providing doses of **COVID-19 Vaccines** disaster management assistance during calamities eg. **Operation Maitri** in Nepal.



Easing the financial payment systems by Operationalizing **UPI payment platform** in Sri Lanka and enabling **Rupay cards** usage in Bhutan

Challenges pertaining to India's neighbourhood

- **Volatility in the neighbourhood:** Ex: Myanmar and Pakistan are facing a crisis in their administration.
- **Economic Crisis:** Ex: Sri Lanka and Pakistan facing hyper-inflation rates after the pandemic.
- **Border issues:** Ex: Kashmir and Kalapani dispute with Pakistan and Nepal, maritime disputes persist with Pakistan and Bangladesh.
- **Infiltration and immigrant issue:** Extremists and illegal immigrants enter through the porous borders of Pakistan, Bangladesh and Myanmar.
- **Sharing of River water: Indus and Teesta** water sharing is a significant issue with Pakistan and Bangladesh, respectively.

Committee Recommendations for a better neighbourhood policy

- **Improving the border infrastructure:** More Integrated Check Posts (ICPs)/Land Customs Stations (LCS) and border haats will be built.
- **Improving people-people connect:** Encouraging tourism and sharing of the bonds of common culture and history across the neighbourhood.
- **Keeping diplomatic doors open** with all neighbouring countries to resolve any arising issues.
- Continue the already taken steps like **humanitarian assistance, implementation of developmental projects, Lines of Credit etc.**

Conclusion

The neighbouring countries are **bonded by factors like history, culture, language, and geography**, and their policies **have mutual implications**, so trying to maintain a cordial relationship with them is essential to help India strive better in growth and development.

2.4. INDIA'S ENERGY DIPLOMACY

Why in the news?

India is considering trading power with Southeast Asian countries through Myanmar and Thailand as part of the energy diplomacy.

What is energy diplomacy?

- It pertains to government-related foreign activities that aim to ensure a country's energy security while promoting business opportunities related to the energy sector. It seeks to:
 - **Secure a sustainable source of energy** for society at large and economic growth.
 - **Use energy capacities as an instrument of foreign policy** to deter, reduce, or eliminate national threats and risks.

How is India pursuing energy diplomacy?

Power transmission	<ul style="list-style-type: none"> • Part of the SAARC energy agreement on electricity cooperation signed in 2014. • India exports power to Bangladesh, Nepal, and Bhutan. • India has issued the "Guidelines for Import/Export (Cross Border) of Electricity-2018"
Renewable energy transmission	<ul style="list-style-type: none"> • International Solar Alliance and One Sun One World One Grid (OSOWOG) initiative: to connect different regional grids through a common grid that will be used to transfer renewable energy power.

Pipe connectivity	<ul style="list-style-type: none"> • Turkmenistan-Afghanistan-Pakistan-India (TAPI) to transport natural gas from Turkmenistan to the remaining three countries.
Nuclear energy cooperation	<ul style="list-style-type: none"> • Indo-US Nuclear deal. • India-Japan Civil Nuclear Deal.
Hydroelectric cooperation	<ul style="list-style-type: none"> • India imports power from Tala, Chukha, Kurichu, and Mangdechu hydroelectric power plants in Bhutan. • India is involved in the projects of Nepal including the Mahakali Treaty, the Upper Karnali Project, the Arun projects.

Challenges of India's energy diplomacy

- **Source from the single region:** The share of the Persian Gulf has remained at more than 60% of the total import of oil and gas.
- **Power charges:** Transmission charges on power supplied using an interconnected regional network are challenging to decide.
- **Technology constraint:** The energy sector is highly technology-intensive, and this factor has become an integral part of oil and gas development plans over time.
- **Cybersecurity:** the growth of digitalisation and interconnectivity in the energy sector can raise security and privacy risks without an international rules-based framework.
- **Overdependence on coal:** Coal accounted for nearly 50% of power generation. By comparison, renewable sources accounted for 43%.
- **Energy Infrastructure Bottlenecks:** Developing and maintaining energy infrastructure across borders, such as pipelines and transmission grids, is challenging.

Way forward

- **Import diversification:** India can diversify its sources instead of relying on particular countries or regions.
 - Currently, ONGC Videsh owns Participating **Interests in 32 oil and gas assets in 15 countries.**
- **Geographical Advantage:** India's strategic location near energy-rich areas could be utilised to promote the country's place and role in the region and the world.
- **Investment and Financial Resources:** Given the highly capital- and technology-intensive nature of the energy sector, India has earmarked US \$ 2 billion to international financial for solar by 2025.
- **Better monitoring and cooperation:** To govern cross-border grids, governments will need to develop appropriate arrangements and international collaboration to enable electricity to flow freely in well-regulated and transparent markets.

International Solar Alliance

India's energy diplomacy tool

- Currently, there are **no specialized agencies created under the UN system** to promote renewable energy. ISA can become an important tool to promote renewable energy particularly to promote, disseminate and deploy solar energy.
- ISA can induct a multidimensional **approach to promote science diplomacy for building global solar capacity.**
- **India can become a key energy supplier of renewable energy** in the future as the middle east supplied fossil-based fuel in the last century.
- ISA is evolving as a cooperation platform for India to **create global coherence on common standards related to the solar sector.**
- Demand for renewable energy will rise exponentially **due to global and national countries achieving net zero emissions** and solar energy can meet these target as other sources face constraints like wind energy(requires high velocity wind), hydroelectricity(require high flow of water)
- ISA has partnered with nearly **32 international organizations to create and mobilize USD 1000 billion investment** in the solar sector in its member countries by 2030.

India's Alternative model of Development

- ISA is India's alternative model of development that is **based on values like transparency and inclusive development.**
- With OSOWOG, it seeks to develop a **global grid of the Torrid Zone** (area between Tropic of Cancer and Tropic of Capricorn) and **overcome the issues of domestic land scarcity, import of solar inputs and reduce reliance on fossil fuels.**

2.5. STRENGTHENING MULTILATERAL DEVELOPMENT BANKS (MDBS)

Why in the news?

Recently, the Independent Expert Group (IEG) constituted by Indian G20 Presidency presented Volume I of the report on **harnessing the potential of MDBs**.

More about News

- **Multilateral Development Banks (MDBs):** MDBs are **supranational institutions** set up by sovereign states, which are their shareholders.
 - Some of the **prominent MDBs include** the World Bank, Asian Development Bank (ADB), New Development Bank (NDB) and the Asian Infrastructure Investment Bank (AIIB), etc.
- **The report proposed a Triple Agenda for the MDBs:**
 - **Mandates:** Adopting a **triple mandate** of:
 - ✓ eliminating extreme poverty,
 - ✓ boosting shared prosperity, and
 - ✓ contributing to Global Public Goods (GPG).
 - **Finance:** Tripling **sustainable lending** levels by 2030
 - **Mechanisms:** Creating a third funding mechanism that permits **flexible and innovative** arrangements for purposefully **engaging with investors**.

Significance of MDBs

- **International pillar to stabilise the global economy:** For instance, MDBs provided \$222 billion **during the 2008 Global Financial Crisis**.
- **Promote growth in developing and under-developed countries:** through projects on Infrastructure, Energy, Education etc.
- **Provide low-cost, long-maturity financing:** **Spending on sustainable infrastructure** in developing countries needs to expand four-fold by 2030.
 - MDBs can **indirectly draw private investment** by creating conducive conditions and developing frameworks for absorbing the investment.

Issues with MDBs

- **Structural Issues with MDBs:** such as
 - outdated framework,
 - the regional focus of some MDBs,
 - **insufficient competition and coordination** among MDBs
 - **increasing Demands for Development Finance**
- **New cross-border challenges** such as climate change, pandemics, fragility, migration etc., **require new financial capacity and approaches**.
 - Additional spending of about \$3 trillion annually (for climate action and SDGs) is needed by 2030 in **emerging markets and developing economies (EMDEs)** other than China.
- **Financing with riders:** MDB lending is sometimes different from **the priorities** of emerging economies and comes with **high indirect costs** related to policy **conditionalities, rigid rules and lengthy negotiations and processes**.
- **Debate on the focus of MDBs:** MDBs **non-borrower shareholders** - led by the US -have pushed **MDBs to focus on low-income countries (LICs)** and to 'graduate' middle-income countries (MICs) from MDB lending as their economies grow and they access international capital markets.
- **China's role in new MDBs:** With the rising stature of **NDB and AIIB**, China can use these MDBs to pursue its own foreign policy goals.
- **Concerns of Global South:** MDBs have struggled to effectively assess and address problems like supply securitisation of food and energy, technology transfer, energy transition, etc.

Recommendations to strengthen MDBs and realise the Triple Agenda

- **Change in Vision Document of each MDBs:** Formally adopt a triple mandate of:
 - **Eliminating poverty, fostering shared prosperity and incorporating GPGs** and closely-related transboundary challenges explicitly in their mission statement.
- **Increase the scale of Financing:** Triple the sustainable lending levels of the MDB system by 2030,
 - **Reaching \$300 billion per year in own-account non-concessional finance** and **\$90 billion per year in concessional finance.**
 - G20 members can consider establishing a **new Global Challenges Funding Mechanism.**
- **New flexible legal and institutional mechanisms:** Crowd-in a coalition of the willing among sovereign donors and non-sovereign investors wishing to be associated with specific MDB activities.
- **Necessary supporting activities outside the MDB system:** Foster coherence between MDBs and other parts of global financial architecture.
 - Strengthen **domestic resource mobilisation for SDGs** and climate investment.
 - ✓ For example, with more equitable voting shares, a green concessional lending arm for the WB may find it easier to raise capital.
 - **Ensure close coordination between MDBs and the IMF** to bridge the macroeconomic imperatives of SDG investing.
- **Operating Model:** MDBs need to transform their operational and financial business models.
 - **Timelines for project preparation should be shrunk** and procedures rationalised.
 - ✓ For instance, NDB relies on local government approvals, technology and a thin staff to reduce project approval time to 6 months compared to the 2-4 years the WB takes
 - **Upgrade knowledge** and advisory services for sustainable development.



2.6. SHANGHAI COOPERATION ORGANISATION (SCO)

Why in the news?

Recently, a virtual summit of the Shanghai Cooperation Organisation (SCO) was concluded with the signing of the “**New Delhi Declaration**”.

Key Highlights of the Summit

- **Theme: “Towards a SECURE SCO”** (Security, Economic development, Connectivity, Unity, Respect for sovereignty and territorial integrity, and Environmental protection).
 - The SECURE acronym was **coined by the PM of India** at the 2018 SCO summit.
- It was held **virtually** under the **presidency of India.**
- **Iran** joined as the **new permanent member** of the grouping.
 - It also noted the effective activities of the **SCO Regional Anti-Terrorist Structure (RATS).**



Significance of SCO

- **Geopolitical significance for India:** Through **multi-alignment** and maintaining **strategic autonomy**.
 - It **allows India to be part of an alternative economic structure** in the world as sanctions by the USA on Iran and Russia obstruct trade.
- **Fostering Regional Stability:** India has been stressing maintaining peace and security based to ensure the collective prosperity of the region.
 - **Afghanistan Contact Group (ACG)** was created in 2005 to maintain regional cooperation with Kabul under the auspices of SCO.
 - Discussing and emphasising peace **over the Ukraine-Russia conflict**.
- **Strengthen Bilateral Relations:** as it **facilitates communication** between India and other regional countries like China.
- **Promoting Regional Connectivity:** Platform to **increase Indian soft power** and **economic cooperation** through projects like **Turkmenistan–Afghanistan–Pakistan–India (TAPI) Pipeline, INSTC, Chabahar Project, etc.**
- **Promoting Regional trade and cultural ties:** India **created five pillars and focus areas of cooperation under SCO** – start-ups and innovation, digital inclusion, empowering youth, traditional medicine, and shared Buddhist heritage for the summit.
 - **‘Kashi’(Varanasi)** has been declared the **first tourism and cultural capital** of SCO.
- **Fostering Counter-Terrorism Efforts:** **Strengthen India’s counter-terrorism efforts** through intelligence sharing and institutional cooperation under RATS.
- **Combating illicit drug trade:** 80 per cent of opium and heroin supplies that originate from the Afghanistan-Pakistan region can be collectively tackled by SCO countries.
- **Access to Strategic Mineral Resources:** SCO can increase **India’s access to critical natural resources** like Uranium (Kyrgyzstan) and hydrocarbon resources.

About RATS (HQ- Bishkek, Kyrgyz Republic)

- It operates in accordance with the SCO Charter, the **Shanghai Convention on Combating Terrorism, Separatism and Extremism**.
- It was established in 2001 during the **Bishkek summit**.
- It maintains a **database of terrorists and terror organisations** from across its member countries.

Challenges with SCO

- **Bilateral issues among member states:** **Internal conflicts** and **trust deficit** between member countries like India, China and Pakistan.
 - **China’s overbearing presence** in the grouping causes an imbalance in its power columns.
- **Anti-West Grouping:** **Continued perception** of being an **anti-west alliance** creates challenges for wider global cooperation.
- **Projects endangering India's National Interest:** **SCO’s support for China’s Belt and Road Initiative (BRI), which violates India’s sovereignty and territorial integrity.**
- **Structural Challenges:** **SCO Charter does not allow any bilateral dispute to be taken up** leading to a trust deficit at the bilateral level.
- **Strengthening Sino-Russia Axis:** Conflicts between Russia and the West have now strengthened the China-Russia axis further increasing the vulnerability of India to Chinese aggression.

Way Forward

- **Leveraging Multilateralism for Development:** India must adopt a **positive role** during the SCO presidency and use the forum for the **betterment of the whole of Eurasia**.
- **Acting as facilitator:** India can form a **bridge between Russia and the West** to restrict the decline of a rule-based order.
- **Promoting National Interest:** India can **invest its diplomatic capital in evolving SCO's agenda and progressive program** to reap the benefits in its national interests.
- **Maintaining foreign policy autonomy:** Balanced choices of strategic alliances with various regional groupings like QUAD, BRICS, SAARC, ASEAN, etc.
- **Constructive role:** India should promote a **‘constructivist’ approach** that can be leveraged to make the SCO a platform of agreements rather than disagreements.

2.7. BLACK SEA GRAIN DEAL

Why in the news?

Recently, Russia withdrew from the Black Sea grain deal.

More about the news

- Russia claims that **the promises made to it under the deal have not been met**, and it is still facing trouble exporting its own agricultural products and fertilisers.
- According to Russia, Ukraine has since **exported mainly to high-and middle-income countries** and only 3 % to poor countries.

What was the Black Sea Grain Deal?

- The Black Sea Grain deal was **brokered by the United Nations and Türkiye** in July last year between **Russia and Ukraine**.
- The deal **tackled escalating food prices** from **supply chain disruptions** due to the effective blockage of the Black Sea.
- It provided a **safe maritime humanitarian corridor for Ukrainian exports** (particularly for food grains) from three of its key ports, namely, **Chornomorsk, Odesa, and Yuzhny/Pivdennyi**.
- The deal was **for a period of 120 days** with an option to extend or terminate. It was extended two times.

Impact of the closure of the deal

- **Inflation in food prices:** Grains and oilseeds prices have already risen in response to Russia's decision and are expected to rise further.
- **Impact on Ukraine's farmers:** Increased logistical costs mean they will have to sell at a discounted rate.
- **Unequal impact on the poor:** The World Food Programme, and Food and Agriculture Organization warn that acute food insecurity is escalating, affecting as many as 828 million people worldwide.
 - **LDCs are disproportionately at risk of food insecurity**, with several countries facing complex and prolonged humanitarian crises.
- **Impact on edible oil in India:** India imports sunflower and soybean oils to meet domestic demand. Since the suspension of the deal, sunflower oil prices have risen.
- **Shortfall of fertilisers:** It may intensify as Russia and Belarus are one of the world's largest sources of mineral fertilisers (14% of the world).

Way forward

- **International cooperation** is needed to solve the ever-increasing conflict between Russia and Ukraine.
- **Strengthen and reform United Nations:** War in Ukraine, climate change, and human rights issues have shown the need for United Nations reform to represent the entire international community.
- **Strengthening of the global food supply chain:** The nation needs to adopt cognitive planning, AI-driven predictive analytics, advanced track and trace, and blockchain technologies to improve global supply chains.



2.8. NEWS IN SHORTS

2.8.1. SMART POWER

The Parliamentary Committee of External Affairs recently shared its observations on Smart Power.

About Smart Power

- American political scientist Joseph Nye distinguished between two types of power: **hard power and soft power**.
 - Hard power denotes the capacity to coerce an entity to behave specifically **using military capabilities and economic might**.
 - Soft Power is the country's ability to influence others without coercive pressure.
- However, in addition to hard and soft power, there is another type of power: **smart power**.
- **Smart power** is the ability of a country to combine elements of both hard and soft power in a way that they can effectively and efficiently contribute to achieving the country's goals.
 - **For instance, Norway joined NATO for defence but developed forward-leaning policies on overseas development assistance and peace mediation to increase its soft power.**
- **According to MEA**, Smart power is the most representative of India's current interaction with the world.
 - It involves the **strategic use of diplomacy, persuasion, capacity building, and the projection of power** and influence in cost-effective ways with socio-political legitimacy.

For more information on Soft Power in India, kindly refer to Article 2.5 Soft Power in December 2022 Monthly Current Affairs Magazine.

2.8.2. U.S.-INDIA STRATEGIC CLEAN ENERGY PARTNERSHIP (SCEP)

- SCEP was established as **one of the two track engagements launched under the US-India Climate and Clean Energy Agenda 2030 Partnership**.
 - 2030 agenda was announced in 2021 to **accelerate progress toward shared climate and clean energy goals**.
 - Climate Action and Finance Mobilization Dialogue is its 2nd track of engagement.
 - SCEP was earlier established as Strategic Energy Partnership in 2018.
- **Key highlights of the joint statement released by the US and India**
 - **U.S.-India New and Emerging Renewable Energy Technologies Action Platform (RETAP)** was

launched to accelerate the development of critical technologies to advance common ambitious clean energy goals.

- Establishment of **public-private Energy Storage Task Force** and related efforts to **support large-scale integration of renewable energy needed to support clean energy transition**.
- Launched Phase 2 of **South Asia Group for Energy (SAGE)** to deepen the engagement between Indian agencies and U.S. national laboratories.
- Both sides agreed to work toward **developing net zero villages in India** to support the clean energy transition.
- **Addition of Carbon Capture, Utilization and Storage** as a workstream under the Emerging Fuels and Technology Pillar.

STRATEGIC CLEAN ENERGY PARTNERSHIP PILLARS



2.8.3. INDIA-UAE

- India United Arab Emirates (UAE) **signed a pact to trade in local currencies**.
- **Key highlights of India's Prime Minister state visit to UAE**
 - India and UAE have signed a pact to **establish a Local Currency Settlement System (LCSS) framework to promote the use of the Indian Rupee (INR) and UAE Dirham (AED) for cross-border transactions**.
 - ✓ LCSS would **enable exporters and importers to invoice and pay in their respective domestic currencies**, promoting the **development of an INR-AED foreign exchange market**.
 - ✓ Using local currencies would promote investments and optimise transaction costs and settlement time for transactions, including remittances from Indians residing in UAE.
 - Both sides agreed to **link India's Unified Payments Interface (UPI) with UAE's Instant Payment Platform (IPP)**.
 - Both sides agreed to **link their respective Card Switches vis-a-vis the RuPay switch and UAESWITCH to enable mutual acceptance of domestic cards** and processing of these card transactions.
 - ✓ **India's Structured Financial Messaging System (SFMS) will be linked with messaging**

system in UAE to ease their financial messaging.

- Both sides signed an MoU to establish the IIT-Delhi campus in Abu Dhabi, the second IIT abroad after Tanzania.

Significance of UAE

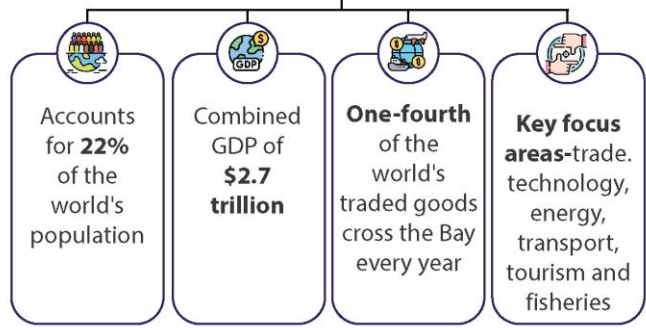
UAE is India's third-largest trading partner for 2022-23 **second-largest export destination.**
(India-UAE trade: USD 85 billion in 2022)

UAE signed a Comprehensive Economic Partnership Agreement (CEPA) with India (first country).

2.8.4. BAY OF BENGAL INITIATIVE FOR MULTI-SECTORAL TECHNICAL AND ECONOMIC COOPERATION (BIMSTEC)

- Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (**BIMSTEC**) **Foreign Ministers' Meet concluded in Thailand.**
- India has participated in the **first-ever Foreign Ministers' meeting of BIMSTEC** in Bangkok, Thailand.
- BIMSTEC (**Secretariat: Dhaka, Bangladesh**) is a **regional organisation established in 1997** with the **signing of the Bangkok Declaration.**
 - Initially, it was established as **BIST-EC with four countries: Bangladesh, India, Sri Lanka and Thailand.**
 - It was named **BIMSTEC in 2004** after **Myanmar (1997), Nepal (2004), and Bhutan (2004)** joined it.
 - **The founding principles of BIMSTEC** are based on respect for the principle of sovereign equality, territorial integrity, political independence, no interference in internal affairs, peaceful co-existence, and mutual benefit.
- **Significance of BIMSTEC for India**
 - It acts as a connecting link for achieving India's foreign policies, namely, **Neighbourhood First policy and Act East policy.**
 - **The landlocked northeast region can be developed better with cooperation** from member countries of the forum like Bangladesh and Myanmar.
 - **The Bay of Bengal region can be made a secure piracy-free zone,** with active participation from forum members.
 - Allow **India to push a constructive agenda** to counter Chinese investments in the region.
- Challenges associated with BIMSTEC: include a lack of internal economic integration and poor infrastructure hampering trade.

Importance of BIMSTEC



2.8.5. GROUP OF GLOBAL CRISIS RESPONSE GROUP (GCRG)

- India has joined **United Nations' GCRG.**
- The GCRG was set up by the **UN Secretary-General (UNSG)** in 2022 to address urgent and critical global issues about **interlinked crises in food security, energy, and finance** and to **coordinate an international response.**
- It is overseen by the **Champions Group** comprising the Head of State/Head of Government of Bangladesh, Barbados, Denmark, Germany, Indonesia and Senegal.
- It will help **decision-makers to mobilise solutions** and develop strategies to help vulnerable countries.

2.8.6. CLEAN ENERGY MINISTERIAL (CEM) AND MISSION INNOVATION (MI)

- **India hosted** the 4th Clean Energy Ministerial (CEM14) and 8th Mission Innovation (MI-8) meeting.
- **The theme for CEM-14 / MI-8 was "Advancing Clean Energy Together".**

CLEAN ENERGY MINISTERIAL (CEM)
Advancing Clean Energy Together

About: It is a **high-level global forum to promote policies and programmes that advance clean energy technology** to encourage the transition to a global clean energy economy.

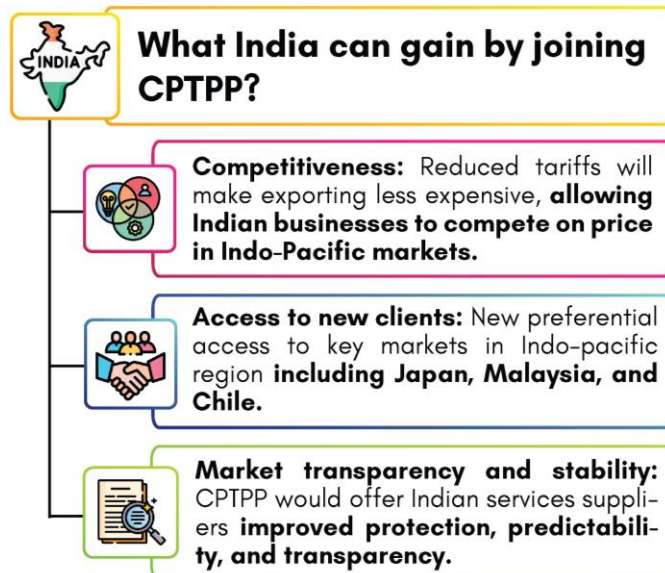
Membership: **29 members** including India

Other Key information:

- CEM engagement is **coordinated by an independent Secretariat** that is **hosted by the International Energy Agency (IEA)** in Paris.
- **CEM operates through three key pillars:**
 - CEM Ministerial
 - CEM Work Programme
 - CEM Secretariat

	About	Initiatives launched
Clean Energy Ministerial (CEM)	<ul style="list-style-type: none"> A high-level global forum (India is a member) to advance clean energy technology to encourage transition to a global clean energy economy. 	<ul style="list-style-type: none"> Clean Energy Marine Hubs (CEM-Hubs) <ul style="list-style-type: none"> It is a cross-sectoral public-private platform to de-risk investments needed to produce low- and zero-emission fuels to be transported by maritime sector.
Mission Innovation (MI)	<ul style="list-style-type: none"> Global initiative to make clean energy affordable, attractive and accessible to all. <ul style="list-style-type: none"> First phase was launched alongside Paris Agreement in 2015. Mission Innovation 2.0, second phase of MI, was launched in 2021. It consists of 23 countries and EU. India is a founding member. Clean Hydrogen, Green Powered Future, Zero-Emission Shipping, Carbon Dioxide Removal, Urban Transitions etc. are covered under MI. 	<ul style="list-style-type: none"> Funding Opportunity Announcement 2023 for RD&D (research, development, and demonstration) in Carbon Capture Utilization and Storage (CCUS) under MI 2.0.

- CPTPP succeeded Trans-Pacific Partnership (TPP) after the US withdrew from TPP in 2017.
- **Significance of CPTPP**
 - It forms a trading bloc representing 500 million consumers and 13.5% of global GDP.
 - Ensure protection of environment and labour rights which are enforceable by dispute settlement.
 - Eliminates tariffs and reduces barriers for 98% of exports within CPTPP member countries.
- **Why India is not part of CPTPP?**
 - On the agriculture front, farmers will be continuously exposed to the risk of being knocked out of the market by cheap and subsidised exports, mainly from Australia and New Zealand.
 - Restrict the market of generic medicine.
 - India's manufacturing sector may not be able to face import competition in a duty-free regime.



2.8.7. COMPREHENSIVE AND PROGRESSIVE AGREEMENT FOR TRANS-PACIFIC PARTNERSHIP (CPTPP)

- United Kingdom (UK) signed the treaty to join CPTPP.
- CPTPP is a Free Trade Agreement (FTA) agreed upon in 2018 between 11 countries – Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam.
 - All 11 countries of CPTPP are members of the Asia-Pacific Economic Cooperation.
 - The UK will become the 12th member and the first in Europe to join since its inception.

2.8.8. EUROPEAN SKY SHIELD INITIATIVE' (ESSI)

- Austria and Switzerland joined ESSI.
- ESSI aims to create a European air and missile defence system through European nations' common acquisition of air defence equipment and missiles to strengthen NATO's Integrated Air and Missile Defence.
- The initiative was spearheaded last year by Germany after Russia invaded Ukraine.
 - ESSI members have increased to 19, including Belgium, Bulgaria, the Czech Republic, Norway, Slovakia, and the UK.

2.8.9. ORKNEY ISLANDS

- Orkney Islands **has proposed its intent to split from the U.K. and become a self-governing territory of Norway.**
- Island is **situated on the North-Eastern coast of Scotland.**
 - It is an **archipelago of nearly 70 islands**, of which only 20 are inhabited.
- It was **under Norwegian and Danish rule until the late 15th century**, after which it came under Scotland.
- It houses **four UNESCO world heritage sites**: Skara Brae, Ring of Brodgar, Standing Stones of Stenness, and Maeshowe chambered tomb.



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3. ECONOMY

3.1. NATIONAL MULTIDIMENSIONAL POVERTY INDEX (MPI)

Why in the news?

Recently NITI Aayog released the 2nd edition of the National MPI based on National Family Health Survey -5 (2019-21).

Know the term

- **Multidimensional Poverty:** It is a **measure of deprivation** beyond money. Poverty's traditional measure is monetary - **income or consumption**. But it's possible to cross the monetary poverty line and still lack other basics.

More on News

- It represents India's progress in reducing multidimensional poverty between NFHS-4 (2015-16) and NFHS-5.
- It is a **follow-up to the Baseline Report** published in November 2021.

About MPI

- Under the **government's Global Indices for Reforms and Growth (GIRG) initiative**, NITI Aayog is the nodal agency for MPI.
 - **GIRG monitors India's performance** on various important social and economic parameters.
- **Methodology used in Computing India's National MPI (Alkire-Foster Methodology):** It identifies people as poor or not poor based on a **dual-cutoff counting method**.
 - According to the AF methodology, an individual is **considered MPI poor if their deprivation score equals or exceeds the India's national MPI poverty cutoff of 33.33%**.
- **Sub-indices of the National MPI:**
 - **Headcount ratio (H): How many are poor?**
 - ✓ Proportion of multidimensionally poor in the population, which is arrived at by dividing number of multidimensionally poor persons by total population.
 - **Intensity of poverty (A): How poor are the poor?**
 - ✓ Average proportion of deprivations which is experienced by multidimensionally poor individuals. To compute intensity, the weighted deprivation scores of all poor people are summed and then divided by the total number of poor people.
 - **MPI value is arrived at by multiplying the headcount ratio (H) and the intensity of poverty (A)**, reflecting both the **share of people in poverty** and the **degree to which they are deprived**.

Indicators in India's National MPI

- **National MPI model** retains the **10 original indicators of the global MPI model** and has **added two indicators**, viz., **Maternal Health and Bank Account**.

Dimension	12 Indicators (Weight)	A Household is Considered Deprived If
Health (1/3)	Nutrition (1/6)	<ul style="list-style-type: none"> • A single member of the household is identified as undernourished. • Body Mass Index of a woman (15 to 49 years) or a man (15 to 54 years) is below 18.5 kg/m². • Any child between the ages of 0 to 59 months is found to be undernourished.
	Child & Adolescent Mortality (1/12)	<ul style="list-style-type: none"> • Any child or adolescent under 18 years of age has died in the household (5 year preceding the survey).
	Maternal Health (1/12)	<ul style="list-style-type: none"> • Any woman in the household who has given birth has not received at least 4 antenatal care visits (5 years preceding the survey).
Education (1/3)	Years of Schooling (1/6)	<ul style="list-style-type: none"> • Not even one member of the household aged 10 years or older has completed 6 years of schooling.
	School Attendance (1/6)	<ul style="list-style-type: none"> • Any school-aged child is not attending school up to the age at which he/she would complete class 8.

Standard of Living (1/3)	Cooking Fuel (1/21)	• A household cooks with dung, agricultural crops, shrubs, wood, charcoal or coal.
	Sanitation (1/21)	• The household has unimproved or no sanitation facility or it is improved but shared with other households.
	Drinking Water (1/21)	• The household does not have access to improved drinking water or safe drinking water is at least a 30-minute walk from home (as a round trip).
	Electricity (1/21)	• The household has no electricity.
	Housing (1/21)	• The household has inadequate housing i.e., the floor is made of natural materials, or the roof or wall are made of rudimentary materials.
	Assets (1/21)	• The household does not own more than one of these assets- Radio, TV, telephone, computer, animal cart, bicycle, motorbike, or refrigerator, and does not own a car or truck.
	Bank Account (1/21)	• No household member has a bank account or a post office account.

(*Kindly note - Per capita income, Literacy rate, and Life expectancy are not included as indicators in MPI)

Key highlights of the Report

- **Steep decline in Poverty Head count ratio (H): 24.85% in 2015-16 to 14.96% in 2019-2021.**
 - **13.5 crore people exited** multi-dimensional poverty between 2015-16 and 2019-21.
 - **Rural areas** witnessed the **fastest decline in poverty** from about 32.5% to 19%.
 - **Urban areas** saw a **reduction in poverty** from about 8.5% to 5%.
- **Improvement in intensity of poverty (A): 47.14% in 2015-16 to 44.39% in 2019-20.**
- **Improvement in MPI value (H X A): 0.117 in 2015-16 to 0.066 in 2019-20.**
- **All 12 indicators** saw a **statistically significant reduction.**
 - Improvement in nutrition, years of schooling, sanitation, and cooking fuel played a significant role in reducing MPI value.
 - **India is on track to achieve SDG Target 1.2** (reducing multi-dimensional poverty by at least half) much ahead of 2030.
- **Performance of States**
 - **Bihar, Jharkhand, UP, Meghalaya, and MP** are the top 5 States with the highest share of population with multidimensional poverty. **Kerala had the lowest share** of MDP persons.
 - **UP (witnessed the largest decline in numbers of MPI poor)**, Bihar, MP, Odisha, and Rajasthan have shown fastest reduction in the proportion of multidimensional poor.
 - **Bihar** saw the **fastest reduction in MPI value** in absolute terms.

Global Multidimensional Poverty Index (Global MPI) 2023

- Released by the **United Nations Development Programme (UNDP)** and the **Oxford Poverty and Human Development Initiative (OPHI)** since 2010.
- **MPI tracks deprivations in 10 indicators** across 110 countries.
- **Key findings:**
 - **1.1 Bn/6.6 Bn** in 110 countries remain Multidimensionally poor.
 - **Nearly two-thirds of all poor people (730 Mn)** live in **middle-income countries**, and **low-income countries constitute only 10% of MPI.**

To know more about Poverty Measurement, refer to Article 3.2. National Multidimensional Poverty Index in the November 2021 edition of Monthly Current Affairs Magazine.

3.2. GOODS AND SERVICES TAX (GST)

Why in the news?

The 6th Goods and Services Tax (GST) Day was celebrated with the vision **GST@6 सरलीकृत कर, समग्र विकास.**

About Goods and Services Tax (GST)

- GST is a **unified tax system** that replaced **multiple indirect taxes** levied by the Central and State Governments.
- It was implemented on **1st July 2017.**

- **GST Structure:** The GST system follows a **dual structure**, comprising **Central GST (CGST) and State GST (SGST)**, levied concurrently by the Central and State governments, respectively.
 - An Integrated GST (IGST) is also levied on interstate supplies and imports, collected by the Central Government but apportioned to the destination state.
- **GST Council (GSTC):** It is a joint forum under **Article 279A** of the Constitution of India consisting of the **Union Finance Minister (as Chairperson)** and representatives from all States and Union Territories.
 - The Council makes **decisions on various aspects of GST**, including tax rates, exemptions, and revenue sharing between the Central and State Governments.

Do you know ?

> The idea of a nationwide GST in India was **first proposed by the Kelkar Task Force on Indirect taxes** in 2000.



Impact of GST

- **Push for Cooperative Federalism:** The **GST Council meetings** have become examples of **cooperative federalism**, where the Centre and States have deliberated, discussed, and have taken timely decisions on various complex issues.
- **Reduction in tax burden:** Tax has come down for many common-use items with **lower tax incidence** under GST.
 - Additional taxpayer benefits include easier online processes, a smooth flow of Input Tax Credits and faster refunds.
- **Benefits to MSMEs: Easing of compliance burden** of MSMEs through measures like composition scheme, QRMP (quarterly return with monthly payment), optional annual return etc.
- **Increased revenue collection:** GST has also shown an impressive and steady increase in revenue collection **over the last six years** due to higher economic activity and enhanced compliance.
 - The revenues for June 2023 are **12% higher than** for June 2022.
- **Increased revenue/tax buoyancy:** GST revenue buoyancy for states has **improved to 1.22** after its implementation from 0.72 before the rollout of GST.
- **Market integration and ease of doing business:** Through enhanced internal trade flows, tax-neutral places for business, standard taxation structure etc.

Know the term

- **Tax Buoyancy:** It refers to the **responsiveness of tax revenue receipts to changes in national income**.
 - A tax buoyancy **greater than signifies that tax revenues are growing** at a faster rate than 1 the growth in national income.

Challenges in the effective implementation of GST

- **Technology Glitches:** GST portal and e-way billing system have faced multiple technical glitches and have yet to mature to the desired level.
- **Absence of GST Appellate Tribunals (GSTATs):** Taxpayers must approach High Courts. While the enabling legal provisions for GSTATs were introduced, they still need to be **fully functional**.
- **Erosion of taxpayers' trust:** High courts across the country face petitions filed by taxpayers against **arbitrary cancellations of GST registrations** and **disproportionate denials of input credits**. The reasons being cited for this are increasingly stringent enforcement powers.

- **Tax evasion and Fraudulent claims:** GST officers have busted 304 syndicates involving **9,000 fake GSTINs** (GST identification numbers) and **input tax credit (ITC) claims of Rs 25,000 crore** in the recent drive against bogus firms.

Steps being taken to improve GST

- **Information sharing:** The government has amended provisions of the Prevention of Money Laundering Act (PMLA) 2002 to allow **Enforcement Directorate (ED) to share information with GST Network (GSTN)**.
 - Currently, **GST Act under Section 158** gives the power to disclose the information it has about any prosecution under IPC and even under any other law for the time being in force.
- **Increased Technology Penetration:** Use of Digital tools by field officers like **ITC Verification, E-way Bill** verification and generation of actionable information by **ADVAIT** ensured GST compliance.
- **ADVAIT** (Advanced Analytics in Indirect Taxes), rolled out in 2021, is a **flagship analytics project for Indirect Taxes (by CBIC)**. It aims to use Big Data and Artificial Intelligence to enhance Indirect Tax revenue, increase the taxpayer base, and support data-driven tax policy.
- **Tighten Registration Norms:** GST authorities plan to introduce **biometric authentication and geo-tagging** for existing and new registrants if they match as risky entities availing input tax credits fraudulently.
- **Tightening of Return Filing System:** It aims to act against fraudsters **misusing Permanent Account Number (PAN) and Aadhaar identification** to obtain GST registration.

GST Network (GSTN)

- GSTN, a **not-for-profit company**, was created to provide the **IT backbone for the GST system**, including taxpayer registration, return filing, and tax payments.
- GSTC has approved the **conversion of GSTN into a Government Company**; hence, **100% of the shareholding is held by Government** (50% with Union Government and 50% jointly with State Governments & UTs) in GSTN.

Way forward to further refine GST

- **Rationalisation of tax rates:** For ease of compliance and free flow of refunds and credits.
- **Legal and administrative changes:** Tightening enforcement to curb leakages and simplify the tax filing experience.
- **Use of technology:** Technology-based monitoring system through e-returns, e-invoices, e-way bills, Aadhaar authentication etc.
- **Streamlining of audits, assessments and investigations:** Issuance of detailed Standard Operating Procedures for processes for summons, investigations and audits.
- **Expansion of tax network:** Alcohol, Petroleum and other products can be brought within the ambit of GST.

3.2.1. ONLINE GAMING

Why in the news?

The GST council recently imposed a GST of 28% on online gaming, horse racing and casinos.

Key Highlights

- **Tax rate: 28%** on electronic gaming, casinos, and horse racing.
 - To be applied **on the initial amount paid upon entry**, not on the total value of each bet placed.
- **Covers both games based on both skill and chance.**
- **Tax on offshore online gaming firms:** Such companies will have to **register themselves with the GST authorities** and pay the **tax to offer their services to Indian gamers**.
 - **Amendment to the Integrated GST Act 2017** will be made to enforce this.
- **Enforcement:** After the necessary **modifications to the central and state laws**, the new tax is expected to **come into effect from October 1**.

Types of Online Games:

- **Game of Skill:** Games in which **the outcome depends on the player's expertise, practice, and experience** and not merely on chance.
 - **Until now, 18% GST was charged on the platform's commission/ service fee or gross gaming revenue.**
 - **Example:** rummy and fantasy sports games like Dream 11.
- **Game of Chance:** Games in which **the outcome is decided by randomised events** and treated similarly to betting, gambling and horse racing.
 - Till now **a 28% GST was charged** on these games.
 - Example: Ludo, poker, lottery etc.
- Besides this, a **TDS of 30% is deducted from the winnings in both game types.**

Implications of the move

Positive

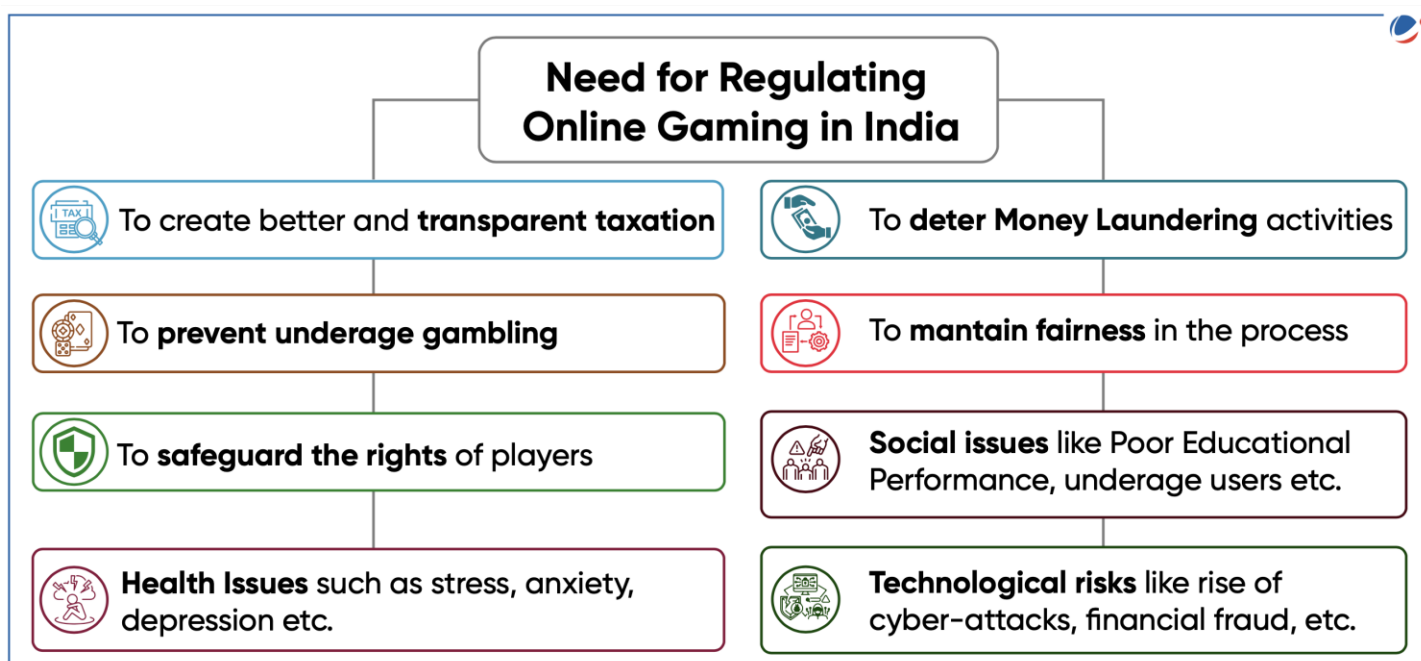
- **Increase in Revenue:** The move is expected to increase the industry's revenue **from Rs 2000 Crore to Rs 20,000 Crore.**
- **Moral Suasion:** The act might **deter the development of gaming addiction** among youngsters, which has led to the loss of money and lives in most cases.
- **Regulates the industry:** Move aims to simplify the mechanism, eradicate complexity and imbibe transparency in the gaming sector.

Negative

- **Impact on FDI:** The decision could severely impact the \$2.5 billion of Foreign Direct Investment (FDI) already invested and potentially jeopardise any further FDI in the industry.
- May lead to an **increase in unlicensed operators.**

Online Gaming Industry in India

- Online gaming has seen a significant **spike in demand** across various online games such as Multiplayer online games, Role-playing games, real-time strategy or skill games.
- **Status & Potential:**
 - **Current Value:** Estimated to be worth \$ 2.6 Bn.
 - **Projected Growth:** A Compound Annual Growth Rate (CAGR) of **approximately 27%** over the next five years.
 - **User Base:** India has the **largest fantasy sports market**, with a user base of 180 Mn.
 - **Employment:** Employed around **100,000 people** in 2022.
 - **FDI:** Attracted **₹15,000 crore in FDI** till FY2022.



Challenges in regulating online gaming

- **Jurisdictional dilemma:** On one hand, online gaming is a **state subject (under 'Gambling' and 'Betting')**; on the other, the Centre has made the **Ministry of Electronics and IT (MeitY) the nodal ministry for online gaming.**
 - Several states like Tamil Nadu, Andhra Pradesh and Telangana have created laws regulating Online gaming.
- **Moral stand vs Revenue collection dilemma:** While the industry is providing revenue to the government in thousands of crores on one side, hundreds of people have lost their lives and lifetime savings due to their addiction to online games.
- **Protection of the player's rights:** While the gaming companies act as mere intermediaries in the game, no concrete regulatory framework has been established to address the players' grievances and protection.

Way Forward

- **Ensure legal clarity and reduced multiplicity of regulation:** E.g. the Centre can invoke residuary powers under Article 248 to frame a model law.
- **Ensuring transparency of the online gaming companies:** So that codes are not tweaked to favour any particular set of individuals or the company itself.
 - Setting a clear distinction between Game of Skills and Chance
 - Introducing Screen timeout/limiting the number of games per individual.
- **Curbing loss chasing:** A cap can be introduced on the number of transactions from an individual across platforms or one platform to avoid more significant economic losses.

3.3. WIDENING TAX BASE

Why in the news?

Union Finance minister recently asked the Income-Tax Department to **follow three broad principles of transparency, objectivity, and taxpayer-friendliness** to widen the tax base.

Current Scenario of Taxation in India

- **Tax to GDP ratio:** 11.1% in FY23.
 - **Direct Taxes:** 6%
 - **Indirect taxes:** 5.1%.
 - Lower than the **emerging market economy average of 21%** and the **OECD average of 34%**.
- **Filing of Income Tax Returns (ITR):** 5.3% of the total population.
- **Year-on-year growth in net direct tax collections:** 17.67% at ₹16.61 lakh crore in FY23, as per Central Board of Direct Taxes (CBDT).

Do you know ?

- > The **concept of Income tax was introduced in India in 1860 by James Wilson**, the first Finance Minister of the British Indian Government.
- > The tax **was temporarily repealed between 1865-1886** and is continuing its existence till date.

Reasons for Low Tax Base

- **Presence of large informal sector:** The transactions in this sector are often routed through cash, making their tracking difficult.
- **Tax exemption for agriculture:** which is the primary income source for nearly 60% of Indians.
- **High incidence of tax litigation:** About 5 lakh cases pending in the country are because of tax litigation.
- **Lack of technical expertise and resources (financial and manpower):** resulting in less effective tax administration.

Know the term

Tax-to-gross domestic product (GDP) ratio: It is the ratio of the tax revenue (direct and indirect tax) of a country compared to the country's GDP.

- It is a useful measure of a country's capacity to **generate tax revenues** with respect to the size of its economy.
- A **decrease in Tax to GDP ratio** of country may indicate a **slowing economic growth rate**.

Steps taken by the Government to widen the tax base

Transparency	<ul style="list-style-type: none"> • Cross seeding of PAN with Bank Accounts and Aadhaar helping the government to track all formal transactions through banks.
Objectivity	<ul style="list-style-type: none"> • Introduction of new data sources in the Statement of Financial Transactions (SFT), such as dividend, interest, etc. • Introduction of New TDS codes from 36 to 65 codes resulted in increase in reported transactions.
Taxpayer-friendliness	<ul style="list-style-type: none"> • Simplified Personal Income Tax Regime. • e-Appeals scheme to reduce pending appeals and streamline disposal process. • Roll Out Of Common IT Return Form

Further measures to broaden the tax base

- **Establishing a Separate authority to settle tax disputes:** The high amount of litigation can be actively reduced by establishing a separate authority to resolve tax disputes.
- **Inclusion of high-income agricultural households:** Farmers with large farm holdings can be covered under the ambit of Income tax by setting a separate threshold limit regarding land ownership or output.

- **Inclusion of more technology:** Data mining can be done to understand the exact level of tax evasion and how to fill the loopholes.

Conclusion

Widening India's tax base will boost revenue, fairness, and economic stability in the country. It would further ease reliance on few taxpayers, and enhance governance, promoting equitable growth and fiscal responsibility.

3.4. JAN VISHWAS (AMENDMENT OF PROVISIONS) BILL, 2023

Why in the news?

Recently, the Jan Vishwas (Amendment of Provisions) Bill, 2023, was passed in Lok Sabha. The Bill aims to give a boost to ease of living and ease of doing business.

Key highlights of the Bill

- **Decriminalises around 180 offences across 42 laws** governing environment, agriculture, media, industry and trade, publication, etc.
- **Converts several fines into penalties**, implying that judicial prosecution is not necessary to administer punishment.
- **Removes all offences and penalties** under the **Indian Post Office Act 1898**.
- **Periodic revision** (10% increase of the minimum amount every three years) of fines and penalties for various offences in specified Acts.
- **Changes in grievance redress and appellate mechanisms and appointment of one or more adjudicating officers** for determining penalties under acts such as the Cinematograph Act, 1952, Environment (Protection) Act, 1986, Merchant Shipping Act, 1958, etc.

How do laws/policies hamper the ease of doing business in India?

- **Regulatory Cholesterol:** Multiple compliances, filing of reports, and inspections to oversee diverse parts of businesses.
 - E.g., a typical MSME with 150 employees faces around 500 to 900 compliances yearly with significant financial costs.
- **Clauses of imprisonment:** Almost 2 out of every 5 clauses on doing business in India carry imprisonment as penalties.
 - E.g., there are around 26134 imprisonment clauses under 843 economic legislations, rules and regulations that oversee and influence doing business in India.
- **Lack of proportionality:** Disproportionate selection of punishment vis-à-vis offences.
 - E.g., not publishing the name of the Grievance Officer and their contact details on the website under IT Act, 2000 attracts punishment similar to punishment for sedition.
- **Overlapping and cross-purpose laws:** Existence of multiple overlapping and cross-purpose laws leading to legal ambiguities and sub-optimal regulation.
 - E.g., overlap between jurisdictions of CCI and other sectoral regulators like TRAI, SEBI, IRDAI, etc.
- **Legal and policy unpredictability:** Frequent amendments in laws, retrospective taxation, etc.
 - E.g., frequent changes in GST rates on different goods and services, export bans on food products etc.
- **Administrative discretion and rent-seeking:** The creation of **regulatory excesses** lead to **regulatory bottlenecks** resulting in **administrative discretion** and **rent-seeking activities** by enforcement agencies.

How does the Bill help?

- **Rationalisation of criminal provisions** for minor, technical, or procedural defaults.
- **Establishing Proportionality:** A balance between the severity of offence/ violation and severity of prescribed punishment.
- **Ease of living:** Decriminalization of provisions will help citizens and public servants live without fear of imprisonment for minor violations.
- **Ease of doing business:** Consolidated amendment in various laws with a common objective will save **time and cost for both government and companies**.

- **Decreased burden on the judiciary:** Suitable **administrative adjudication mechanism** can help reduce undue pressure on the justice system and make the justice system more efficient.

Way Forward

- **Procedural safeguards:** Informed policy formulation and decision-making based on objective analysis.
 - **Informal instruments** such as consultations, Open House Discussions, etc., can help address the **'democratic deficit'** in the institutional structure of **delegated legislation**.
 - **Involve all independent sectoral regulators** in compliance reforms and rationalising criminality clauses, like FSSAI, BIS, RBI, etc.
 - **Declaration of policy stances**, in advance, by the government **on the lines of monetary policy stances** as declared by the Monetary Policy Committee from time to time.
- **Regulatory impact assessment:** Constitute a **regulatory impact assessment committee within the Law Commission** to assess and evaluate the impact of laws.
- **Define legal standards:** To provide a general, indicative set of legal regulations standards, including the **principles of necessity and proportionality**.
- **Sunset clauses inbuilt within laws:** To accommodate the **ever-evolving knowledge economy and technology space** among modern businesses and entrepreneurs.
 - It will also ensure **administrative responsiveness** and **impact assessment** at the end of a pre-determined time.

3.5. GIG WORKERS AND GIG ECONOMY

Why in the news?


The **Standing Committee on Labour, Textiles, and Skill Development** has asked the Ministry of Labour and Employment to formulate and implement welfare schemes for Gig workers in the country.

More about the news


- Also, the **G20 Labour and Employment Ministers Meeting 2023** concluded by adopting an outcome document on **"Sustainable Social Protection for Gig & Platform Workers."**
- **Rajasthan State Government** has pioneered in creating a welfare bill for the Gig workers in the state by passing a **"Platform Based Gig Workers (Registration and Welfare) Bill, 2023"**.
 - Bill aims to create the **"Rajasthan Platform Based Gig Workers Welfare Board"**, which will have members from gig workers, aggregators and civil servants.
 - The state government is to **maintain a database of the gig workers and generate a unique ID for every one of them**.

About Gig Economy and Gig Worker

- A Gig economy is a **free market system in which temporary positions are common and organisations contract with independent workers** for short-term engagements.
- Gig Workers are those **engaged in livelihood outside the traditional employer-employee arrangement**. They are further classified into
 - **Platform Gig Workers:** Those working on online software, apps, or digital platforms such as food aggregator platforms- Zomato, Swiggy, Ola etc.
 - **Non-Platform Gig Workers:** They are generally casual waged and own-account workers in the conventional sector, engaged part-time or full-time.
- **Reasons for the increase in the gig economy:**
 - Widespread access to the internet



Data Bank

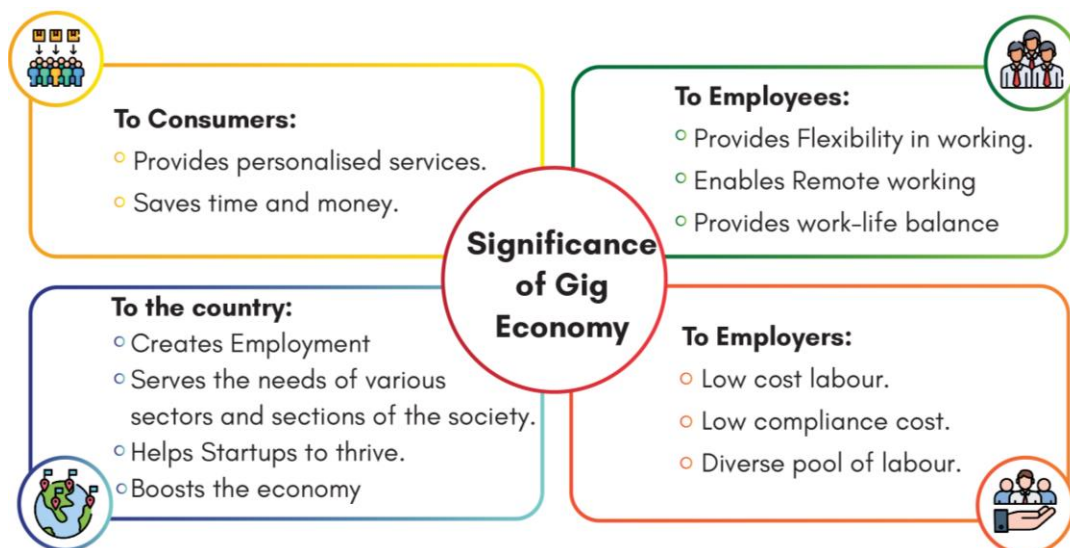


- **77 lakh workers in India** were engaged in the gig economy (As per NITI Aayog 2020-21).
- **47% of the gig work is in medium skilled jobs**, about **22% in high skilled**, and about **31% in low skilled jobs**.
- **36% Women's participation in 2022** which increased from **18% in 2018**.
- **8-fold increase of Youth participation** in the Gig economy (between 2019-2022).

- The rapid growth in the start-up ecosystem
- Interoperability of the platforms
- Rising demand for contractual employees

Challenges in Gig Economy

- **Job insecurity:** Gig workers are typically engaged on a project or assignment basis rather than as permanent employees. This can lead to financial instability and make it difficult for workers to plan for the future.
- **Income instability:** Gig workers face fluctuations in income due to the irregular and unpredictable nature of gig work.
- **Lack of legal protection & social security:** Gig workers are outside labour laws and need access to social security benefits such as health insurance, retirement benefits, and paid leave.
- **Unequal bargaining power:** Gig workers need more bargaining power to negotiate fair compensation and working conditions, mainly when competing against a large pool of other workers on digital platforms.
- **Payment issues:** Delayed or non-payment of wages is a significant issue for gig workers, and since they work in remote locations, it is difficult for them to reach out to their employers.
- **Training and upskilling:** Gig workers often have limited opportunities for upskilling and career advancement.
 - Presently, **about 47% of the gig work is in medium-skilled jobs**, about 22% in high skilled and about 31% in low-skilled jobs.
- **Social stigma:** Gig work is still viewed by some in India as a temporary or low-paying option, resulting in social stigma and a lack of recognition for their work.



Existing Framework in India for the Gig Economy

- **The Code on Wages, 2019:** It provides universal minimum wage and floor wage across organised and unorganised sectors, including gig workers.
- **The Code on Social Security, 2020:** The Ministry of Labour and Employment recognises gig and platform workers through this code.
 - The code calls for **framing suitable social security schemes** for gig workers by central and state governments on matters relating to **life and disability cover, accident insurance, health and maternity benefits, old age protection, etc.**
- **E-Shram Portal:** To create a database of unorganised workers, including gig workers.

Way Forward

- **Recognition of Gig Workers under labour laws:** The gig workers are to be treated at par with Contract labourers, and the companies should provide them with recognition for the job done.
- **Provide assured minimum earnings:** The gig workers need to be provided with a minimum pay assurance for the work they might undertake in a specific period.
- **Provide them with social security covers:** The gig workers need to be brought under social security covers like insurance, Provident Fund etc.
- **Implementation of Code on Social Security 2020:** Rules under the code are yet to be framed by the States, and by implementing the code through the institution of a proposed board, the welfare of the Gig workers can be ensured.
- **Providing access to finance:** institutional credit should be made accessible to platform workers and those interested in setting up their platforms on a priority basis.

3.6. FOREIGN PORTFOLIO INVESTMENT (FPI)

Why in the news?

The Securities and Exchange Board of India (SEBI) released the Consultation Paper on a framework for mandating **additional disclosures from identified high-risk Foreign Portfolio Investors (FPIs)**.

More on News

- This has been done to **enhance trust in the Indian securities markets** by mandating additional disclosures around ownership of, and economic interest in, **high-risk FPIs**.
- To **minimise any inconvenience** to the FPI ecosystem, **only a limited number of objectively identified high-risk FPIs** will be mandated to provide such additional disclosures.

About FPI

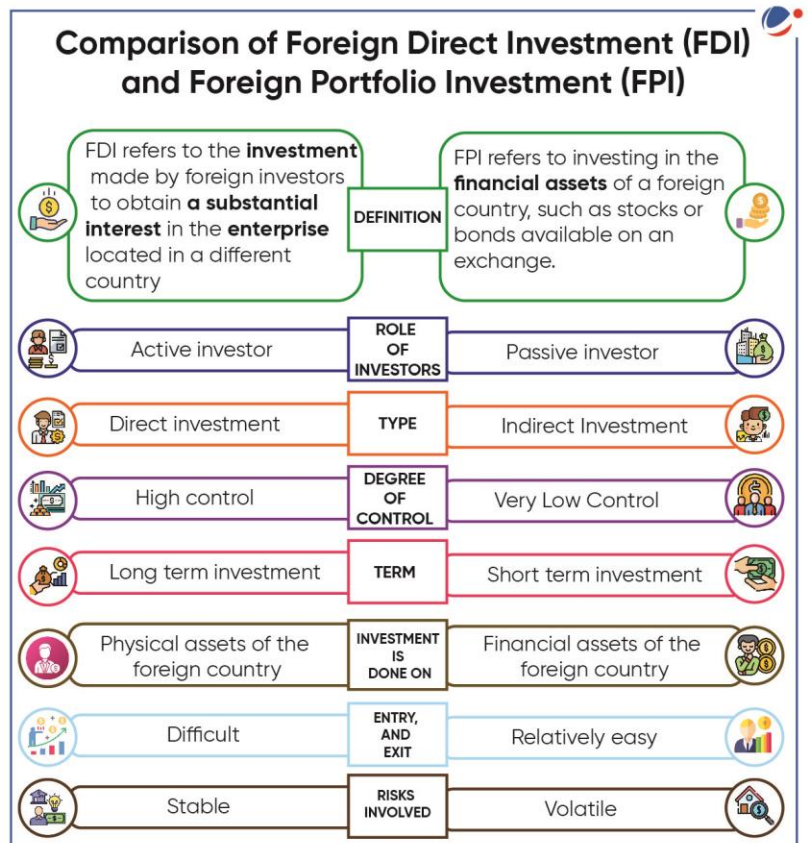
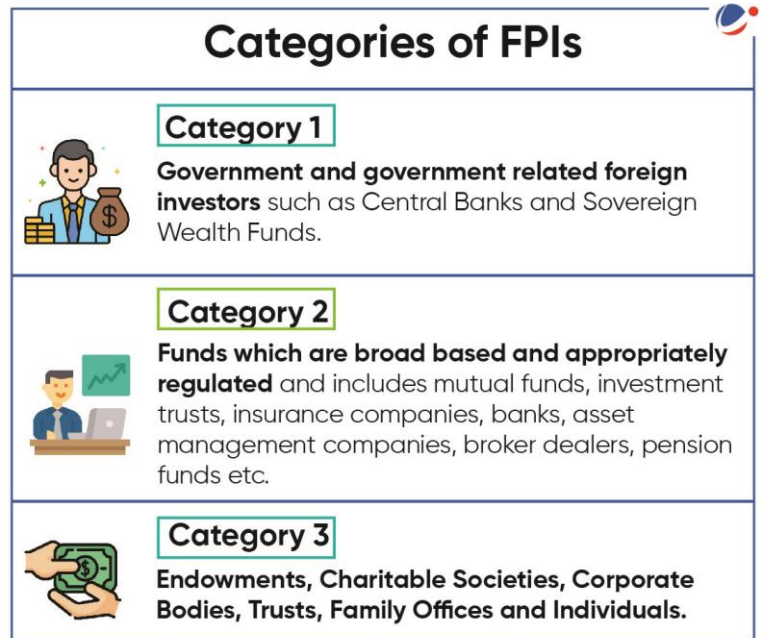
- Meaning:** The FPI regime came as a harmonised route of foreign investment in India, **merging the two existing modes of investment**, that is, Foreign Institutional Investor ('FII') and Qualified Foreign Investor ('QFI').
- Status of FPI in India:**
 - Fluctuating nature:** FPI in India has fluctuated drastically in the past decade.
 - Magnitude:** In 2022-23, the net FPI in India was to the tune of **Rs. 1.65 lakh crore (close to 0.6% of the GDP)**.

Existing Provisions for FPIs in India

- Regulated by SEBI:** under SEBI (Foreign Portfolio Investors) Regulations, 2019 ('FPI regulations').
 - SEBI has **prescribed certain limits on the investment** that FPIs can make in Indian securities.
- Legislative provision:**
 - Foreign Exchange Management Act, 1999 (FEMA)** is the primary legislation governing FPI in India.
 - Prevention of Money Laundering Act, 2002 (PMLA)** and the Prevention of Money Laundering (Maintenance of Records Rules), 2005 (PML Rules).

Issues identified with FPIs

- Concentrated investments:** Some FPIs have been observed to concentrate a substantial portion of their portfolio in a single company/company group.
 - It raises the concern and possibility that promoters of such corporate groups, or other investors, could be using the **FPI route to circumvent regulatory requirements** such as maintaining Minimum Public Shareholding (MPS).



- It also increases the **risk of price manipulation** of listed companies.
- **Circumvention of Press Note 3 (PN3) stipulations:** PN3 requires that an **entity of a country that shares a land border with India can invest only under the Government route**.
 - Since PN3 does not apply to FPI investments, the **FPI route could potentially be misused to circumvent the stipulations of PN3**.
- **Failure to disclose Related Party Transactions (RPTs):** RPTs are arrangements or deals between entities with a common interest or a relationship – by companies. Recently, the Hindenburg report raised the concern of non-disclosure of RPTs.
 - The framework for **FPI allows indirect circumventing** of the RPT disclosure requirements.

SEBI's proposal for FPI regulation

- **Categorisation of FPIs:** FPIs may be categorised as:
 - **Low-Risk FPIs:** Government and related entities such as central banks, sovereign wealth funds, etc.
 - **Moderate-Risk FPIs:** Pension Funds or Public Retail Funds with widespread and dispersed investors in such funds.
 - **High-Risk FPIs:** All other FPIs.
- **Enhanced transparency measures for high-risk FPIs:** For fully **identifying all holders of ownership**, disclosure of economic, and control rights may be mandated for certain objectively identified high-risk FPIs.
- **Additional Disclosure:** For requiring additional disclosures, the above risk categorisation is to be coupled with either the quantum of **concentrated investments by FPIs** or the **size of the overall Assets Under Management (AUM)**.
 - High-risk FPIs holding **more than 50% of their AUM in a single corporate group** would be required to comply with the additional disclosure requirements.
 - High-risk FPIs with an **overall holding in Indian equity markets of over Rs 25,000 crore** will also be required to comply with new disclosure requirements.

Scan the QR code to know more about **Capital Market in India**.

Weekly Focus #86: Capital Market in India: Channelling Finance for Growth



3.7. CORPORATE DEBT MARKET

Why in the news?

Recently, SEBI released a framework for rolling out the Corporate Debt Market Development Fund (CDMDF).

About CDMDF

- **Fund:** CDMDF, established as an **alternate investment fund**, will purchase **investment-grade corporate-debt securities** during **market stress**.
 - **Alternate Investment Fund (AIF)** refers to any privately pooled fund established or incorporated in India for investing. (These funds are collected from sophisticated investors such as Angel investors, Venture capitalists etc.)
 - **Investment grade** refers to the quality of a company's credit.
 - ✓ The company must be rated at 'BBB' or higher to be considered an investment grade issue.
- **Objective:** During market stress, the Debt Market faces redemption pressures in the open market (especially schemes with long maturity periods). CDMDF will help the market by providing liquidity access in such times.
 - The fund aims to emulate the RBI's liquidity support for the banks in the context of the Corporate Debt Market.
- **Contribution:** Contribution to the fund shall be mandatory for specified debt-oriented MF Schemes and Asset Management Companies (AMCs).
- **Tenure:** Initially **15 years**, it can be extended as per SEBI's mandate.

Credit Rating

- A credit rating is an **opinion of a particular credit agency regarding the ability and willingness of an entity** (government, business, or individual) to fulfil its financial obligations.
- It **evaluates a debtor's credit rating by analysing its qualitative and quantitative attributes**.
- **Types of Credit Ratings** include eight broad categories, e.g.
 - **AAA:** the **highest degree of safety** regarding **timely servicing of debt obligations**.
 - **BBB:** have a **moderate degree of safety**.

Corporate debt market

The **debt market**, also called the bond market, fixed-income market, or credit market—is the collective name given to all trades and issues of debt securities. The market can be broadly divided into Government Debt Market and **Corporate Debt Market**.

- **Issue:** Companies issue **corporate bonds** to finance current operations, expand product lines, or open new manufacturing facilities.
- **Nature:** Corporate bonds usually describe longer-term debt instruments that provide a maturity of at least one year.
- **Regulation: SEBI** has jurisdiction over the **corporate debt market**.
 - The **regulatory jurisdiction between the SEBI and RBI** was clarified in 2000 by an amendment to the **Securities Contract (Regulation) Act 1956**. Under this, **RBI's regulatory jurisdiction** includes **money market** and **government securities**.
- **Status of the Market in India: Outstanding Corporate bonds in India**, as a percentage of GDP, stood around 17% in March 2022.
 - The same figures for other emerging Asian economies are much higher: **South Korea (>80%), Malaysia (>50%), China (~ 40%)**

Significance of Corporate debt market

- **Investment needs:** To shift from a **consumption-driven to an investment-led economy**, as emphasised by the **Economic Survey 2018-19**.
- **Efficient allocation of resources:** Additional avenues for corporates to raise funds cost-effectively and reduce reliance on bank finances.
- **Health of corporate balance sheet:** Reduce corporate reliance on External Commercial Borrowing (ECBs), which is subject to volatility in the international market.
- **Financial inclusion of SMEs:** It can lower the cost of capital for SMEs and ensure transparency in their functioning due to greater external scrutiny.
- **Financial stability:** Address **asset-liability mismatch of banks** concerning long-term capital finances and **spreading credit risk** across the economy.

Issues with the Corporate debt market in India

- **Credit rating:** Systemic flaws in the credit rating process by Credit Rating Agencies (CRAs), such as lack of standardisation, transparency, etc.
 - It often results in **opportunistic rating shopping** by issuers and the **loss of trust of retail investors** to invest in the bond market.
- **Mode of issuance:** Most corporate bonds are issued for select market participants and are not open to the public. Thus, hindering the penetration of the Corporate Debt Market.
- **Liquidity constraints:** Limited issuer and investor base, **absence of standardised market indicators** etc., result in the absence of a liquid corporate bond market.
- **Dominance of government securities:** According to Clearing Corporation of India (CCI) and SEBI, in March 2022, outstanding corporate debts were just around 30% of the outstanding Government securities.

Way Forward

- **Transform Credit Rating Agencies and credit rating process to ensure greater transparency:**
 - All entities offering credit rating as a service must be registered as a CRA.
 - All credit ratings, once obtained, must compulsorily be published to **avoid rating shopping** by issuers.
- **Improve the availability of market information:**
 - Encourage trusted issuers, such as banks, financial institutions, etc., to issue bonds across maturities.
 - **Develop debt market index** on the lines of equity indices like BSE Sensex and Nifty 50.
- **Broaden investor base:**
 - **Encourage participation** of retail investors, qualified institutional investors (QII), among others, by providing additional tax breaks on interest income, etc.

- Streamline banks' and financial institutions' bankruptcy and insolvency resolution process to boost investor confidence.

3.8. THE MINES AND MINERALS (DEVELOPMENT AND REGULATION) AMENDMENT BILL, 2023

Why in the news?

Recently, the Parliament passed the Mines and Minerals (Development and Regulation) Amendment Bill, 2023.

More on the news

- It will **amend the Mines and Minerals (Development and Regulation) (MMDR) Act, 1957.**
- MMDR was comprehensively **amended in 2015** to bring several reforms in the mineral sector, such as establishing the **District Mineral Foundation** and **National Mineral Exploration Trust.**
- The Act was further **amended in 2016, 2020 and 2021** to bring further reforms in the sector, such as:
 - **Removing the distinction** between captive and merchant mines,
 - **Removing the restrictions** on the transfer of mineral concessions.

Know the term

- **Critical Minerals:** These are minerals that are **essential for economic development and national security.**
- **Deep-Seated Minerals:** These minerals are gold, silver, copper, zinc, lead, nickel, cobalt, platinum group of minerals, diamonds, etc. which are **deposited deep in Earth's crust.**

Need for further reforms

- **Increasing the exploration and mining of critical minerals.**
 - Critical minerals have gained significance given **India's commitment towards energy transition** and achieving net-zero emissions by 2070.
- **FDI received** in the mining sector is **limited.**
 - This is despite the automatic route allowing 100% foreign direct investment (FDI) in the mining and exploration sector.

To know more about critical minerals, kindly refer to Article 3.3. Critical Minerals of June 2023 edition of the Monthly Current Affairs Magazine.

Key Features of the Bill

I. Introduction of exploration licence for deep-seated and critical minerals

- **Licence:** to undertake **reconnaissance and prospecting operations** for critical and deep-seated minerals.
- **Auction:** The Exploration Licence (EL) will be **granted through an auction** for minerals specified in the **Seventh Schedule** of the MMDR Act.
 - The **Seventh Schedule** contains **29 minerals**, including **lithium-bearing, copper-bearing, potash, and zinc-bearing minerals.**
- **Validity of EL: Issued for five years.**
 - Request for an **extension of up to two years** can be applied to the state government.
- **Mining Lease:** The blocks explored by the licensee would be **auctioned for mining lease** within the prescribed timeline, which will fetch better revenue to the State Governments.
 - The exploration agency shall be entitled to a **share in the auction premium** payable by the mining lease holder.

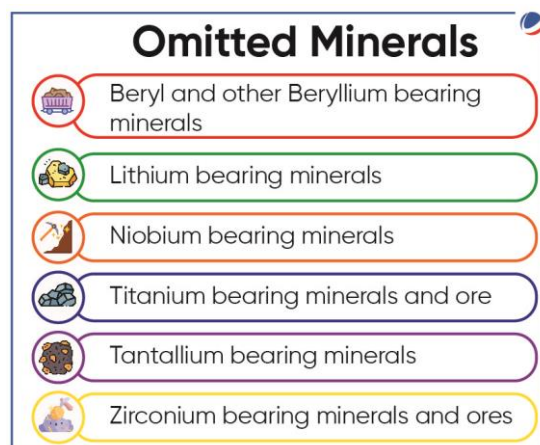
II. Omission of 6 minerals from the list of 12 atomic minerals

- **Omission of Minerals:** From the list of 12 atomic minerals specified in **Part-B of the First Schedule** to the MMDR Act, it proposes to **omit six minerals (refer infographic).**
 - These minerals have various applications in the space industry, electronics, communications etc. and are **critical in the net-zero emission commitment of India.**

- **Opening to Private Sector:** The inclusion of minerals in the list of atomic minerals **reserves their mining and exploration to government entities.**
 - Upon removing these minerals from the said list, exploration and mining of these minerals will also be opened up for the private sector.

III. Empowering Central Government to exclusively auction mineral concessions for critical minerals

- **Role of Central Government:** The amendment empowers the **Central Government to exclusively auction mining leases and composite licences for certain critical minerals** listed in new Part-D of the First Schedule to the MMDR Act.
 - **Part D of the First Schedule includes critical minerals** such as tungsten, cadmium, minerals of the “rare earth” group, fertiliser minerals, and minerals being removed from the list of atomic minerals.
- **Role of State Government:** Even though the Central Government would conduct the auction, the mining lease or composite licence for these minerals to the successful bidders will **only be granted by the State Government.**
 - The auction premium and other statutory payments shall continue to be received by the State Government.



Implications

- **Foreign investment and entrepreneurship:** This amendment is expected to provide a conducive legal environment for attracting FDI and junior mining companies in the country.
- **Private sector participation:** The proposed exploration licence would facilitate, encourage and incentivise the private sector in mineral exploration for critical and deep-seated minerals.
 - The involvement of private agencies in exploration would also bring **advanced technology, finance and expertise** in exploration.
- **Speeding up the process:** Only 19 blocks of these minerals have been auctioned by the State Government, viz. out of 107 blocks handed over to the various State Governments.
 - Authorising the Central Government to auction concession for these critical minerals would **increase the pace of the auction and early production** of the minerals.
- **Reduced import dependency:** in the long run, most of these minerals are largely import dependent.

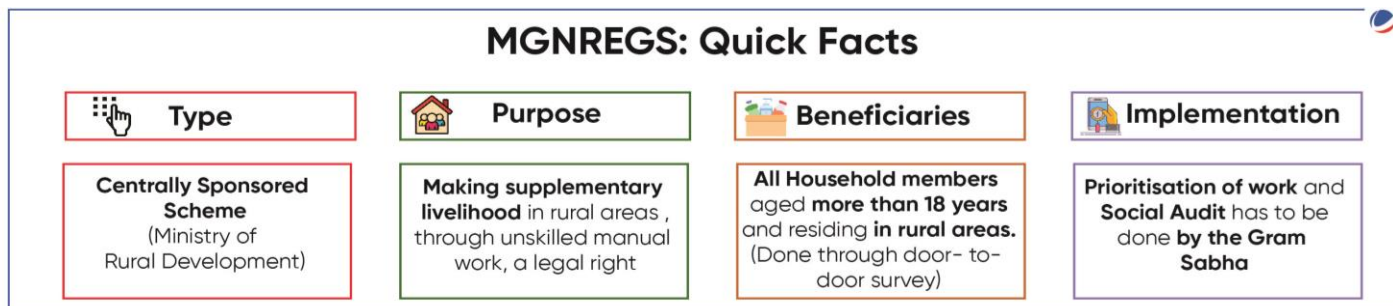
Conclusion

Given the importance of critical minerals for economic growth, climate action and national security, its exploration and judicious use are non-negotiable for the idea of Atmanirbhar Bharat.

3.9. MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT 2005 (MGNREGA)

Why in the news?

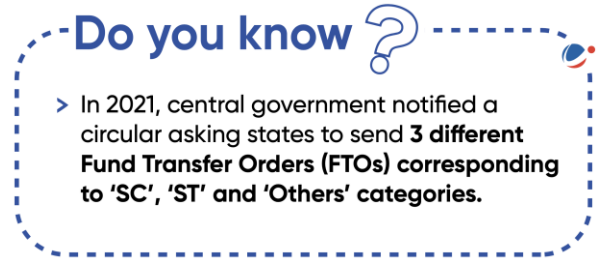
Parliamentary Standing Committee on Rural Development and Panchayati Raj tabled a report highlighting the issues and providing recommendations for MGNREGA.



For more details of the scheme, refer Appendix at the end of the document.

Key issues with MGNREGS

- **Inadequate allocation and payment delays**
 - **Reduced Budgetary Allocation:** 34% less budgetary allocations in 2021-22 (compared to 2020-21).
 - **Delayed payment of wages:** due to infrastructural bottlenecks, unavailability of funds, and lack of administrative compliance.
 - **No compensation:** for delayed payment of wages due to **under-calculation of delays** at different payment stages.
- **Institutional**
 - **Poor capabilities of PRIs:** Inadequate administrative and technical resources with PRIs, particularly at Gram Panchayat (GP) level, adversely affect the planning, approval, monitoring and social audit of the scheme.
 - **Blurred accountability:** As financing agency (Centre) and implementing agencies (State and local governments) are different.
 - **Non-appointment of Ombudsperson:** According to the Standing Committee report (Feb 2022), out of 715 possible appointments, only 263 ombudspersons have been appointed.
- **Systemic issues**
 - **Issues with wage anchor (CPI-AL):** Types of work done by the agricultural labourer and MGNREGA workers are different, suggesting minimum wages should be decided per CPI-Rural Laborer (CPI-RL).
 - **Fabrication of job cards and associated corruption.**
 - **Digital divide** adversely affects the implementation of digital attendance, Aadhar Payment Bridge System (APBS), etc.
- **Issues specific to women**
 - **Non-availability of childcare facilities and other basic amenities:** such as safe drinking water, access to sanitation services, etc., at the worksite.
 - **Low awareness:** about the process and entitlements under the scheme.



Recent reforms undertaken by the government

- **Digitisation**
 - **Digital attendance:** Attendance of workers through the **National Mobile Monitoring System (NMMS) App** under MGNREGS has been mandated for all worksites (except individual beneficiary schemes/projects).
 - **GIS-based planning (Yuktdhara Portal):** Holistic planning of Gram Panchayats based on watershed development principles using the Geographical Information System (GIS).
 - **SECURE:** An online application developed for estimating, preparing and approving MGNREGA works.
 - **Geo-MGNREGA:** To Geo-tag assets created under MGNREGA to ensure effective audit and curb instances of corruption.
 - **Other digitisation efforts** like **Direct benefit transfer (DBT), Management Information System (MIS)** and **Ombudsman App** for smooth reporting and categorisation of grievances.
- **Convergence with other schemes:** Cluster Facilitation Project (CFP) has been rolled out in 300 blocks of the country, converging **MGNREGS and National Rural Livelihood Mission (NRLM)** for improved overall effectiveness.
- **Social Audit (SA):** The system of SA is being strengthened in association with the Comptroller and Auditor General (C&AG) office to provide auditing standards.
- Constitution of **Amarjeet Sinha Committee to recommend structural and other reforms** required in the rural job guarantee scheme under MGNREGA.
- **Other initiatives:**
 - Project '**UNNATI**' intends to upgrade the skill base of MGNREGA workers.
 - **Increase in the number of days of guaranteed work** for drought/ calamity affected notified rural areas and tribe households in a forest area.

Recommendations/ Way Forward

- **Revision of wage anchor:** CPI-Rural may be considered the appropriate index for protecting wages against inflation. (**Mahendra Dev Committee**)
 - Also, simplification of the payment process to ensure **transparency in wage payments at every stage.**

- **Capacity building:**
 - **Strengthen the administrative and technical capabilities** of PRIs by identifying, mobilising, and empanelling institutions that can be training institutions for MGNREGS.
 - **C&AG** should establish a mechanism in consultation with other stakeholders to **handhold Gram Sabhas** to ensure **regular social audits** of all projects under MGNREGS.
 - Government should frame **effective information, education and communication (IEC) policy** as beneficiaries should be aware of their rights under a demand-driven scheme.
- **Women empowerment**
 - Government should issue **modalities and guidelines** like the nature of work to be taken up, facilities at the worksite, etc., for women empowerment under the act.
- **Governance reforms**
 - Provide an **institutional mechanism for convergence** of MGNREGS with other schemes such as the National Afforestation Mission, Mission for Integrated Development of Horticulture (MIDH), Roadside Tree Plantation, etc.
 - ✓ It can help address the issue of inadequate budgetary allocations and ensure effective implementation and monitoring.
 - Establish a **management support system at national and state levels** to provide for a central evaluation and monitoring system.
 - **Impact assessment** of the reforms, like **geo-tagging of assets, digital attendance**, etc., to identify issues and take corrective measures.

3.10. PRADHAN MANTRI GRAM SADAK YOJANA (PMGSY)

Why in the news?

Recently, Parliamentary Standing Committee on Rural Development and Panchayati Raj released its report on PMGSY.

More on News

- According to the report, **96.24% under PMGSY-I and 97.01% under PMGSY-II** of the targets fixed have been **achieved** as on 31st January 2023.

About Pradhan Mantri Gram Sadak Yojana (PMGSY)

- **Ministry of Rural Development (MoRD)** launched the first phase of PMGSY in 2000.
 - It is a **Centrally Sponsored Scheme (CSS)**.
- **Road Connectivity Project for Left Wing Extremism Affected Areas (RCPLWEA):**
 - Launched as a vertical under PMGSY in **2016**
 - To improve connectivity in **44 LWE** affected districts in 9 states.
- **Online Management, Monitoring and Accounting System (OMMAS)** as a mechanism for monitoring the PMGSY.
- **National Rural Infrastructure Development Agency (NRIDA):** Works are executed by the state and monitored by MoRD through NRIDA.

Particulars	PMGSY I	PMGSY II	PMGSY III
Launch	2000	2013	2019
Objectives	Enhanced Road Connectivity with access to all-season roads.	For upgradation of selected Through Routes and Major Rural Links (MRLs) with a target to upgrade 50,000 km in various states and Union Territories.	For consolidation of 125000 Km existing Rural Road Network by up-gradation of existing Through Routes and Major Rural Links that connect habitations to <ul style="list-style-type: none"> ◆ Gramin Agricultural Markets (GrAMs) ◆ Higher Secondary Schools ◆ Hospitals
Timeline	September 2022	September 2022	March 2025

Issues in implementing PMGSY

- **Funds remain unspent:** According to the standing committee report, the unspent balance as on January 2023, stands at around 6,800 crores.
- **Issues of land acquisition:** As per the CAG audit report for the period between 2010-2015, in 11 states, 372 projects were abandoned due to the non-availability of land or land disputes, after incurring an expenditure of Rs 280 crore.
- **Poor Implementation of Projects:** Some projects were completed without required bridges or cross drainage structures, making the roads non-usable for all-weather connectivity.
 - Also, under PMGSY phase 3, **the sanctioning of the entire targeted length of road to the States has not been completed so far.**
- **Fund Diversion:** According to CAG report, funds for road construction in multiple states were diverted towards maintenance and administrative expenditure, salaries and wages, etc.
- **Quality Control, Monitoring and Evaluation:** Irregularities such as non-establishment of field laboratories, non-availability of equipment, and non-deployment of trained manpower.
 - The Committee opined that **PMGSY roads do not take into account plying of heavy tonnage vehicles** which nowadays cause immense damage to the rural connectivity roads.
- **IT audit of OMMAS:** Data is not updated on OMMAS regularly, which has led to Management Information System reports being inaccurate and unreliable.

Way Forward

- **Staff training and transfer:** Staff responsible for updating data on the accounting system should be trained in the various modules of the system in a time-bound way.
- **State needs to update on OMMAS:** Regular updation about the physical and financial progress of the scheme on the OMMAS is needed.
- **Implementing agencies:** Adequate number of implementing agencies should be established in states that are lagging.
- **Stakeholder consultations:** Issues such as contracting capacity, availability of raw materials, and getting relevant clearances should be addressed on a priority basis with stakeholder consultations, for the timely progress of the scheme.
- **Quality control system:** Ministry of Rural Development should review the quality control system to address deficiencies in the implementation of PMGSY.
 - The **committee opined that there is need of increasing the thickness of the PMGSY road** from the existing 20 mm to 30 mm.
- **Stopping Fund Diversion:** Need to ensure that funds released for a specific purpose are not diverted.
- **Completing Land Digitalization programmes:** Schemes like SVAMITVA can help to create rural land pool. This can be effectively reduce delay due to land acquisition.

3.11. NATIONAL BANK FOR AGRICULTURE AND RURAL DEVELOPMENT (NABARD)

Why in the news?

The Union Home Minister recently stated that **National Bank for Agriculture and Rural Development (NABARD)** has worked as a backbone of India's rural economy.

NABARD as a Backbone of Rural Economy

NABARD aims to build an empowered and financially inclusive rural India through specific goal-oriented initiatives to promote **integrated rural development**. For this, the following efforts have been made by NABARD:


- **Promotion and Development:**
 - Around Rs. 5 lakh crore has been sanctioned under the country's **Rural Infrastructure Development Fund (RIDF)** (created in NABARD).
 - **Watershed Development Fund and Tribal Development Fund** are other important livelihood interventions.
 - ✓ **The Wadi model** has become a vital livelihood intervention for the tribal population.

- **Refinancing:** In the last 42 years, NABARD has **refinanced Rs 20 lakh crore** in the rural economy. (Refinancing is taking a newer loan to pay off existing debt.)
- **Strengthening Rural Financial Institutions (RFIs):** About Rs. 8 lakh crore has gone to the rural economy through NABARD for capital formation.
 - NABARD supervises **Rural Cooperative Banks (RCBs) and Regional Rural Banks (RRBs).**


Apart from NABARD, various agencies, including **commercial banks, RRBs, co-operatives, small finance banks (SFBs), NBFCs, micro-finance institutions (MFIs)** and indigenous bankers together form India's rural credit delivery system.

Issues in the current institutional rural credit system

- **Regional imbalance in credit dispensation:** In 2020-21, the Southern Region had the largest share (45.9%) followed by the Northern Region (17.1%) but the Eastern Region hardly accounted for 9.5 % of **agriculture credit disbursed.**
- **Disparity based on landholding:** Medium and large farmers, who are just 14 % of total farmers, get 48 % of the agricultural credit.
 - The primary reason behind the low credit disbursement to small and marginal farmers is the **decrease in the share of RRBs and Cooperatives in total credit disbursement.**
 - **Agricultural Tenants** have limited inclusion in the institutional credit system despite holding a significant proportion of the farm space.
- **Gender disparity in credit distribution:** As per **World Bank findex** data, only 5 % of Indian women accessed bank credit.
- **Bureaucratic hurdles and Red tapism:** Credit institutions generally adopt cumbersome rules and formalities for advancing loans to farmers.
 - Which indirectly forces the farmers to depend more on **costly non-institutional sources of credit.**



National Bank for Agriculture and Rural Development (NABARD)



Statutory Body

Genesis: It came into existence on the recommendation of **B. Sivaraman committee in 1982 by the National Bank for Agriculture and Rural Development (NABARD) Act 1981**, by transferring

- **Agricultural credit functions** of RBI and
- **Refinance functions** of the then Agricultural Refinance and Development Corporation (ARDC).

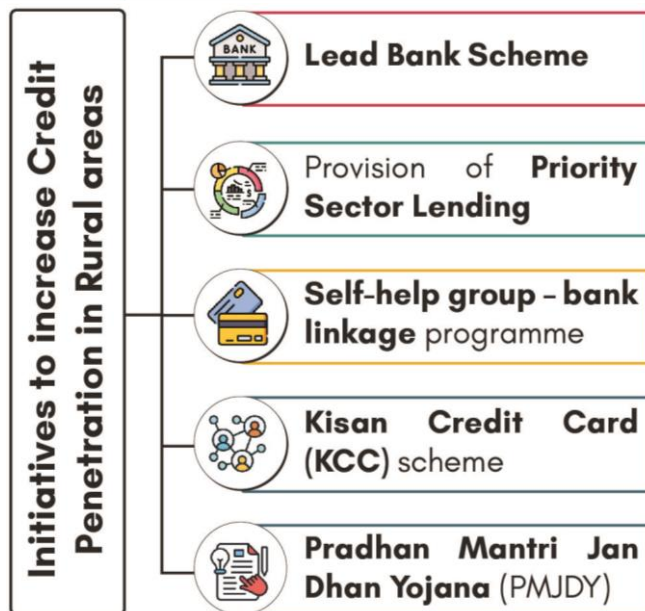
Ministry: Administered by the Ministry of Finance.

Ownership: Wholly owned by the **Government of India.**

Vision: **Development Bank** of the nation for fostering Rural Prosperity.

Mission: Promote sustainable and equitable agriculture and rural development through participative **financial and non-financial** interventions.

Non Credit Related functions	Credit Related functions
<ul style="list-style-type: none"> ■ Supporting the financial inclusion efforts of Regional Rural Banks and Cooperative Banks. ■ Thrust on the promotion of livelihood opportunities and Micro Enterprises. ■ Support research and development, rural innovations, etc. 	<ul style="list-style-type: none"> ■ Providing refinance to lending institutions in rural areas. ■ Facilitating credit flow for promotion and development of agriculture, small-scale industries, cottage and village industries, handicrafts and other rural crafts. ■ Loans to Cooperatives, Farmers' Producers Organizations (FPOs), Primary Agricultural Credit Societies (PACS) or similar institutions.



Way Forward

- **Land Lease Markets:** State governments should be encouraged to reform their legal framework based on the **Model Land Leasing Act proposed by NITI Aayog** to improve formal lending to tenant farmers.
 - **The computerisation of land records** can help provide information and further aid in streamlining such a market.
- **Addressing Regional Disparity:** Allocation of RIDF in **central, eastern and north-eastern states may be increased** over time to strengthen the rural infrastructure in these regions.
- **Credit Guarantee:** A **credit guarantee scheme** on the lines of Credit guarantee fund trust for micro and small enterprises can be created to provide collateral-free loans to tenant farmers.
- **Overall rural development:** Infrastructure creation, leveraging digital technology for internet/mobile banking, digital payment system, etc., also impact the efficacy and penetration of the overall credit system.

3.12. LIVESTOCK SECTOR

Why in the news?

Department of Animal Husbandry and Dairying (DAHD), Ministry of Fisheries, Animal Husbandry and Dairying has launched the **first ever Credit Guarantee scheme for the livestock sector.**

More on News

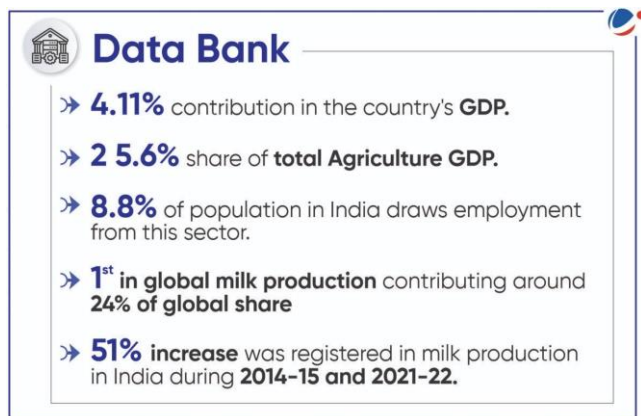
- It aims to strengthen credit delivery system and facilitate smooth flow of credit to the **MSMEs engaged in the Livestock sector.**
- It will be under the **Animal Husbandry Infrastructure Development Fund (AHIDF).**
- **DAHD has established a Credit Guarantee Fund Trust of ₹ 750 crores, which will provide credit guarantee coverage of up to 25% of the credit facilities extended to the MSMEs.**

Significance of the Livestock sector

- **Food and Nutrition security** through food items like milk, meat, eggs etc.
- **Subsidiary income** to the rural households and **social security** to the landless.
- **Employment generation in the labour-intensive sectors** like textile, leather etc.
- **Gender equity and women empowerment** in the primary sector. For example, women represent close to 70% of the workforce in India's dairy sector.
- **Organic/ Integrated farming** provides organic manures for farming, biological weed control, etc.

Issues with India's Livestock Sector

- **Low productivity:** The average annual milk yield of Indian cattle is 1172 kg which is only about **50% of the global average.**
 - **Shortage of feed and fodder:** India has 2.3% of the land area of the world to maintain nearly 10.7% of global livestock.
 - **Animal Health:** Increased susceptibility of livestock to various diseases including **exotic diseases due to poor implementation of cross-breeding programs, inadequate coverage of vaccination.**



About AHIDF

- It is a **central-sector scheme** established under the **Atma Nirbhar Bharat Stimulus Package.**
- It incentivizes investments by individual entrepreneurs, private companies, MSME, Farmers Producers Organizations (FPOs) and **Section 8 companies** to establish:
 - **dairy processing** and value addition infrastructure
 - **meat processing** and value addition infrastructure
 - **animal feed plant**
 - **breed improvement technology** and **breed multiplication farm**
 - **setting up of veterinary** and **drug production facilities**
 - **animal waste to wealth management (Agri-waste management)**
- **Finance support**
 - **Interest subvention of 3%.**
 - Loans up to **90% of the total project cost** from any Scheduled Bank, National Cooperative Development Corporation (NCDC).

- **Knowledge gap:** Absence of adequate extension machinery like agri-credit, awareness etc. to absorb latest technology by small and marginal farmers.
- **Sub-optimal state support:** Livestock sector received **only ~12% of public expenditure on agriculture and allied sector** against 25.6% contribution of livestock in total agro-GDP.
- **Marketing, processing and value addition:** Absence of necessary infrastructure like dairy processing units, meat processing plants, carcass utilization centres, etc.
 - **MSMEs in the Livestock sector** face issues like inadequate access to finances, lack of business expertise, and poor integration in supply chains resulting in limited scalability prospects.
- **Livestock and Environment: Climate change and global warming** may have serious implications in the form of heat stress, loss of animal habitat in coastal areas, and changes in epidemiological patterns of vector-borne disease.

Key Government Initiatives for Livestock Sector

- **National Livestock Mission:** To promote entrepreneurship development and breed improvement in poultry, sheep, goat and piggery including feed and fodder development.
- **Rashtriya Gokul Mission:** For the development and conservation of indigenous bovine breeds.
- **Livestock Health & Disease Control (LH&DC):** To improve animal health through prophylactic vaccination, disease surveillance and strengthening of veterinary infrastructure.
- **Supporting Dairy Cooperatives and Farmer Producer Organizations (SDCFPO):** To provide working capital to state cooperatives and federations.

OTHER GOVERNMENT INITIATIVES



Way Forward

- **Improve animal health:** This can be done by providing **mobile veterinary dispensaries** for vaccination, **strengthening surveillance** for diagnosis and forecasting, developing an inventory of **traditional medicinal practices** for animal health and adopting **One-Health Approach**.
- **Re-orientation of breeding policy:** **Selective breeding** of indigenous cattle and **formation of breed associations** by involving farmers for improvement of indigenous breeds among others.
- **Develop forward linkages:** Linkages for sectors like wool, fibre, meat and milk through cold storage infrastructure, food processing industries, textile industries, etc. Various strategies like Public Private Partnership (PPP) can be adopted for the same.
- **Quality control and food safety:** Standardization of the process of production, certification of organic farming, production of organic livestock foods, etc.
- **Institutional Strengthening:** Promotion of **cooperatives, Farmer Producer Organizations (FPOs), and Self Help Groups (SHGs)** to provide for economies of scale and strengthen the ground-level social infrastructure and services.

3.13. PRICING OF AGRICULTURAL PRODUCE

Why in the news?

Recently, a **rapid increase in the retail price of tomatoes** was witnessed, thus triggering a discussion on agricultural prices and their stability.

Factors responsible for the price rise in Tomato

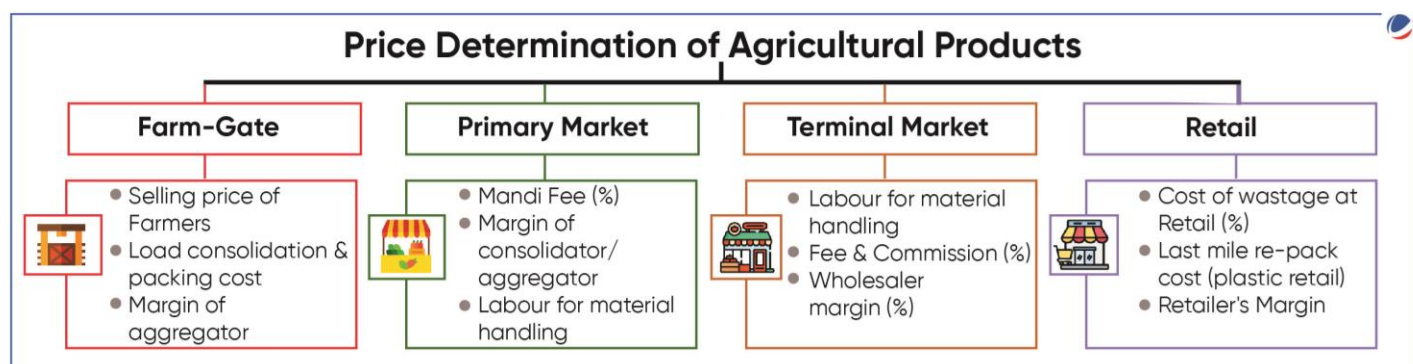
- **Erratic weather conditions:** Tomato yield suffered due to **relatively high summer temperatures and unusually sharp rain spells** in the northern States.
- **Low prices of tomatoes in the April-May cycle:** Many farmers abandoned the crop or sold whatever produce they had at the earliest, causing a glut earlier and scarcity now.
 - **Farmers in various places also switched to other crops owing to higher prices.** For instance, many farmers in the Kolar district of Karnataka shifted to beans.

Tomato production in India

- **Seasons and states:** India grows **two significant crops of tomato**.
 - **Rabi crop:** Grown mainly in Maharashtra, Karnataka and Andhra Pradesh.
 - **Kharif crop:** Grown mainly in Madhya Pradesh, Uttar Pradesh, Maharashtra, and others.
- **The area under Cultivation:** About 5 lakh hectares of farmland come under rabi tomato, and around 8-9 lakh hectares under the Kharif crop on average.

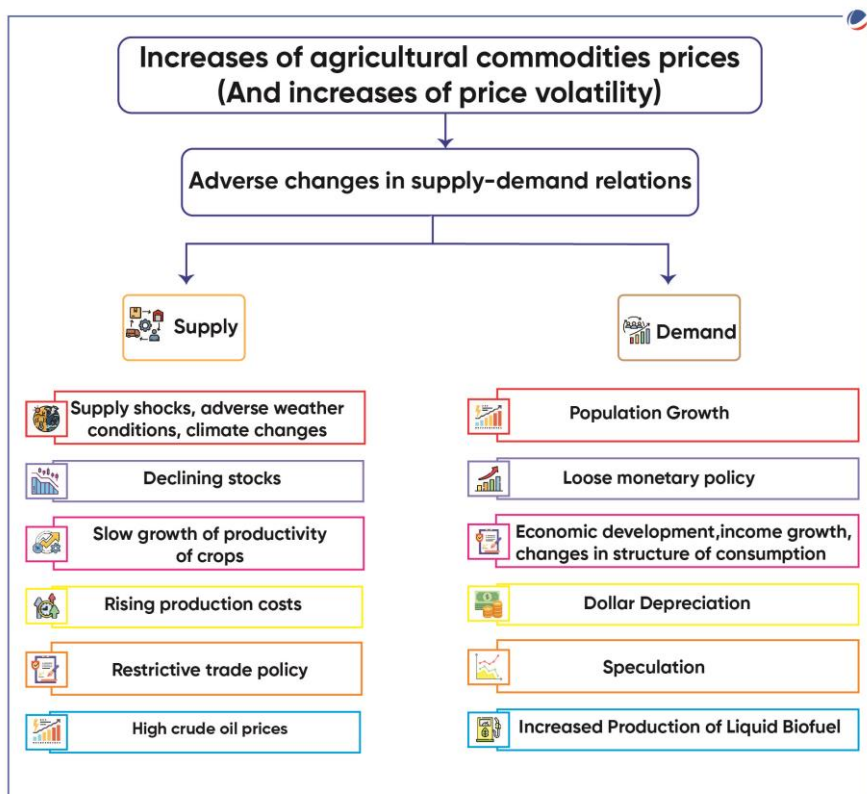
- **Virus impact:** Tomato crops in Maharashtra were impacted by the Cucumber Mosaic Virus (CMV) attacks. **In contrast**, crops in Karnataka and other South Indian states were affected by **Tomato Mosaic Virus (ToMV)**.
 - Both viruses **can cause almost 100% crop loss** unless adequately treated promptly.

	Tomato Mosaic Virus (ToMV)	Cucumber Mosaic Virus (CMV)
Crops Affected	Tomato, tobacco , peppers , and certain ornamental plants .	Cucumber, melon, eggplant, tomato , carrot , lettuce , celery , cucurbits (members of the gourd family, including, pumpkin, zucchini etc.), and some ornamentals .
Spread	<ul style="list-style-type: none"> • Primarily through infected seeds, saplings, and agricultural tools. • Also, through the hands of nursery workers. 	<ul style="list-style-type: none"> • Spread by aphids, which are sap-sucking insects. <ul style="list-style-type: none"> ○ Conditions of high temperature followed by intermittent rain allow aphids to multiply. • Extremely low chance of spread through human touch.
Characteristics	<ul style="list-style-type: none"> • Distortion of leaves and twisting of younger leaves. • The fruit develops necrotic spots, which leads to overripening. • Younger plants are dwarfed. 	<ul style="list-style-type: none"> • Distortion of leaves at the top and bottom while those in the middle remain relatively blemish-free. • Causes stunting and lower production.
Remedy	<ul style="list-style-type: none"> • Seed treatment with adequate bio-safety. • Clearing weeds before fresh planting. 	<ul style="list-style-type: none"> • Stop Aphids by spraying quick-acting insecticides or mineral oils on the plants.



Challenges in Agri Produce Pricing






- **Climate Change:** High vulnerability to extreme variability in climatic factors, negatively affecting acreage, yield and production.
- **Input subsidies and inflation:** Fluctuations in input subsidies such as fertiliser, seed, power subsidies etc. and the prevalence of high inflation affect the cropping patterns.
- **Distorted MSP procurement:** Though the Minimum Support Price (MSP) is announced for 22 crops, actual procurement is done on a large scale for rice and wheat. This results in only a tiny fraction of farmers realising MSP.
- **Crop diseases:** Various crop diseases result in either crop losses or inferior quality crops, affecting the crop's price movements.



- **Effect of Global market:** Demand and supply can frequently change due to geopolitical environments such as the Russia-Ukraine conflict, global economic uncertainties etc.
- **Available Infrastructure and Technology:** Low prevalence of mechanised tools, use of weather data, scientific production methods, post-harvest infrastructure, processing and transportation facilities etc., amplifies the price fluctuations in the market.

The mechanism for Price Monitoring and Control

- **Price Monitoring Division (PMD):** Price Monitoring Division in the Department of Consumer Affairs monitors the prices of selected essential commodities.
 - It analyses the price situation and gives **advance feedback for taking preventive measures**.
 - It implements commodity-specific **market intervention schemes** to give temporary relief.
 - The Centre targets **around 750 PMCs (one in each district)** to monitor the prices of 22 essential food commodities.
- **Operation Greens:** It was launched on the lines of Operation Flood to promote Farmer Producers Organizations (FPOs), agri-logistics, processing facilities and professional management.
 - It covers 22 **perishable crops (refer image), including Tomato, Onion and Potato (TOP)**.

22 Essential Commodities for Price Monitoring				
 Food Grains	 Pulses	 Edible Oils	 Vegetables	 Other items
Rice Wheat Atta	Gram Tur Urad Moong Masur	Groundnut oil Mustard oil Vanaspati Soya oil Sunflower oil Palm oil	Potato Onion Tomato	Sugar Gur Milk Tea Salt

- **Essential Commodities Act, 1955:** It empowers the central government to control the production, supply, distribution, trade, and commerce of certain commodities.
 - The Act can impose stock limits on essential commodities to regulate their prices and availability in the market.

Way Forward

- **Adoption of Climate Resilient Agriculture:** It includes sustainably using existing natural resources through crop and livestock production systems to achieve higher productivity and farm incomes under climate variabilities.
- **Improved Price Monitoring:** Regular updation of data from smaller geographical areas can ensure better policy interventions at earlier stages of price fluctuations. For example, using data collected through the e-NAM scheme.
- **Incentives for Diversification:** Reforming the MSP regime alongside policies incentivising more agro-climatically suitable cropping patterns.
- **Crop Disease Management:** Strengthening agricultural research and regular and systematic disease monitoring can drastically decrease the impact of crop diseases.
- **Increased technology use:** Using space technology for real-time weather advisory, use of Data Science and Blockchain systems in agricultural marketing etc., can pave the way for better crop selection and management.
- **Post-Harvest Infrastructure Creation:** Warehousing, cold storage, processing facilities, and multimodal transportation can increase shelf life and prevent crop losses in the long run.

3.14. FARM MECHANISATION

Why in the news?

The Standing Committee on Agriculture, Animal Husbandry and Food Processing recently tabled a report on **“Research and Development in Farm Mechanisation for Small and Marginal Farmers”**.

Farm Mechanisation in India

- It refers to the **development and use of machines that can replace human** and animal power in agricultural processes.

- **Agriculture Mechanization Level in India: 47%.** (China:59.5% and Brazil: 75%.)
 - States such as UP, Haryana and Punjab have very high mechanisation levels, but north-eastern states have negligible mechanisation.

- **Direct Benefit Transfer (DBT) Portal under the Department of Agriculture and Farmers Welfare acts as a Single Window for clearance** to approve equipment/machines procurement by individual farmers/Custom Hiring Centres.

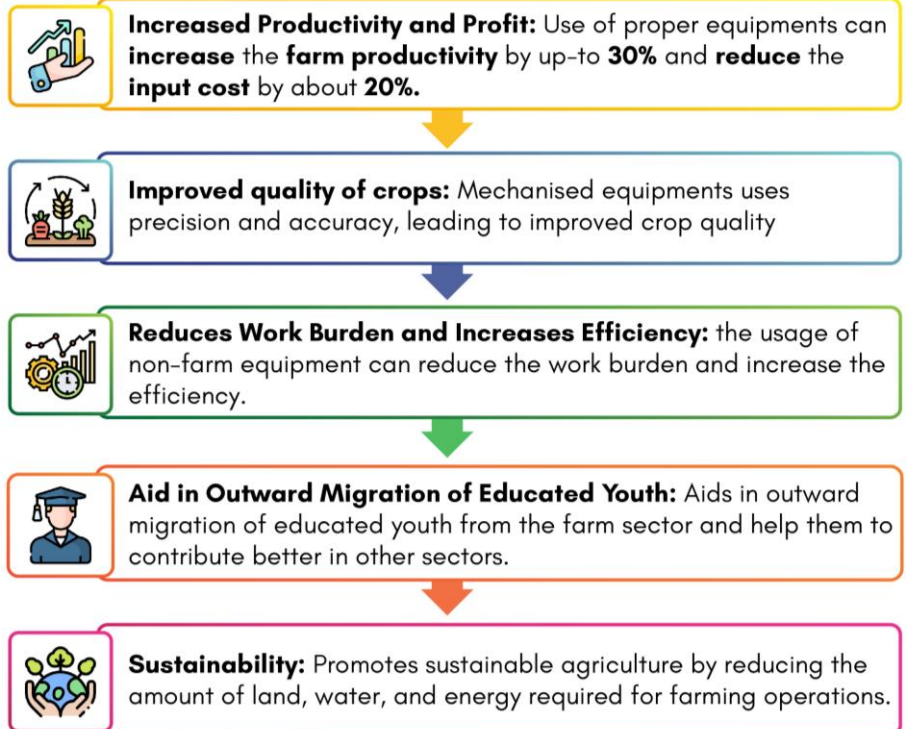
Challenges in Farm Mechanisation

- **The slow pace of mechanisation:** The committee reports that it might take another 25 years to achieve 75-80% mechanisation from the present level of 47%.
 - Currently, **there is no engineering workforce to demonstrate, train, help in repairs, maintenance** and guide farmers at their doorstep.
- **Lack of Formal Study:** Formal study has yet to be conducted to assess the farm mechanisation of the country so far.
- **Lack of formal education on Agri-engineering:** Currently, the Directorate of Agricultural Engineering exists only in two States, i.e. Madhya Pradesh and Tamil Nadu.
- **Lack of Industry-specific NIC code:** No specific National Industrial Classification Code (NIC) code exists **for the farming machinery industry**. This signifies that they are not recognised/classified as a separate industry.
- **Lack of access to power** results in the slow uptake of farm mechanisation and hence non-intensification of farm productivity, particularly among small and marginal farmers.
 - **For instance,** Punjab has a power availability of 6 kW per hectare compared to Mizoram, with 0.7 kW per hectare.
- **Other challenges** include low awareness, Limited Research & Development (R&D), shortage of Skilled Workers, low income of farmers etc.

Way Forward

- **Focus on low-cost small equipment:** to meet the needs of the Small and Marginal Farmers.
- **Setting up ancillary units:** that specialise in manufacturing the standard Components for the machinery can increase the product spectrum.
- **Recognition as an industry:** Recognising farm equipment manufacturing as a separate industry by providing them with a NIC code will aid them to function better and improve their access to funds.
- **Encourage local innovations:** Innovations by the local farmers and ITIs should be duly recognised. The Government should help them receive patents for such inventions and aid in commercialising the machinery.
- **Ease of financing:** Like KCC, term loan procedures may be simplified with minimum documentation.

Significance of Farm Mechanisation



Government Initiatives to Improve Farm Mechanisation

- **Sub Mission on Agricultural Mechanization (SMAM) 2014-15 under Ministry of Agriculture and Farmers Welfare:** to assist the State Governments in providing training and demonstration of agricultural machinery and assist farmers in procuring agricultural machinery and equipment.
 - It is currently **merged with the Rashtriya Krishi Vikas Yojana**.
- **Custom Hiring Centres (CHCs)** are set up under the SMAM scheme through which **Cooperatives and Farmers Producers Organisation subsidies** are provided.
- **States like Kerala, Tamil Nadu and Madhya Pradesh** provide farmers with farm machinery at concessional rates.

Related News

Union Ministry of Agriculture and Farmers Welfare recently launched several technology-based initiatives under PMFBY.

- **New Initiative launched**
 - **Weather Information Network Data Systems (WINDS) portal:** A centralized platform that hosts, manages, and processes hyper-local weather data collected by Automatic Weather Stations and Rain Gauges at Taluk/Block and Gram Panchayat levels.
 - ✓ It will enhance risk assessment and decision-making in crop insurance, agriculture advisories, and disaster mitigation.
 - **Yield Estimation System, based on Technology (YES-TECH) Manual:** A technology-driven yield estimation system, offering methodologies, best practices, and integration insights for accurate yield assessments at the Gram Panchayat level.
 - **Door to Door enrollment app AIDE/Sahayak:** App ensures a seamless and transparent process, making crop insurance more accessible and convenient for farmers.

3.15. NEWS IN SHORTS

3.15.1. GLOBAL REGULATORY FRAMEWORK FOR CRYPTO-ASSET ACTIVITIES


- Financial Stability Board (FSB) finalised the global regulatory framework for crypto-asset activities.
- **Incorporating learnings from events** in crypto-asset markets, the regulatory framework aims **to promote comprehensiveness and international consistency** of regulatory and supervisory approaches.
 - Framework is **based on the principle of ‘same activity, same risk, same regulation’** and ensures that crypto-asset activities and stablecoins are subject to consistent and comprehensive regulation.
- Framework **consists of two high-level recommendations** for regulation, supervision and oversight of **crypto-asset activities and markets and global stablecoin arrangements (GSCs)**.
- **FSB has strengthened** both sets of recommendations in **three areas**:
 - Ensuring adequate **safeguarding of client assets**;
 - **Addressing** risks associated with **conflicts of interest**;
 - Strengthening **cross-border cooperation**.
- Central Bank Digital Currencies are **not subject to these recommendations**.
- **About Crypto-assets and Stablecoins**
 - Crypto assets are private-sector digital assets that depend **primarily on cryptography, distributed ledger, or similar technology**.
 - ✓ **Different segments** of crypto-asset markets are – **unbacked crypto-assets** (such as Bitcoin), **stablecoins, and decentralised finance (DeFi)**.
 - Stablecoin is a **cryptocurrency** whose value is **pegged to the price of another asset**.



Financial Stability Board (FSB)
Basel, Switzerland



Genesis: Established in **2009** under **aegis of G20**.



About: An international body that **monitors and makes recommendations** about global financial system.



Membership: Comprises Central Banks, finance ministries and supervisory authorities from G20 countries.



Objectives: It **seeks to strengthen financial systems** and increase the **stability of international financial markets**.



Other key information: FSB is **not a treaty-based organisation** and its **decisions are not legally binding**.

3.15.2. GLOBAL MINIMUM TAX

- 138 countries and jurisdictions (including India) **agreed to a historic milestone to implement a global tax deal**.
- OECD has been taking steps **to enable countries to prevent tax evasion and corporate tax avoidance** and **launched a project on Base Erosion and Profit Shifting (BEPS) in 2013**.
 - BEPS refers to **tax planning strategies** that multinational enterprises (MNEs) use **that exploit gaps and mismatches in tax rules** to avoid paying taxes.
 - OECD estimated **corporate tax avoidance costs** anywhere from **USD 100-240 billion annually**.
- **A key part of the BEPS Project** is addressing tax challenges arising from the digitalisation of the economy.
- **OECD/G20 Inclusive Framework on BEPS provided a Two Pillar Solution** to ensure that large MNEs pay tax where they operate and earn profits.

- Under **Pillar One**, **25% of profits** of the largest and **most profitable MNEs** above a set profit margin would be **reallocated** to market jurisdictions where **MNE's users and customers are located**.
- **Pillar Two** seeks to ensure that large **MNEs pay at least a global minimum tax (GMT)**, with a rate of **15%, regardless of the jurisdiction** where profits may be recorded.
- **GMT will come into effect next year, and by 2025** almost 90% of MNEs having revenues of more than 750 million euros will be subject to the levy.



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT PARIS, FRANCE

Genesis: It is an **international organization which superseded the Organisation for Economic Co-operation (OEEC) in 1961.**

- **OEEC was established in 1948** to help administer the **Marshall Plan for European reconstruction.**

Objectives: Having motto of '**better policies for better lives**', it shapes policies that foster prosperity, equality, opportunity and well-being for all.

Membership:  But India is among OECD's key partners. NOT A MEMBER

Other key information:

- It **works with member nations and other nations** to share evidence and experiences, find to **common economic, social and environmental challenges**, identify best practices and develop evidence-based international standards.
- **Flagship Publications/Indices: International Migration Outlook, OECD Better Life Index.**

- **Key highlights wrt India**
 - **India's score increased to 93.55 per cent in 2023** from 90.32 per cent in 2021.
 - **Best performing country** amongst all countries of South Asia region. The overall **score of India has been greater than many developed countries**, including Canada, France, the UK, Germany etc.
 - **Achieved a perfect score of 100 per cent in four key areas**, i.e., Transparency, Formalities, Institutional Arrangement and Cooperation, and Paperless Trade.
 - **Substantial improvement in the Women in Trade Facilitation component** from 66.7 per cent in 2021 to **77.8 per cent in 2023.**
- **Improvement is mainly due to initiatives** such as Turant Customs, Single Window Interface for Facilitation of Trade (SWIFT), Pre-Arrival data processing, e- Sanchit, Coordinated Border Management, etc.



United Nations Economic and Social Commission for Asia Pacific's (UNESCAP) (Bangkok, Thailand)

Genesis: It was established in 1947 as the economic commission for Asia and the far East (ECAFE).

About: It is **one of the five regional commissions of United Nations.**

Members: 53 member States and 9 associate members  MEMBER

Objectives: Promotes cooperation among members in pursuit of solutions to sustainable development challenges.

3.15.3. GLOBAL SURVEY ON DIGITAL AND SUSTAINABLE TRADE FACILITATION

- **United Nations Economic and Social Commission for Asia Pacific's (UNESCAP) Global Survey on Digital and Sustainable Trade Facilitation** released.
- It is a **bi-annual survey** that deals with **trade facilitation measures** taken by individual countries.
- The survey **covers the WTO Trade Facilitation Agreement** along with a set of **nearly 60 trade facilitation measures** which are categorised into 11 sub-groups, namely,
 - Transparency; Formalities; Institutional arrangement and cooperation, Transit facilitation; Paperless trade; Cross-border paperless trade; Trade facilitation for SMEs; Agricultural trade facilitation; Women in trade facilitation; Trade finance for trade facilitation; and Trade facilitation in times of crisis.

3.15.4. 'A WORLD OF DEBT' REPORT

- United Nations Conference on Trade and Development (**UNCTAD**) released a report titled '**A World of Debt**'.
- **Public debt** is the total amount, including total liabilities, borrowed by the government to meet its development budget.
- **Key findings**
 - **Global public debt (USD 92 trillion in 2022)** increased more than **fivefold** since 2000.
 - **Debt increased faster in developing countries** than in developed countries over the last decade.
 - ✓ Almost 30% of global public debt is owed by developing countries (India's public debt-2815 USD billion).
 - **Half of developing countries** devote more than 1.5% of their GDP and 6.9% of their government revenues to interest payments than to education or health.
 - Developing countries rely **more on private creditors** now, making credit **more expensive** and debt restructuring **more complex**.

- **Factors behind the rise in public debt**
 - **Financing cascading crises on development** due to the COVID-19 pandemic, cost-of-living crisis, climate change etc.
 - **Unequal international financial architecture** makes developing countries' access to financing inadequate and expensive, leading to slow economic growth.
- **Roadmap to address the global debt burden**
 - Tackling the high cost of debt and rising risks of debt distress.
 - Provide **greater liquidity** in times of crisis, expanding contingency finance.
 - Make the system more inclusive.



United Nations Conference on Trade and Development (UNCTAD)
Geneva

About: UNCTAD is a permanent intergovernmental body established by the UN General Assembly in 1964.

Members: It has 195 member states and it is part of UN Sustainable Development Group.

Other reports released: Trade and Development Report, Digital Economy Report, Technology, and Innovation Report etc.

3.15.5. MAHILA SAMMAN SAVINGS CERTIFICATE

- Recently, Government permitted all Public Sector Banks and eligible Private Sector Banks to implement and operationalise the **Mahila Samman Savings Certificate (MSSC), 2023**.
- **MSSC aims to provide financial security to young girls and women in India** enabling financial inclusion and empowerment.
- **Key features**
 - MSSC is a **small savings scheme**.
 - It is available for subscription in **Post Offices, and eligible Scheduled Banks**.
 - ✓ An account can be opened under MSSC scheme on or before the **March 31, 2025**, for a **tenure of two years**.
 - **Eligibility:** Opening an account under the MSSC scheme can be made by a woman for herself or by the guardian on behalf of a minor girl.
 - **Interest rate:** The deposit made under MSSC will bear interest at the **rate of 7.5% per annum** which will be **compounded quarterly**.
 - **Investment limit:** A minimum of ₹1000 and any sum in multiple of 100 may be deposited within the maximum limit of ₹200,000.

- **Maturity date:** The **maturity of the investment under this scheme is two years**.
- **Withdrawal:** 40% withdrawal of eligible balance can be taken after one year from the date of account opening.
- **Taxation:** All earnings under the Mahila Samman Savings Certificate will be **taxable as per existing income tax provisions**. However, TDS (Tax Deducted at Source) will not be deducted under the scheme.

3.15.6. TWIN BALANCE SHEET PROBLEM

- Finance Minister stated that the **Indian economy has moved away from the twin balance sheet problem**.
- The twin balance sheet issue refers to **earlier problematic balance sheets of both companies and banks**.
 - **Companies had excessive debt and insufficient funds** to repay it.
 - And **banks were burdened with significant non-performing assets (NPAs)**- reached almost 12% in 2016-17.
- A twin balance sheet **problem follows a standard path**. Their **companies expand during a boom**, leaving them with **obligations they cannot repay**.
 - So, **they default on their debts**, impairing bank balance sheets and **limiting their ability to lend**.
- However, as per **RBI's recent Financial Stability Report**, banking and corporate sector **balance sheets have strengthened**, and India might be on the **cusp of a twin balance sheet advantage**.
 - **The gross NPA ratio fell to a 10-year low of 3.9%**.
 - **Corporate balance sheet is also at its healthiest in 10 years**.

Steps taken to solve twin balance sheet problem

- **4R strategy** recognizing problem of NPA, **recapitalizing** banks, **resolving** their problems, **reforming** them.
- **Insolvency and Bankruptcy Code, 2016**.
- **Central Repository of Information on Large Credits (CRILC)** to enable banks to share information on large loans.
- **National Asset Reconstruction Company (NARCL)** to handle bad debt.

3.15.7. CENTRALISED INFORMATION MANAGEMENT SYSTEM (CIMS)

- Reserve Bank of India has introduced the CIMS, a next-generation data warehouse.
- CIMS is a platform for **data mining, text mining, and statistical analysis**.
 - It **will improve monetary policymaking** through refined economic analysis and management of big data flow.
 - It will **disseminate more data for public use and support online statistical analysis by external users**.
 - CIMS **started with reporting by commercial banks**, which will be gradually extended to Urban Cooperative Banks (UCBs) and Non-Banking Financial Companies (NBFCs).
 - RBI established its **first enterprise-wide data warehouse, Central Database Management System (CDBMS), in 2002**.

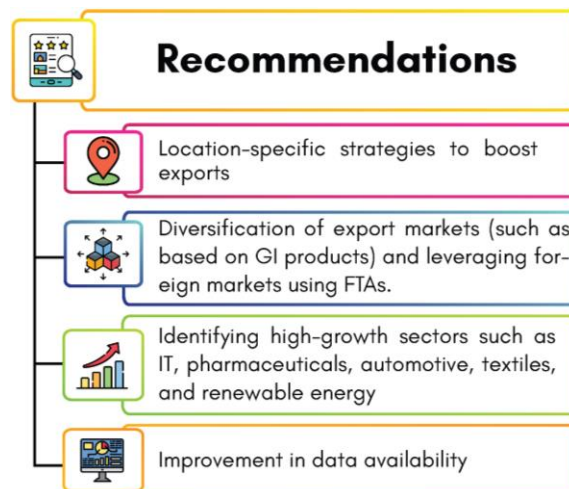
3.15.8. PROJECT WAVE

- Indian Bank has unveiled new services under its digital transformation initiative 'Project WAVE (**World of Advance Virtual Experience**)'.
 - It has been introduced in collaboration with **National E-Governance Services Ltd**.
 - Under it, an **electronic bank guarantee (e-BG) service** has been introduced to ease traditional paper-based processes.

3.15.9. EXPORT PREPAREDNESS INDEX (EPI) 2022

- NITI Aayog released the **third edition of 'The Export Preparedness Index (EPI) 2022'**.
- EPI, by NITI Aayog in association with Institute for Competitiveness, presents a **comprehensive analysis of India's export performance** in FY22, along with its **sector-specific and district-level** merchandise export trends.
 - **EPI includes four pillars** –Policy; Business Ecosystem; Export Ecosystem; Export Performance.
 - **States are classified as** coastal, landlocked, Himalayan, and UTs/small states.
- **Key findings**
 - Most 'Coastal States' performed well, with **Tamil Nadu, Maharashtra, and Karnataka being top performers**.
 - ✓ **Haryana, Uttarakhand and Goa** topped under landlocked, Himalayan, and UTs/small states categories.
 - **Over 99% of districts** are covered under the '**One District One Product**' scheme.

- **Ten commodities** (engineering goods, petroleum products etc.) account for **nearly 80% of India's total exports**.
- **Only 100 districts** are responsible for **nearly 87% of exports**.
- **49% of India's exports** go to only **ten destinations**.
- **Challenges identified:** absence of air connectivity in several regions, lower performance in R&D, lack of capacity-building workshops for exporters, absence of reliable statistics etc.



3.15.10. PRODUCTION LINKED INCENTIVE (PLI) SCHEME 2.0 FOR IT HARDWARE

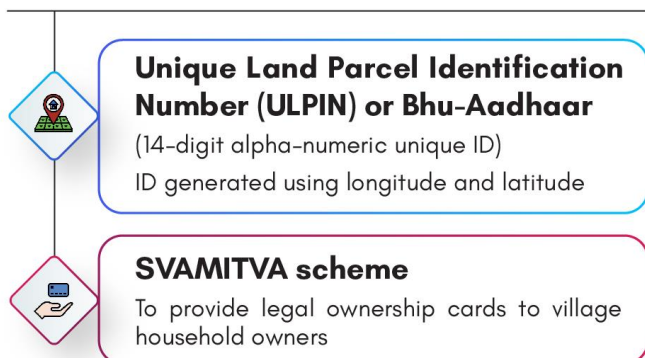
- Guidelines for **Operationalisation of PLI Scheme 2.0 for IT Hardware approved**.
- Guidelines have been approved by the **Ministry of Electronics and Information Technology (MeitY)**.
- PLI scheme, launched in 2020, aims to **make domestic manufacturing globally competitive** and create global manufacturing champions.
 - PLI scheme is **available in 14 manufacturing sectors**, such as medical devices, food products, textile products, pharmaceuticals, etc.
 - PLI scheme for IT hardware was **first notified in 2021**.
- **PLI 2.0 for IT hardware** aims at **broadening and deepening the IT hardware manufacturing ecosystem** in the country.
 - **Target Segment includes** laptops, Tablets, All-in-One PCs, Servers, and Ultra Small Form Factor manufactured in India.
 - **Semiconductor design, IC manufacturing, and packaging** are included as incentivised components of PLI 2.0.
- **Key Guidelines**
 - **Base Year:** FY 2022-23 for computation of net incremental sales of manufactured goods.

- ✓ The scheme shall extend an average incentive of around **5% on net incremental sales** (over a base year).
- **Eligible Product:** Goods manufactured in India and covered under the target segment.
- **Empowered Group of Secretaries (EGoS)** will monitor the Scheme.
- **Incentive Period:** 6 years.
- **Eligibility Criteria for Incentive Claims:** Incentives shall be given on the sales of Target Segment Goods.

3.15.11. BHOOMI SAMMAN AWARD 2023

- **Ministry of Rural Development** presented Bhoomi Samman Award 2023.
- Nine state secretaries have received Bhoomi Samman awards for their achievements in implementing the **Digital India Land Records Modernization Programme (DILRMP)**.
- DILRMP (erstwhile National Land Record Modernization Programme) is a **Central Sector Scheme** since 2016.
 - Nodal Ministry: **Ministry of Rural Development**.
 - **Objective:** To **develop a modern, comprehensive, transparent land record management system**.
 - DILRMP has been **extended for five years, i.e., 2021-22 to 2025-26**.
- **Significance of modernisation of land records**
 - **Reduce interface** between citizens and Government functionaries and will **increase transparency**.
 - Clear land titles facilitate the **supply of capital and credit for agriculture**.
 - **Reduce the massive pendency of court cases** involving land disputes.
 - Helpful to central and state governments in **bringing out land reforms**.

OTHER INITIATIVES FOR IMPROVING LAND GOVERNANCE



3.15.12. STANDING COMMITTEE ON STATISTICS (SCOS)

- **Ministry of Statistics and Programme Implementation (MoSPI)** has replaced the **Standing Committee on Economic Statistics (SCES)** with **SCoS**.
- SCoS will have a **broader mandate to review the framework and results of all surveys** conducted under the National Statistical Office.
 - It has **ten official members and four non-official members** who are eminent academics.
 - Its terms of reference include **finalisation of survey results and better use of administrative data**. Besides survey design improvements, **SCoS will identify data gaps and strategies to plug them**.
 - **National Statistical Commission** will have **ultimate authority to approve** the publication of survey results.

3.15.13. INDUSTRIAL LICENSE

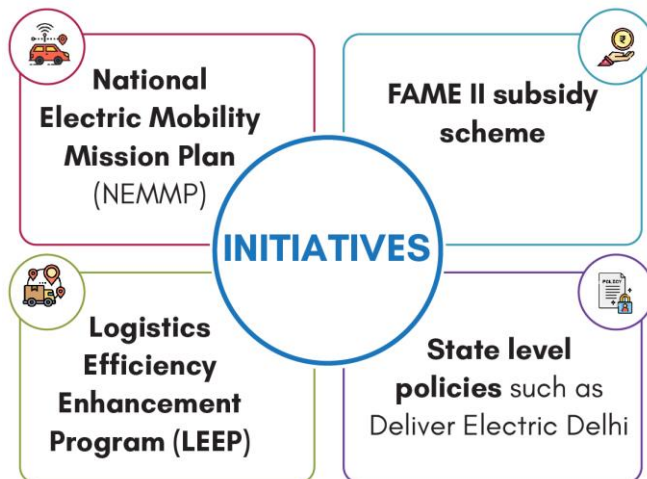
- **Department for Promotion of Industry and Internal Trade (DPIIT)** has **extended the validity period of industrial licenses from three years to fifteen years to promote ease of doing business**.
 - The concerned administrative ministry can **further grant an three years extension** in case the license holder has **not commenced commercial production within 15 years of the issue of the license**.
 - Any industrial license where **commercial production has not started** within the extended period (15+3 years) shall be treated as **automatically lapsed**.
- In India, industrial licenses are **issued under and are regulated by the Industries (Development and Regulation) Act (IDRA), 1951**.



3.15.14. ELECTRIC FREIGHT VEHICLES

- **Industry leaders forged alliance** to increase demand for electric freight vehicles.
- The announcement was made **during NITI Aayog's e-FAST India** (Electric Freight Accelerator for Sustainable Transport – India) **related event** at the 14th Clean Energy Ministerial.
 - e-FAST India is the **country's first electric freight platform**, spearheaded by NITI Aayog, **to transition towards cleaner freight transportation**.
 - It **facilitates collaborations at national and international levels**, supports the **development of pilot programs**, and **explores technology integration** and associated research.

- **Importance of freight electrification for India**
 - Road freight accounts for about 71% of the overall freight movement.
 - The freight sector contributes almost 14% of India's total greenhouse gas (GHG) emissions.
 - The sector is also heavily reliant on fossil fuel imports.
- **Challenges in freight electrification**
 - Disaggregated nature of the industry as individuals and small fleet owner-operators primarily own it.
 - Lack of aggregated data on freight movement.
 - Technological hurdles such as the weight of the battery required to support large payloads and long-distance travel, topography, climate, and

temperature also affect the performance of electric vehicles.



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for **GS 2023: 13 August**
सामान्य अध्ययन 2023: 13 अगस्त

for **GS 2024: 6 August**
सामान्य अध्ययन 2024: 6 अगस्त

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4. SECURITY

4.1. CYBERSECURITY

Why in the news?

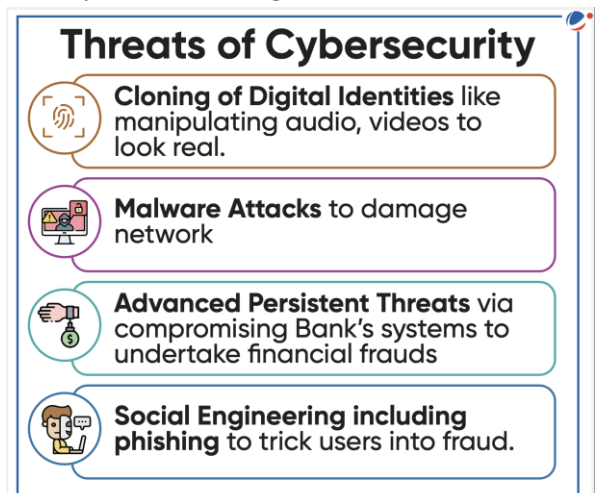
Recently, the Standing Committee on Finance released a report about cyber security and the rising incidence of cyber/white-collar crimes.

Need for Strengthening cyber security ecosystem

- **Lacunae in the legal framework**
 - The Committee observed that the **existing regulatory landscape for cyber security involves multiple agencies and bodies**, each with distinct roles and responsibilities.
 - ✓ This approach **disperses regulation and control and thus hinders unified direction** to combating cyber threats.
 - Also, **most of the service providers have their data centres outside the country**. Hence, seeking data from them remains a challenge.
- **Technological challenges**
 - **Emerging technologies:** With the advent of artificial intelligence, IoT, and powerful generative AI tools new problems, such as deep fake have emerged as a major cybersecurity threat.
 - **Malware and botnets allows** criminals to avoid technical control such as antivirus software and internet filters.
 - **Large Data:** Financial systems are the prime targets for hackers as they deal with a large amount of Personal data and financial data.
- **Misuse of the Internet:** Due to easy access and extensive use of cyberspace, citizens especially women and children are more likely to experience various forms of cybercrimes.
 - **Increase in cyber-attacks:** Indian Computer Emergency Response Team (CERT-In) highlights that India encountered a considerable number of cybersecurity incidents in 2022, with a total of 13.91 lakhs reported cases.
 - ✓ **The top three industries affected** by malware in India in 2022 were banking, government, and manufacturing.
 - **Increased Ransomware Attacks:** There is a 53% increase in Ransomware incidents reported in 2022 Year over Year.
 - ✓ IT & ITeS was a majorly impacted sector followed by **Finance and Manufacturing**.
- **Lack of skilled human resources:** Last year, the cyber security industry had a 37% gap in the supply of skilled professionals," according to TeamLease Digital.

Existing Framework for Cyber Security

- **Information Technology Act 2000:** To provide a legal framework for transactions carried out by means of electronic data.
- **Indian Computer Emergency Response Team (CERT-In):** National agency for incident response under Section 70B of the Information Technology Act, 2000.
- **National Cyber Security Policy 2013:** To protect information infrastructure in cyberspace.
- **National Centre of Excellence in Cyber Security (NCoE):** To build a sustainable cyber security technology and industry development momentum across the country.
- **Indian Cyber Crime Coordination Centre (I4C):** To handle issues related to cybercrime.
- **National Critical Information Infrastructure Protection Centre (NCIIPC):** For the protection of critical information infrastructure.
- **Cyber Swachhta Kendra:** For providing detection of malicious programmes.
- **Information Security Education and Awareness Project (ISEA):** To raises awareness and provides research, education and training in the field of Information Security.
- **National Cyber Security Strategy 2020:** To ensure a safe, secure, trusted, resilient and vibrant cyberspace for nation.



Way forward

- **Key recommendations of the committee**
 - Empower a **centralized Cyber Protection Authority (CPA) for cyber security** that can work with all digital ecosystem participants.
 - Formulate **fairer and more responsive consumer grievance redressal** and compensation mechanism.

- Strengthen **central and state cyber security enforcement capabilities**.
- **Achieve closer global cooperation** and other leading countries.
- **Capacity building:** Creating a robust innovation ecosystem to not only strengthen India's cybersecurity capabilities but also deliver cutting-edge cyber solutions to the world.
- **Strengthening private partnerships:** The PPP model should be explored for security in the regions and industry sectors.
 - Government should promote R&D in the private industry through active government support.
- **Dedicated officer:** All government organizations and private enterprises can have a designated Chief Information Security Officer (CISO) who would be responsible for cyber security.
- **Awareness:** The government can establish an informative environment in the country against possible cyber threats (including cyberterrorism).

International Convention

Budapest Convention on Cybercrime, 2001

- It deals with issues such as **infringements of copyright, computer-related fraud, child pornography, and violations of network security**.
- This convention of the **Council of Europe is the only binding international instrument** on this issue that addresses Internet and computer crime
- **India is not yet a member.**

Related News

CERT-In "Guidelines on Information Security Practices" for government entities

- These guidelines are issued under the powers conferred by **section 70B of the Information Technology Act, 2000**.
- It applies to all Ministries, Departments, and Offices specified in **the First Schedule to the Government of India (Allocation of Business) Rules, 1961**.
- **Key guidelines**
 - Report security breaches within **six hours of being noticed**
 - Mandatory **cyber security audits every six months**
 - **Employees to be logged out** when inactive for more than 15 minutes
 - Admin access to the system only with the approval of the **chief information security officer**

Citizen Financial Cyber Fraud Reporting and Management System (CFCFRMS)

- According to the Ministry of Home Affairs (MHA), **Rs 570 crore has been saved using CFCFRMS**.
- CFCFRMS was operationalised in **2022 as a national helpline** to report all sorts of **financial frauds and immediately prevent the stealing** of funds by cheats.
- It has been made **operational by Indian Cyber Crime Coordination Centre (I4C)**, under MHA, to **integrate Law Enforcement Agencies and Banks and Financial Intermediaries**.
- It **leverages new-age technologies** for sharing online fraud-related information and **taking action in almost real time**.

4.2. NEWS IN SHORTS

4.2.1. EXERCISES IN NEWS

- **JIMEX 23:** 7th edition of the bilateral **Japan-India Maritime Exercise 2023**, hosted by the Indian Navy, is being conducted at/ off Visakhapatnam.
- **SALVEX:** The Seventh edition of the **Indian Navy – US Navy, Salvage and Explosive Ordnance Disposal (EOD) exercise**, SALVEX, was conducted recently in Kochi.
- **Operation Southern Readiness – 2023:** It is an annual **multinational exercise** (India, USA, Italy, UK, Seychelles) conducted by Combined Maritime Forces.
- **Nomadic Elephant – 2023:** It is a joint military exercise between **India-Mongolia**

5. ENVIRONMENT

5.1. BIOLOGICAL DIVERSITY (AMENDMENT) BILL, 2023

Why in the news?

Recently, both houses of Parliament passed the Biological Diversity (Amendment) Bill, 2023, amending the **Biological Diversity Act of 2002**.

Biological Diversity Act 2002

- The Act was implemented to help India meet the objectives of the **United Nations Convention on Biological Diversity (CBD) 1992**.
- The Law was enacted with the aim to:
 - Conserve biodiversity.
 - Promote the **sustainable utilisation of its elements**.
 - Ensure **just and fair distribution** of the advantages arising from the use of biological resources.
- Act provides for a decentralised three-tiered mechanism** for regulation.
 - National Biodiversity Authority (NBA)** at the national level,
 - State Biodiversity Boards (SSB)** at the state level, and
 - Biodiversity Management Committees (BMC)** at the local body level.
- Act provides for sharing benefits with biodiversity conservers** and holders and creators of associated knowledge.
 - Benefits may be shared in various forms, such as **monetary compensation**, sharing of **intellectual property rights**, or **technology transfer**.

United Nations Convention on Biological Diversity (CBD)
Secretariat Montreal

About: An internationally legally binding multilateral treaty.

Objectives: Drafted in 1992 with 3 Goals-

- Conservation of biological diversity.
- Sustainable use of its components.
- Fair and equitable sharing of benefits arising from genetic resources.

Membership: 196 parties, including India.

Core Agreements: India has ratified all 3 Protocols-

- Nagoya Protocol on Benefit Sharing
- Cartagena protocol on Biosafety
- Nagoya-Kuala Lumpur Supplementary Protocol on Liability

Other Key Information:

- CBD's governing body is the **Conference of the Parties (COP meets every 2 years)**.
- Convention covers biodiversity at all levels: **ecosystems, species and genetic resources**.

Significance of Bill

Reduce the pressure on wild medicinal plants by encouraging cultivation of medicinal plant	Encourage Indian system of medicine
Facilitate fast-tracking of research, patent application process, transfer of research results	Bring more foreign investments in the chain of biological resources without compromising the national interest.

Key changes made in the Biodiversity Amendment bill

Provision	Biological Diversity Act 2002	Biological Diversity (Amendment) Bill 2023
Extension of Exemptions	<ul style="list-style-type: none"> Act requires prior approval or intimation to the regulatory authority for accessing biological resources. 	<ul style="list-style-type: none"> It exempts AYUSH registered practitioners, local people and communities of the area, including growers and cultivators of biodiversity, from giving prior intimation to SBB for accessing biological resources for commercial utilization.
Approval for Intellectual	<ul style="list-style-type: none"> Act specifies that approval of NBA is required before applying for IPR involving biological resources obtained from India. 	<ul style="list-style-type: none"> Amendment changes the requirement and now the approval will be required before the actual grant of the IPR and not before the application.

Property Rights (IPR)		
Benefit Sharing	<ul style="list-style-type: none"> Act requires users of biological resources and associated knowledge to share benefits with local communities. 	<ul style="list-style-type: none"> Bill exempts users of “codified traditional knowledge” from this requirement.
Offences and Penalties	<ul style="list-style-type: none"> Offences like failure to take approvals from the authorities for various activities which were punishable up to 5 years or a fine or both. 	<ul style="list-style-type: none"> Bill decriminalises the offences and makes offences punishable with a penalty between Rs 1 lakh and Rs 50 lakh. Continuing contravention may attract an additional penalty of up to 1 crore rupees (Here, the adjudicating officer should not be below the rank of Joint Secretary).
Expansion of NBA	<ul style="list-style-type: none"> Act requires NBA to have 10 ex-officio members apart from the Chairman. 5 non-official members to be appointed from amongst specialists (including legal) and scientists. 	<ul style="list-style-type: none"> 16 ex officio members representing the Ministries like Tribal Affairs, Biotechnology etc. 4 representatives from SSB. 5 non-official members amongst specialists (including legal) and scientists. 1 Member-Secretary (must have experience in biodiversity conservation), who will be the chief coordinating officer of the NBA.

Key issues with the Bill

- **Ambiguity in the definition of codified traditional knowledge:** The CBD’s Nagoya and Cartagena protocols do not define this term.
 - **A broad interpretation** of this term might exempt almost all traditional knowledge from benefit-sharing requirements.
- **Local communities may have little say in benefit sharing:** Bill removes the direct role of **local bodies and benefits claimers** in determining mutually agreed terms.
- **Issues in offences and penalties:**
 - A wide range of penalties can be levied, between one lakh rupees and one crore rupees. There needs to be **legislative guidance** to the adjudicating officer on assessing the penalty within this range.
- **Large companies may evade the requirement for prior approval or sharing the benefits:**
 - **Most AYUSH** firms are registered under the name of the practising AYUSH doctors, and excluding them could also exempt their companies.
 - **A company under foreign management but registered in India** wouldn’t need to seek permission from the NBA to use a specific resource and develop a product from it. Without **the NBA’s cognisance**, any monetary benefits from the product’s sale **might not reach the local communities**.

Know the term

○ **Access and Benefit Sharing:** It refers to the way in which **genetic resources** may be accessed, and how the **benefits that result from their use are shared** between the people or countries using the resources (**users**) and the people or countries that provide them (**providers**).

Conclusion

There is a need to address the abovementioned concerns to ensure that India’s rich biological diversity and associated traditional and contemporary knowledge systems be preserved without compromising the objectives and **hindering their growth and usability**.

5.2. PROTECTION OF PLANT VARIETIES AND FARMERS' RIGHTS (PPVFR)

Why in the news?

Recently, Delhi High Court dismissed an appeal filed by PepsiCo India Holdings (PIH) against a 2021 order revoking **PIH’s registration of a potato variety FL-2027**.

Background of the Issue

- The **FL-2027 variety of potatoes** (commercial name FC-5) **was introduced by Pepsi in 2009** through a contract farming arrangement.

- The FL-2027 variety was registered under the **Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act 2016**.
- In 2019, **Pepsico sued some farmers in Gujarat for illegally growing its registered potato variety** and violating its IPR under the Act.
- In 2021, **the registration of FL-2027 was revoked on the grounds of furnishing incorrect information and infringing farmers' rights.**



International Union For The Protection of New Varieties of Plants (UPOV)



Genesis: Established by the **International Convention for the Protection of New Varieties of Plants** (adopted in 1961).

About: Promotes an **effective system of plant variety protection**, with the aim of **encouraging the development of new varieties of plants**, for the benefit of society.

🔄 **India is not a member.**

About the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act 2001

- **Enacted:** In 2001 under Article 27(3) (b) of the **Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.
 - The act conforms with **International Union for the Protection of New Varieties of Plants (UPOV), 1978**.
- **World's only IPR legislation:** that grants **intellectual property rights** not only to the **plant breeders but also to the farmers** by protecting new, extant and farmers' varieties.
 - Unlike UPOV, the Act facilitates the protection of **not only new** but even existing varieties.
- **Objective:**
 - To recognise **and protect farmers' rights regarding plant genetic resources** for the development of new plant varieties.
 - To **accelerate agricultural development in the country**,
 - Protect plant breeders' rights.
 - **Facilitate the growth of the seed industry in the country.**
- **Protection period:**
 - **Trees and vines: 18 years.**
 - **For other crops, 15 years.**
 - **For extant varieties: 15 years**
- **Institutions/Authorities:**
 - **Plant Varieties Protection Appellate Tribunal (PVPAT):** Decisions of the PVPAT can be challenged in the High Court. The Tribunal shall dispose of the appeal within one year.
 - **Protection of Plant Varieties and Farmers' Rights Authority (PPV&FR Authority):** Established to implement the provisions of the Act by the Department of Agriculture and Cooperation, Ministry of Agriculture.
 - ✓ Its function includes **Registration of new plant varieties, Facilitating the development and commercialisation of new varieties**, etc.

Rights under the Act	
Breeders' Rights <ul style="list-style-type: none"> • Breeders have exclusive rights to produce, sell, market, distribute, import, or export the protected variety. 	Researchers' Rights <ul style="list-style-type: none"> • Researchers can use any of the registered varieties under the Act for conducting experiments or research. • Can also use a variety as an initial source of variety for the purpose of developing another variety.
Farmers' Rights <ul style="list-style-type: none"> • A farmer is entitled to register and protect a new variety. • A farmer can save, use, sow, re-sow, exchange, share or sell his farm produce including seeds of a variety protected under the PPV&FR Act, 2001. <ul style="list-style-type: none"> ○ The farmer shall not be entitled to sell branded seed of a variety protected under the PPV&FR Act, 2001. • In the case of non-performance of variety, the farmer shall be compensated. 	

Concerns with PPV&FR

- **Limited Access to Seeds:** Breeders' rights can restrict small-scale farmers' access due to costly patented seeds.

- **Hybrid and GM Seeds Preference:** Contradicts PPV&FR's aim to conserve plant genetic resources.
- **Implementation Challenges** like lack of awareness, resources, and infrastructure hinder effective enforcement.
- **Biopiracy Concerns:** Local communities are exploited without fair compensation for traditional knowledge and resources.

Conclusion

The PPV&FR Act 2001 promotes the interest of Breeders, Researchers' and Farmers. There is a need to ensure that Act is implemented comprehensively.

Difference Between Patent And PPV&FR Act	
Patent	PPV&FR Act
<ul style="list-style-type: none"> • Deals with IPR over devices of Industrial applications. 	<ul style="list-style-type: none"> • Confers IPR to plant breeders who have bred or developed plant varieties.
<ul style="list-style-type: none"> • Set of exclusive rights granted by a state (national government) to an inventor or their assignee for a limited period of time in exchange for the public disclosure of an invention. 	<ul style="list-style-type: none"> • Gives rights to farmers, breeders and researchers besides giving protection to varieties of all crop species notified under the Act.
<ul style="list-style-type: none"> • No provision for benefit sharing. 	<ul style="list-style-type: none"> • Provision for benefits sharing, compensation to the farmers, etc.

5.3. TIGER CONVERSATION IN INDIA

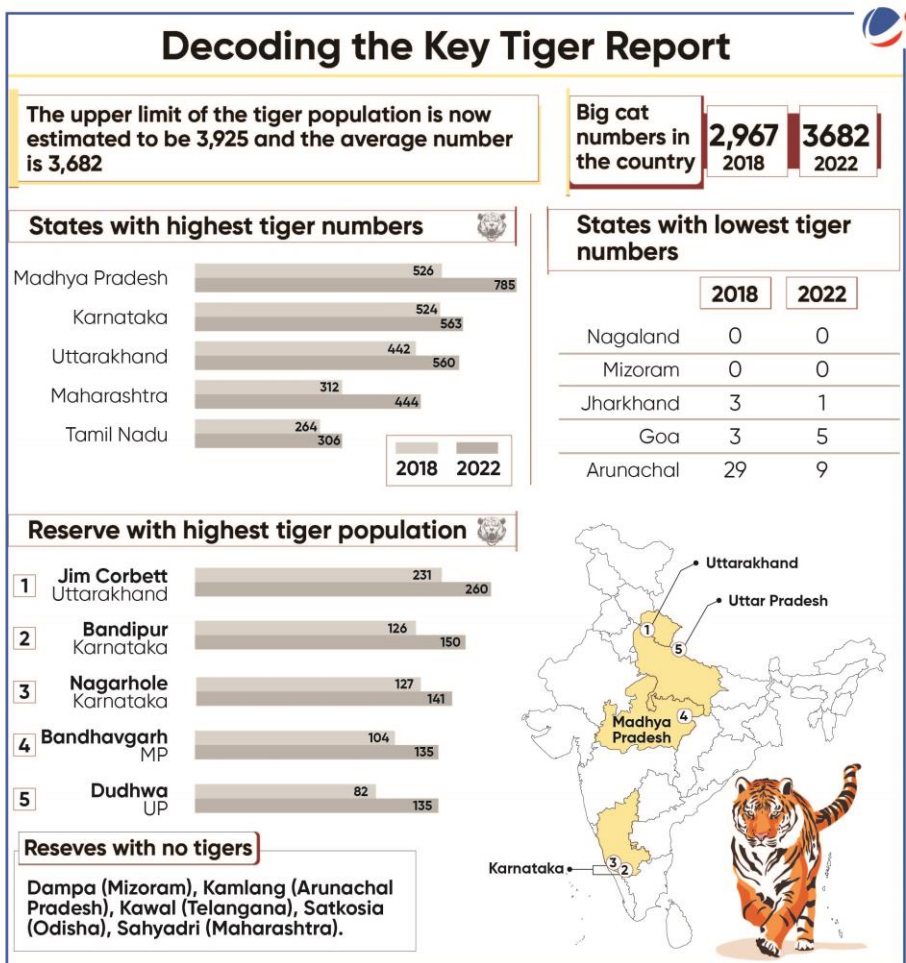
5.3.1. STATUS OF TIGER REPORT

Why in the news?

The National Tiger Conservation Authority (NTCA) recently released the **Status of Tigers, co-predators and Prey in India-2022** report.

Key observation from the Status of Tiger report

- **Land area:** 53 tiger reserves cover 2.3% of India's total land area.
- **Population:** India currently harbours almost **75% of the world's wild tiger population.**
 - **Central India and the Shivalik Hills and Gangetic Plains** witnessed a notable increase in tiger population.
- **Need to strengthen:** Approximately **35% of tiger reserves urgently require** enhanced protection measures, subsequent tiger reintroduction, etc.
- **Technique used**
 - **M-STRIPEs (Monitoring System For Tigers-Intensive Protection and Ecological Status):** uses a



Global Positioning System and remote sensing to collect information from the field.

- **Camera trap-based Capture-Mark-Recapture:** Camera trap surveys are a well-established method for the abundance and density estimation of tigers.
- In areas where camera trapping was not possible molecular tools were used to determine the presence of tigers by **extracting DNA from scats**.

5.3.2. MANAGEMENT EFFECTIVENESS EVALUATION (MEE) OF TIGER RESERVES

Why in the news?

Recently, the National Tiger Conservation Authority (NTCA) released the **Management Effectiveness Evaluation (MEE) of Tiger Reserves in India (5th cycle) – Final report**.






About MEE

- The government has been using the MEE to assess **tiger reserves nationwide since its inception in 2006**.
- It is being jointly conducted by the **National Tiger Conservation Authority (NTCA) and the Wildlife Institute of India (WII)**.
- **It was the 5th cycle of Management Effectiveness Evaluation (MEE)** carried out by the government.
- The framework for assessing the management effectiveness of protected areas was given by **International Union for Conservation of Nature and Natural Resources World Commission on Protected Areas (See infographic)**.

Management Effectiveness Evaluation (MEE)		
Design/Planning	Adequacy/Appropriateness	Delivery
 Context Status and threats where are we now?  Planning Where do we want to be and how will we get there?	 Input What do we need?  Process How do we go about management?	 Outcomes What did we achieve?  Outputs What did we do and what products or services were produced?

What is MEE?

- It is defined as **the assessment of how well Protected Areas (PAs)** are being managed primarily, whether they are protecting their values and achieving the goals and objectives agreed upon.
- **The term management effectiveness reflects three main themes of PA management.**
 - Design issues relating to both individual sites and PA systems
 - The adequacy and appropriateness of management system and process.
 - Delivery of the objectives of PAs including conservation of values.

Significance of MEE	
	Enable and support an adaptive approach to management
	Assist in effective resource allocation
	Promote accountability and transparency
	Help involve the community and build constituencies
	Promote the values of PAs

About the 5th cycle of MEE

- **51 tiger reserves were evaluated** as two newly declared tiger reserves, Ramgarh Visdhari and Ranipur, have not been included in the current cycle of MEE.
 - **The Periyar Tiger Reserve in Kerala** has been ranked as the best-maintained tiger reserve in India.
- **The overall mean MEE score has increased from 65% in the second cycle in 2010 to 78%** in the present assessment, indicating continuous improvement in management effectiveness.
 - **12 tiger reserves ranked in the 'Excellent' category**, followed by 21 in the 'Very Good' category, 13 in the 'Good' category, and 5 in the 'Fair' category.
 - The MEE report graded **none of the country's tiger reserves as 'Poor'**.
- **The headline indicator 'carbon capture and climate change'** received the lowest score in the current cycle due to the absence of a mandate for it in Tiger Conservation Plans.

For more information on Project Tiger, Tiger Species and NTCA, refer to April 2023 Monthly Current Affairs Magazine.

Related News: Centre merged Project Tiger and Project Elephant

- After the merger, a new division named 'Project Tiger and Elephant Division' (PT&E) has been created under the Ministry of Environment, Forest, and Climate Change (MoEF&CC).
 - The staff and divisional heads of Project Elephant (PE) will now report to the additional director general of forests (ADGF), Project Tiger (PT), who has now been designated as ADGF (PT&E).
 - Reason for the merger is to rationalize funding for both conservation projects.
- **Significance of the merger**
 - It would help in streamlining the efforts to conserve both species.
 - Makes the administration of the projects efficient and linear.
 - Since both species share the same habitat, an integrated approach can benefit both.
- **Challenge:**
 - The inclusion of multiple species under one project may dwindle the actual fund allocation to the tigers.
 - Both the programs required separate units and heads, given the different nature of challenges in their conservation

5.4. FOREST CONSERVATION (AMENDMENT) BILL, 2023

Why in the news?

Both the houses passed the Forest Conservation (Amendment) (FCA) Bill 2023.

About Forest Conservation (Amendment) (FCA) Bill, 2023

- It will amend **Forest (Conservation) Act 1980**.
 - **Forests** is a subject under the **Concurrent List** in the **Seventh Schedule** of the Constitution of India, empowering the Parliament of India to enact a law on it.
- **Forest (Conservation) Act, 1980:** puts **several restrictions on the de-reservation of forests or use of forest land for non-forest purposes** and specifies penalties for contravention of any of its provisions.
 - The Act has been given a new name through the amendment— '**Van (Sanrakshan Evam Samvardhan) Adhiniyam**' (Forest Conservation and Augmentation) Act), 1980.
- Bill will enable India to **increase its forest/tree cover**; achieve national and **international targets**; Fast track Strategic & security-related projects; etc.

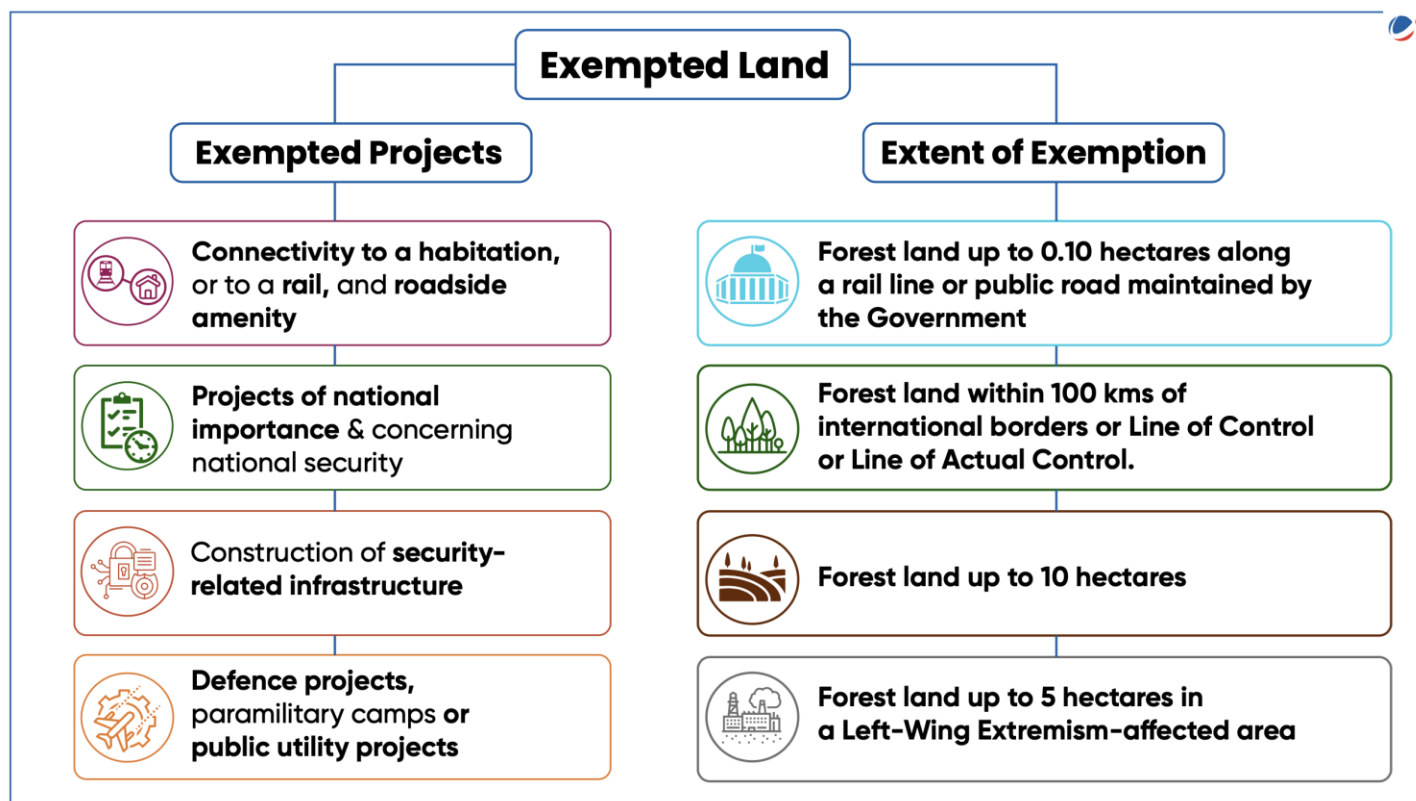
Key Amendments

- **Rationale:** Clarifies the scope of applicability of the Act after the ambiguity created by the Supreme Court judgment in the **T.N. Godavarman case (1996)**.
- **Addition of Preamble:** It encompasses **India's Nationality Determined Contribution and other National targets**, such as Net Zero Emission by 2070, creating a carbon sink of an additional 2.5 to 3.0 billion tons of CO2 equivalent by 2030.
- **Coverage:** Land covered under the provisions of the Act includes:
 - Land **declared/notified as a forest** under the Indian Forest Act, 1927 or other laws.
 - **Land recorded in Government records** (records held by Revenue Department/Forest Department of the State/UT Governments etc.) **as forest**, as on or after **1980**.
 - ✓ This does not include **land which has been officially changed from forest use to use for non-forest purposes** on or before 1996.
- **Exempted Categories of Land:** Certain categories of land have been kept outside the purview of the Act (see image).
 - Further, **tree, tree plantation or reforestation** raised on lands **not explicitly covered under the Act** is allowed.
- **Addition of activities into the array of forestry activities:** Following activities have been excluded from the definition of non-forest purposes:

T.N. Godavarman Thirumulpad vs Union of India Case (1996)

- Till 1996 concerned authorities used to apply the provisions of the Act only to the forests notified under the Indian Forest Act of 1927.
- The Supreme Court judgment, in this case, expanded the definition of "forest" covered under the Act to include:
 - All areas **recorded as "forest" in any government** (Union and State) record, irrespective of ownership, recognition and classification.
 - All areas that conformed to the **"dictionary" meaning of forest**.
 - Areas are **identified as "forests"** by an expert committee constituted by the Supreme Court following the 1996 order.

- establishment of **zoos and safaris** under the Wild Life (Protection) Act, 1972, in forest areas other than **protected areas**;
- **eco-tourism facilities** included in plans of the area;
- **silvicultural operations**, including regeneration operations; and
- any other purposes specified by the Central Government.
- **Uniformity in the Assignment/leasing of forest land:** State governments now require **prior approval of the central government** before assigning of forest land by way of lease or otherwise to **government entities as well** (earlier needed for only private entities).
- **Central government have been further empowered to:**
 - **Specify terms and conditions for treating any survey**, such as reconnaissance, prospecting, investigation or exploration, including seismic survey, **as non-forest purposes**.
 - **Provide terms and conditions for exempted lands**, including **planting trees to compensate felling** of trees.
 - **Issue directions** to any government authority or organisation for implementation of the act.



Concerns regarding the Bill

- **Contrary to the spirit of FCA, 1980:** Excluding more activities for non-forest purposes may promote large-scale deforestation.
- **Invalidates SC's 1996 Judgement:** Placing **non-recorded forests** out of the **purview of the Act** leaves large areas of forests unprotected.
 - For example, the sacred forest Mangar Bani in Haryana is unrecognised.
- **Dilutes Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights Act), 2006:** Exemptions to forest lands are provided without consent or clearance by any authorities such as the **Gram Sabha**.
- **Compromises Federalism:** The state government needs to take prior approval from the Central government for assigning forest land on lease to government authorities.
- **Threatens Ecologically Fragile Areas:** Blanket exemptions across international borders can threaten biodiversity in most ecologically fragile areas, such as the Northeast.
- **Plantations vs Natural forests:** Plantations cannot substitute for the large gamut of ecological services offered by natural forests.

Conclusion

The Amendment Act aims to promote the conservation of forests and fulfil India's international commitments. A comprehensive survey of the extent of all forest land in the country can be conducted to address the concerns. Further, any diversion of forest land should be done to protect the ecological integrity of the region and ensure sustainable development.

Scan the QR code to know more about **Forest Conservation**.

Weekly Focus #45: Conserving the Forests: Save Today, Survive Tomorrow




5.5. GRADED RESPONSE ACTION PLAN (GRAP)

Why in the news?

Recently, Commission for Air Quality Management in NCR & Adjoining Areas (CAQM) announced a revision in the existing GRAP to abate air pollution in the region.

About Graded Response Action Plan

- GRAP is an **emergency response mechanism** based on Delhi's Air Quality Index level.
 - It brings together all stakeholders to respond to deteriorating air quality in **Delhi-NCR**.
- In pursuant to the **Supreme Court's order of 2016** in the matter of **M. C. Mehta vs Union of India** regarding air quality in the **National Capital Region of Delhi**, a Graded Response Action Plan was prepared.
- The **GRAP** was first notified under **the Environment (Protection) Act of 1986 in January 2017** by the Ministry of Environment, Forest, and Climate Change.
 - According to the notification, implementing the GRAP fell on the now-dissolved Environment Pollution (Prevention and Control) Authority for the NCR.
 - ✓ From **2021 onwards**, the **GRAP is being implemented by the CAQM**.
- Since October 2022, **GRAP has been enforced based on the AQI**.
 - AQI includes **pollutants-PM10, PM2.5, NO₂, Ozone, SO₂, CO, NH₃ and lead (Pb)**.
 - Older version of the GRAP** was enforced based only on the concentration of **PM2.5 and PM10**.
- The GRAP for the NCR has been classified under **four different stages of adverse air quality in Delhi**. (Shown in Table)



Commission for Air Quality Management in NCR & Adjoining Areas (CAQM)

Genesis: First in 2020 and later given **statutory body** status through Commission for Air Quality Management in **National Capital Region and Adjoining Areas Act, 2021**.

Mandate: Improve **coordination, research, identification and resolution** of problems surrounding the air quality index.

Sub-Committees: The commission is required to form sub-committees on **Monitoring and identification, safeguarding and enforcement, and research and development**.

Significance of GRAP

- Creating a **step-by-step plan** for the entire Delhi-NCR region
- Getting on board several agencies** such as all pollution control boards, industrial area authorities, etc
- Fixes **accountability and Deadlines**
- Pro-active policy formulation** such as bringing BS-VI fuel to Delhi before deadline.
- Help in **controlling air pollution** in NCR especially in winter
- Citizen's Charter for active participation**

Revised Graded Response Action Plan

Stages	Delhi AQI	Actions
Stage I - 'Poor' Air Quality	201-300	<ul style="list-style-type: none"> Strictly enforce NGT / SC's order on over aged diesel / petrol vehicles and as per extant statutes. Ensure hotels, restaurants and open eateries use only electricity / clean fuel gasbased appliances (Shifted from Stage-II to Stage I) New Additions: <ul style="list-style-type: none"> Citizen charter: Prefer hybrid vehicles or EVs to control vehicular pollution. Do not drive/ply end of life/ 10/15 years old Diesel/Petrol vehicles.
Stage II - 'Very Poor' Air Quality	301-400	<ul style="list-style-type: none"> Schedule for regulated operations of DG sets across all sectors in the NCR including Industrial, Commercial, Residential and Office establishments etc. New Additions: <ul style="list-style-type: none"> Ensure focussed and targeted action on predominant sector(s) contributing to adverse air quality in all identified hotspots in NCR.
Stage III – 'Severe' Air Quality	401-450	<ul style="list-style-type: none"> NCR State Governments. / GNCTD Action: To impose strict restrictions on plying of BS III petrol and BS IV diesel LMVs (4 wheelers). New Additions: <ul style="list-style-type: none"> NCR State Governments. / GNCTD may take a decision on discontinuing physical classes in schools for children up to Class V.
Stage IV – 'Severe +' Air Quality	450+	<ul style="list-style-type: none"> New Additions: <ul style="list-style-type: none"> Do not permit LCVs registered outside Delhi, other than EVs / CNG / BS-VI diesel, except those carrying essential commodities / providing essential services. NCR State Governments/GNCTD may take a decision on discontinuing physical classes even for classes VI – IX, class XI and conduct lessons in an online mode.

Other Key Features

- Time of enforcement:** The revised GRAP to come into force w.e.f. 01.10.2023 in the entire NCR.
- Can be invoked at least three days in advance:** Based on the dynamic model and weather/ meteorological forecast by IMD / IITM on a day-to-day basis.
 - Actions under Stages II, III and IV of the GRAP shall be invoked at least three days before the AQI reaches that stage's projected levels.
- Continued Restrictive Actions:** For example, restrictive actions under the Stage III category, whenever invoked, shall be in addition to those under Stage I and II, respectively and so on.
- Additional Measures:** CAQM may decide upon **additional measures** and exceptions to the schedule of the GRAP under different air pollution categories, i.e., Stages I to IV, as per the prevalent AQI and weather forecast.

Conclusion

The 5th Annual World Air Quality Report released by IQAir reported that Delhi was ranked fourth in the world's most polluted cities. A graded Response Action Plan (GRAP) is the right step to curb NCR air pollution and reduce its negative impact on health.

5.6. PLASTIC POLLUTION

Why in the news?

Prime Minister has called on G-20 nations to work constructively for an **effective international legally-binding instrument to end plastic pollution**.

More on News

- As per the **2023 Plastic Overshoot Day Report** released by Swiss-based research consultancy **Earth Action (EA)**:



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- **3.4 Million tonnes** of plastic waste per year (as per Central Pollution Control Board).
- **12.3%** plastic waste recycled in India (as per Centre for Science and Environment).
- **98.55%** of generated waste being mismanaged in India (as per Earth Action).

- On **July 28, 2023**, the **Earth saw its first Plastic Overshoot Day**.
- India saw its Plastic Overshoot Day on **6th January 2023**.
- India is **among the 12 countries responsible for 52% of the world's mismanaged plastic waste**.
- **Overshoot Day** is the day when the **generation of plastic waste exceeds the capacity of waste management**, leading to environmental pollution.
 - It is **based on the country's Mismanaged Waste Index (MWI)**, i.e., the mismanaged and total waste ratio.

Impact of Plastic pollution	Challenges in Curbing plastic pollution
<ul style="list-style-type: none"> ● Bisphenols and phthalates releasing into air from burning of plastics. ● Micro plastics entering the marine & human leading to serious ailments. ● Plastic nets entangles with the marine lives. ● Degradation of the earth's land surfaces due to dangerous chemicals from plastic. 	<ul style="list-style-type: none"> ● Weak waste management systems: Lagging to meet the growing needs. ● Insufficient data and reporting: as the products are scattered into diverse sectors. ● Use of Single-Use Plastics which has short lifespan and widespread use. ● Poor implementation of policies: Like Plastic Waste Management Amendment Rules, 2021. ● Consumer's behaviour: which are currently aligned with the usage of plastic disposables. ● Lack of a suitable alternative: which are either too costly or difficult to produce in mass.

Initiatives to curb Plastic Pollution

- **Plastic Waste Management (Amendment) Rules, 2021**
 - Prohibited the manufacture, import, stocking, distribution, sale and use of **single-use plastics**.
 - The thickness of plastic carry bags increased from 50 to 75 microns from 30th September 2021 and to 120 microns with effect from 31st December 2022.
 - **Extended Producer Responsibility guidelines** made applicable to plastic producers.
- **Plastic Waste Management (Amendment) Rules, 2022:** To strengthen the circular economy of plastic packaging waste and development of recycling infrastructure for plastic packaging waste.
- **Private sector collaborations:** India Plastics Pact (IPP), Un-Plastic Collective (UPC) etc.
- **UNEA's Resolution to "End Plastic Pollution."**
 - 175 countries have endorsed the UN Environment Assembly (UNEA-5) resolution in Nairobi to End Plastic Pollution and **forge an international legally binding agreement by 2024**.
 - Countries **will be expected to develop, implement and update national action plans**.

Conclusion

There is a need for multiple steps like **incentivising Recycling, creating awareness, stricter implementation of rules, strengthening the Pollution Control Board**, etc., to address the growing issue of Plastic Pollution in the country.

Also, with a focus on resource efficiency and recovery, **implementing the circular economy** can lead to materials constantly flowing around a 'closed loop' system rather than being used once and then discarded.

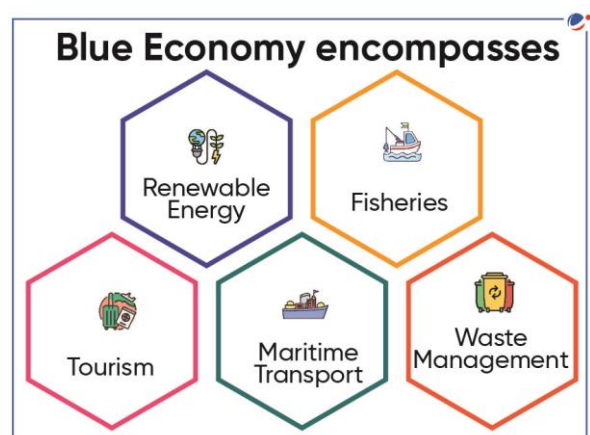
5.7. BLUE ECONOMY

Why in the news?

Recently a G20 concluded with adopting a series of "**Chennai High-Level Principles**" for a **sustainable and resilient blue economy**.

More on news

- The Chennai High-Level Principles are a set of principles which majorly call for:
 - Establish and Implement Blue Economy Monitoring and Evaluation Mechanisms
 - Enhance Ocean Finance
 - Promote using Marine Spatial Planning.



- Address Marine Pollution and Reverse Biodiversity Loss
- Recognise and Protect Indigenous and Traditional Knowledge

About Blue Economy

- It refers to **sustainable use of ocean resources for economic growth**, improved livelihood and jobs, and ocean ecosystem health (according to World Bank).
- **SDG 14:** Conserve and sustainably use the oceans, seas and marine resources.
- **Significance of Blue Economy to India:**
 - **Estimated Size of the Blue Economy in India:** about **4% of GDP**.
 - **Unique Maritime Position:** 7517 km long coastline and has 12 major ports and 187 non-major ports.
 - ✓ India's Exclusive Economic Zone is over two million square kilometres.
 - **Provide Value addition to existing sectors:** like in trade, in shipping, in deep-sea minerals, aquaculture and fisheries and marine-related technologies.
 - **Other benefits like** job creation, food security, ensures livelihood, renewable energy etc

Challenges to Achieve Blue Economy

- **Lack of specific organisational framework in India:** Relating to granting permissions, leasing, evaluating and monitoring offshore activities.
- **Lack of comprehensive legislation** for Blue Economy (draft policy framework on India's Blue Economy was prepared Ministry of Earth Sciences in 2021).
- **Measurement Challenges:** Existing economic classifications struggle to distinguish ocean-based activities due to limitations in the System of National Accounts (NAS).
- **Other challenges** include Climate Change, overfishing, marine plastic pollution, etc.

Way Forward

- **To Set up a Nodal Agency:** which would be responsible for achieving integration between various sectors of the Blue Economy.
- **To commence a periodical study:** of the ocean floor on various parameters need to be done to explore the minerals better.
- **Formulate a new National Map and Data Policy:** To balance the increased requirement of data security and transparency with respect to the offshore areas and the EEZ and Continental Shelf.
- **Use of Technology:** to reduce pollution at sea and unsustainable usage of resources.
- **Encourage private investments:** in Industries such as aquaculture, marine biotechnology, ocean energy etc.


5.8. RESOURCE EFFICIENCY CIRCULAR ECONOMY INDUSTRY COALITION (RECEIC)

Why in the news?

Recently, RECEIC was launched at the **G20 4th Environment and Climate Sustainability Working Group (ECSWG) meeting**.

About RECEIC

- It is an **industry-driven initiative**.
- **About 39 companies** headquartered in 11 countries have joined the coalition as its **founding members**.
- It is envisaged to **accelerate the implementation** of
 - **The 2030 Agenda for Sustainable Development** and its **Sustainable Development Goals**.
 - Climate Goals under the **Paris Agreement**.



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- **Tripling** of **global resource consumption** since 1970.
- **Only 7.2%** of the **global economy** is **circular**.
- **Only 20%** of **goods** are **recycled** in India.
- **India is 3rd** **highest emitter of greenhouse gases** and accounts for **9.2%** of total world emissions.

- Goals and targets under the **Kunming Montreal Global Biodiversity Framework**.
- **Kigali Amendments, Resource Efficiency Dialogue Roadmap** and other relevant international goals.
- The coalition is structured around the **three guiding pillars**:
- **Partnerships for Impact**:
 - **Showcasing** success stories from the **ground level**.
 - **The utilisation of waste materials** generated by one industry as raw materials in another.
 - **Enabling cooperation across value chains**. For instance, programs to involve **MSMEs and companies in the unorganised sector**.
- **Enhancing Capabilities and Technology Collaborations**:
 - **Dialogues** to identify technology and innovation gaps.
 - Identify **high-impact use cases** for technological innovation, such as Plastic Industry.
 - **Technology interventions** to enhance sustainability across the **6 Rs of circularity**-redesign, reduce, reuse, remanufacture, repair and recycle.
- **Investments for Scale**:
 - Mobilising **concessional finance** for circular economy projects by sharing investment **best practices**.



5.9. IMO STRATEGY ON REDUCTION OF GREENHOUSE (GHG) EMISSIONS FROM SHIPS 2023

Why in the news?

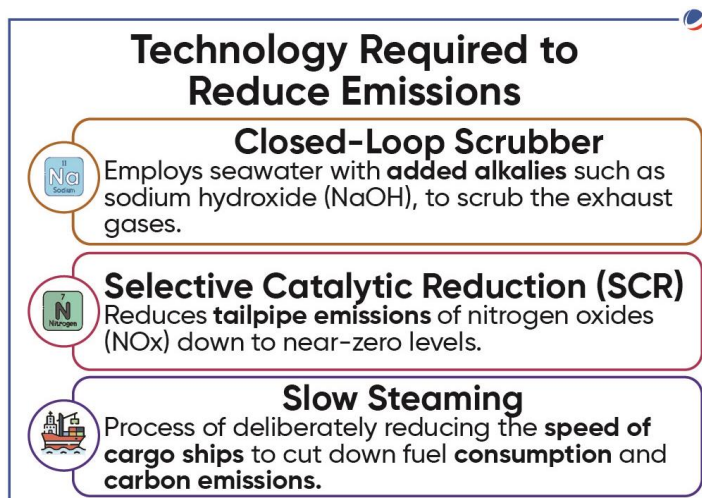
International Maritime Organization (IMO) has adopted a Strategy on the Reduction of GHG Emissions from Ships.

More on news

- **Adopted** by the **Marine Environment Protection Committee (MEPC 80)**, an important committee of IMO.
- **GHG by Shipping Industry**: Accounts for 2.89% of anthropogenic GHG emissions.
 - Includes carbon dioxide (CO₂), black carbon (BC), nitrogen oxides (NO_x) and nitrous oxide (N₂O).

Key Provisions of Strategy

- **Reduction of Emissions**:
 - Reduce **CO₂ emissions by at least 40% by 2030**, compared to 2008.
 - Peak **GHG emissions from international shipping** as soon as possible and reach **net-zero GHG emissions by or around 2050**.
- **Improving the energy efficiency** of new ships.
- **Technology adoption**: Uptake of technologies to reduce:
 - at least 5%, striving for 10%, of the **energy used** by international shipping by 2030.
- **Periodic Review: Five-yearly review**, first review due in 2028.



Challenges in Controlling Emissions from Ships

- **Compliance with Rules and Regulations:** Strategies for emissions reduction are **not legally binding**.
- **High cost of Retrofitting:** Ships' engines need to be **updated with the latest decarbonisation technologies** (refer to image).
- **Transition to Conventional fuel:** Due to the Higher price of low-carbon **fuel alternatives** (such as hydrogen).
- **Other challenges:** like **need for more workforce/resources/** effective monitoring and cooperation etc.

Other Efforts for Reducing Emissions from Ships

India

- **Ministry of Ports, Shipping & Waterways** has released 'Harit Sagar' Green Port Guidelines 2023.
- **India has been selected as the first country under IMO's Green Voyage 2050 project.**
- **Maritime Vision 2030** provides for a sustainable maritime sector.
- **Certain Ports** to be developed as **Hydrogen Hubs (capable of handling, storing, and generation of green hydrogen by 2030).**
- Centre has set **2030 as target for India to become global hub for green shipping.**
- **Ministry of Ports, Shipping and Waterways** has launched the **Green Tug Transition Programme (GTTP).**

Global

- **Clydebank Declaration for Green Shipping Corridors** (India is not signatory).
- **Financing Sustainable Maritime Transport (FIN-SMART) Roundtable initiative (IMO-EBRD-World Bank)**
- **Global Maritime Technologies Cooperation Centres (MTCC) Network (GMN)** (European Union and IMO)
- **IMO CARES (Coordinated Actions to Reduce Emissions from Shipping) Foundation Project** (2022-2024)

Conclusion

Emissions from the shipping industry can be further reduced by adopting **innovative decarbonisation solutions, ensuring global cooperation, promoting Market-based measures (emissions trading systems), supporting developing nations (technology transfer), and improving Infrastructure (pipelines, storage facilities).**

5.10. WIND ENERGY

Why in the news?


Standing Committee on Energy recently presented the Report on the 'Evaluation of Wind Energy in India'.

About Wind Energy

- **Wind Energy classification based on location**
 - **Onshore wind energy:** Wind turbines are placed in farmland, coastal areas near the ocean's edge, or at high altitudes.
 - **Offshore wind energy:** Wind turbines are situated out to sea or in large bodies of water.
- **Advantages of Wind Energy**
 - **Clean and renewable energy source:** Help achieve **Panchamrit Commitments** of COP.
 - **Low cost of maintenance**
 - **Effective development of hybrid systems:** World's largest wind-solar hybrid power plant is at Jaisalmer, Rajasthan.
 - **Cost-effective:** Land-based, utility-scale wind turbines provide one of the lowest-priced energy sources available today.
 - **Employment generation:** According to Global Wind Energy Council (GWEC), India can create over a million jobs through greater emphasis on wind energy.
 - **Other benefits:** self-reliance in energy, set up in remote areas (coastal areas, islands etc.)

Challenges in the growth of Wind Energy in India

- **Geographic Concentration:** Wind resource is highly site-specific, and most wind-rich sites (Gujarat, AP, MP, etc.) have already been exploited to a large extent.



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- **4th** position of India in terms of wind power installed capacity after China, the USA and Germany.
- **10.3%** share of wind energy in energy basket.
- **43.7GW** cumulative installed capacity of wind power.

- **Pending approval of Draft Policy Repowering of the Wind Power Projects, 2022:** After feedback from stakeholders, the policy is still pending final approval with the government.
- **High tariff:** Compared to other renewable sources, especially solar energy, wind energy has higher tariffs.
- **Impact on wildlife:** Wind farms affect wild animals both directly, via collisions, as well as indirectly due to noise pollution, habitat loss, and reduced survival or reproduction.
- **Some Challenges Specific to Offshore Wind Farms**
 - **Unexploited offshore wind energy capacity:** No offshore wind project has been established in the country. This is despite having a dedicated National Offshore Wind Energy Policy.
 - **Protecting the export cables:** Damages due to anchors, fishing gear, dredging, and more.
 - **Design, manufacture and operation of offshore wind farm:** Issues such as corrosion, fatigue, erosion, lightning strikes, etc.
 - **Impacting locals:** Offshore wind farms built within view of the coastline may be unpopular among residents, especially fishing communities, and may affect tourism.

Steps taken by Government

- **National Offshore Wind Energy Policy (2015):** Providing the basic framework for developing the offshore wind sector.
- **Meso-scale map of Wind potential: National Institute of Wind Energy (NIWE)** has prepared a mesoscale map and published wind potential maps at 50m, 80m, 100m and 120m above ground level.
 - Most of this potential exists in **eight States** namely Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and Telangana.
- **National Wind-Solar Hybrid Policy (2018):** The policy was introduced to provide a framework for the promotion of large grid-connected wind-solar PV hybrid systems.
- **New Guideline issued:** Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Wind Power Projects and issued under Electricity Act, 2003.
- **Incentive Schemes: Generation Based Incentive (GBI)** is being provided to the wind projects commissioned on or before 31 March 2017.
- **Waiver of Inter-State Transmission System (ISTS) charges:** This waiver is for the inter-State sale of solar and wind power for projects to be commissioned by 30th June 2025.

Policy for Repowering of Wind Power Projects 2016

- **Objective:** To promote the optimum utilisation of wind energy resources by creating a facilitative framework for repowering.
- **Incentive:** Additional interest rate rebate of **0.25% over** and above the interest rate rebates available to the new wind projects being financed by IREDA.
- **Implementation Arrangements:** State Nodal Agency/Organisation involved in promoting wind energy in the State.
- **Financial Outlay:** **No additional** financial liability is to be met by the MNRE for implementing the Repowering Policy.

Way forward

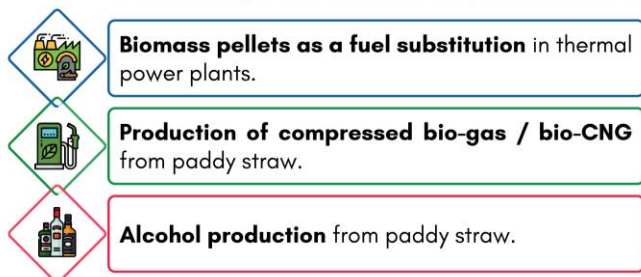
- **Recommendation by committee**
 - **New and Efficient Turbines:** Old and less efficient wind turbines should be retired and replaced with technologically advanced and more efficient wind turbines.
 - **Viability Gap Funding (VGF) Scheme:** Need to finalise the VGF scheme for offshore wind energy projects. **Draft Policy Repowering of the Wind Power Projects, 2022:** Ministry should approve the revised policy as early as possible and ensure its timely implementation to achieve the objectives in this regard.
 - **Offshore wind:** Details regarding the bidding trajectory for installing 37 GW capacity of Off-shore Wind Energy by 2030 need to be published.
- **Other Suggestions**
 - **Introducing Tax breaks:** Need to implement industry-friendly breaks on the sale of power.
 - **Robust policy framework:** To improve demand for wind turbines and incentives manufacturers to restore supply to the domestic market.
 - **Specific to Offshore Wind Farm**
 - ✓ **Use of larger turbine blades:** Significant improvements in efficiency and reductions in cost have been achieved through the use of larger turbine blades with the next generation of composite blade structures.

5.11. NEWS IN SHORTS

5.11.1. CROP RESIDUE MANAGEMENT GUIDELINES

- **Ministry of Agriculture & Farmers Welfare** revised Crop Residue Management Guidelines.
- Guidelines will **enable efficient ex-situ management of paddy straw** generated in Punjab, Haryana, UP and Delhi.
 - Burning of crop residues **results in the emission of gases** such as CH₄, CO, N₂O and NO_x, **particulate matter, loss of plant nutrients** and adversely affects the environment and soil health.
- **Key features of guidelines**
 - **Techno-commercial pilot projects** for Paddy Straw Supply Chain **will be established** between Beneficiary/Aggregator (Farmers, rural entrepreneurs, FPOs etc.) and Industries.
 - Government shall provide **financial assistance on the capital cost of machinery and equipment**.
 - Central and State Governments jointly **will provide financial support of 65% of the project cost**.
 - ✓ **The industry will contribute 25%**, and **Farmers, rural entrepreneurs, FPOs etc.**, will contribute **10%**.
 - **State Governments shall approve these projects** through a project sanctioning committee.
 - **Financial assistance will be extended for machines and equipment** such as Higher HP Tractor, Cutters, Tedder etc.

Ex-situ management of Crop Residue

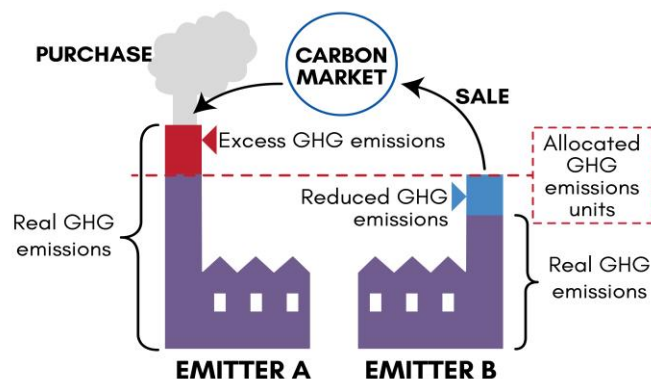


5.11.2. CARBON CREDIT TRADING SCHEME (CCTS)

- **The Ministry of Power notified Carbon Credit Trading Scheme (CCCTS).**
- CCTS 2023 sets up a carbon credit trading market as the country aims to decarbonise the economy and has committed to cutting **emissions by 45 per cent from 2005 levels by 2030**.
 - **CCTS was first announced under Energy Conservation Act 2001, amended by Energy Conservation (Amendment) Bill 2022.**

- **Key highlights of CCTS**
 - Set up **National Steering Committee (NSC), aka Indian Carbon Market Governing Board (ICMGB)**, headed by power and environment secretaries, to **govern and oversee the functions of the Indian Carbon Market (ICM)**.
 - **The Bureau of Energy Efficiency (BEE) would be the administrator** for the carbon market and **set targets for reduction in emissions, issue carbon credit certificates**, and accredit carbon verification agencies.
 - **Central Electricity Regulatory Commission (CERC) will regulate** all trading activities.
 - **Grid Controller of India** will be the registry of ICM.
- Carbon markets are a **tool for putting a price on carbon emissions**— they establish **trading systems where carbon credits or allowances can be bought and sold**.
 - A carbon credit is a **tradable permit that equals one tonne of carbon dioxide removed, reduced, or sequestered from the atmosphere**.

Mechanism of Carbon Market



5.11.3. INDIA CLIMATE ENERGY DASHBOARD (ICED) 3.0

- NITI Aayog released the **ICED 3.0**.
- **About ICED:**
 - One-stop platform for **near real-time data** on the **energy sector, climate, and related economic datasets** based on government-published sources.
 - Developed as a **user-friendly platform**, it enables users to **freely access and analyse datasets** using an analytical engine.
 - Facilitates **insights and enhances understanding** about the energy and climate sectors while identifying the key challenges.
 - Immensely useful in **monitoring the progress** of India's clean energy transition journey.

5.11.4. WMO OZONE AND ULTRAVIOLET (UV) BULLETIN

- The bulletin highlighting the **steady recovery of the Ozone layer** was published by World Meteorological Organisation (WMO) after a gap of seven years.
- **Key highlights**
 - **Montreal Protocol and its amendments successfully eliminated** up to 99% of Ozone Depleting Substances (ODS).
 - ✓ ODS are **long-lived man-made chemicals which destroy the protective ozone layer**
 - **Hunga Tonga-Hunga Ha'apai volcanic eruption** (located under the ocean surface in the western Pacific) in January 2022 **has increased the water vapour content of the stratosphere by 5% to 10%**.
 - ✓ Nearly **90% of Earth's ozone resides in the stratosphere.**

5.11.5. CLIMATE CHANGE IMPACT ON ANIMAL COMMUNICATION

- Climate change is **changing chemical communication in marine, freshwater, and land-based species.**
 - **Chemical communication via infochemicals** plays a pivotal role in ecological interactions, allowing organisms to sense their environment, and locate predators, food, habitats, or mates.
 - ✓ **Infochemicals** are chemicals including **hormones, pheromones and allelochemicals.**
 - ✓ **Sharks use these chemicals to sniff out their prey over large distances.**
 - ✓ **Some plant species release info chemicals to attract pollinators** but repel those that may cause harm.
- **As temperatures rise** due to climate change, the **production and efficacy of infochemicals are being affected.**
 - **Ant species struggle to follow trails** as their vital pheromones decay in warmer temperatures.
 - Coral reefs experience disruptions, with **damsel fish losing their ability to recognize predators.**

5.11.6. FLORA AND FAUNA DATABASE

- India **added 664 animal species** to its fauna database and **339 taxa** to its flora.
- The list by **Ministry for Environment, Forest and Climate Change** also contains new records (species found in India for the first time) of animals and new distributional records of flora.
 - Faunal discoveries are compiled by the **Zoological Survey of India (ZSI)** and the Floral by **Botanical Survey of India (BSI).**

- **Maximum discoveries** of both flora and fauna **were made in Kerala.**
- **Key Fauna discovered**
 - *Miniopterus phillipsi*, a **long-fingered bat**, and *Glischropus meghalayanus*, a **bamboo-dwelling bat from Meghalaya.**
 - **The Sela macaque (*Macaca selai*)** was discovered in **Arunachal Pradesh (AP)** and named after Sela Pass.
 - *Macaca leucogenys*, a **white-cheeked macaque** (found in Modog, Tibet) sighted in India for the first time in **AP.**
 - *Ficedula zanthopygia* is a **yellow-rumped flycatcher** (known from Mongolia, China, Korea and Japan) **found in India on Narcondam Island of Andaman.**
- **Key flora discovered**
 - *Calanthe lamellosa*, an orchid species earlier recorded in China and Myanmar, is found in India in the **Japfu mountain range in Kohima, Nagaland.**
 - *Nandadevia Pusalkar*, in the foothills and warm outer valleys of **Uttarakhand Himalayas.**
 - *Nilgiriella Pusalkar* is endemic to southern **Western Ghats** and distributed in Karnataka, Kerala and Tamil Nadu.

About ZSI and BSI

- **ZSI was established in 1916** and traces its origin to **Zoological Section of the Indian Museum at Calcutta in 1875.** It undertakes **exploring, naming, describing, classifying and documenting animals from all over India.**
- **BSI was established in 1890** with the objectives of **exploring the plant resources of the country** and identifying **plant species with economic virtue.**

5.11.7. GAMBUSIA AFFINIS (G AFFINIS)

- **Andhra Pradesh released Gambusia fish into the state's water bodies** to combat mosquito-borne diseases like malaria and dengue.
- **Gambusia affinis is native to the southeastern United States.**
 - Fish, also known as **mosquitofish**, is widely used as a **biological agent for controlling mosquito larvae.**
- **Multiple countries, including India, have listed Gambusia as invasive species.**
 - Fish has a **high breeding capacity.**
 - They are **known to eat the eggs of competing fishes and frog tadpoles.**

5.11.8. CRYPTOBIOSIS

- Scientists brought **microscopic worms back to life** after they were **frozen in the Siberian permafrost for 46,000 years by entering in to state called cryptobiosis.**

- **About Cryptobiosis**
 - **Cryptobiosis** is the **state of an organism** when it shows **no visible signs of life** and when its **metabolic activity becomes hardly measurable** or comes reversibly to a standstill.
 - In this state, **organisms can survive the complete absence of water and oxygen and withstand extreme conditions.**
 - Since metabolism is a **defining characteristic of life**, cryptobiosis can be termed as a **temporary death** of an organism.

5.11.9. BAHU BALLI CATTLE FENCE (BAMBOO FENCE)

- **Ministry of Road Transport & Highways** is planning to implement the Bahu Balli Cattle Fence along highways in India.
 - **It will prevent cattle** from crossing the road and causing dangerous accidents.
- **About Bahu Balli Cattle Fence**
 - **Bamboo is treated with creosote oil** and coated with recycled **High-Density Poly Ethylene (HDPE)**, making it a **stronger alternative to steel.**
 - Fence has a **fire rating of Class 1**, ensuring safety and addressing **environmental concerns.**

5.11.10. SALSOLA OPPOSITIFOLIA DESFONTANIA

- **It is a new species**, discovered recently, belonging to the **Amaranthaceae** family.
- It is a **perennial shrub that grows in saline, arid, to semi-arid environments** of Gujarat's Kutch district (Khadir Bet and Bela region).
 - It is **prostrate** (woody plant) and, unlike other species of Salsola, **does not have any hairs.**
- **Other species of the Salsola genus discovered in India:** Salsola kali, Salsola hatmanii, Salsola monopectera, Caroxylon imbricatum (Salsola baryosma) and Halogeton glomeratus (Salsola glomerata).
- Plants of the Salsola genus **have salty juice stored in their leaves**, are **used in manufacturing soaps** and are **rich in pharmacological properties.**

5.11.11. HOLOBIONTS

- **Animals and plants** are **no longer heralded as autonomous entities**, but rather as biomolecular networks composed of **the host plus its associated microbes, i.e., "holobionts."**
 - In short, **it is a host, and all its microbes living as a unit in symbiosis.**

- E.g., **Bacteria present in the roots of legumes** benefit from the sugars produced by the plant and favour plant growth by supplying nitrogen.
- As such, their **collective genomes forge a "hologenome,"**.

5.11.12. GLOBAL ASSESSMENT REPORT ON DISASTER RISK REDUCTION (DRR) 2023

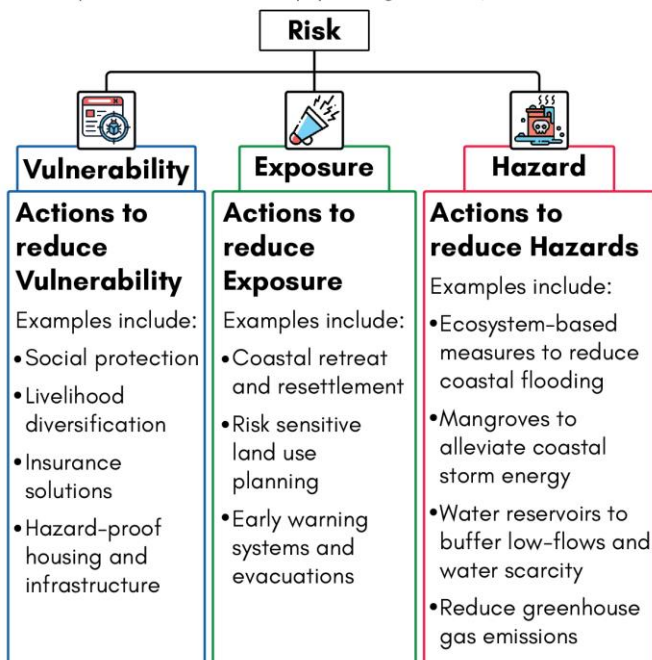
- **United Nations Office for Disaster Risk Reduction (UNDRR)** released **Global Assessment Report on DRR 2023** (GAR- DRR 2023)
- **Theme:** "Mapping Resilience for Sustainable Development Goals".
- **Key highlights**
 - The number of recorded disasters has **increased fivefold over the past 50 years.**
 - **Eighty per cent increase in the risk of crop failure and hunger** in sub-Saharan Africa and Southeast Asia due to drought.
 - **Global best practices for resilience include** India's **Heat action plans** in cities to deal with heatwaves, Sahel's **Great Green Wall** to counteract desertification etc.
- **Resilience** is the **ability of a system, community, or society exposed to hazards to resist, absorb, accommodate, adapt to, transform, and recover from the effects of a hazard in a timely and efficient manner.**
 - **Societal well-being (people), ecological or biosphere well-being (planet), and economic well-being (prosperity)** are interlinked in fostering resilience.
- **DRR** aims to reduce the damage caused by natural hazards like earthquakes, floods, droughts, and cyclones, through an ethic of prevention.
- **Recommendations**
 - **Investing earlier in resilience and adaptation** can avoid the costs of hazard impacts.
 - Building resilience requires **investment and adaptation from both the public and private sectors.**
- UNDRR (HQ: Geneva) was established in 1999 and is the **custodian of the Sendai Framework for DRR 2015-2030.**

Risk Reduction through Adaptation



Limits to Adaption

E.g. physical, ecological, technological, economic, political, institutional, psychological, and/or socio-cultural



5.11.13. SCHEME FOR EXPANSION AND MODERNIZATION OF FIRE SERVICES IN THE STATES

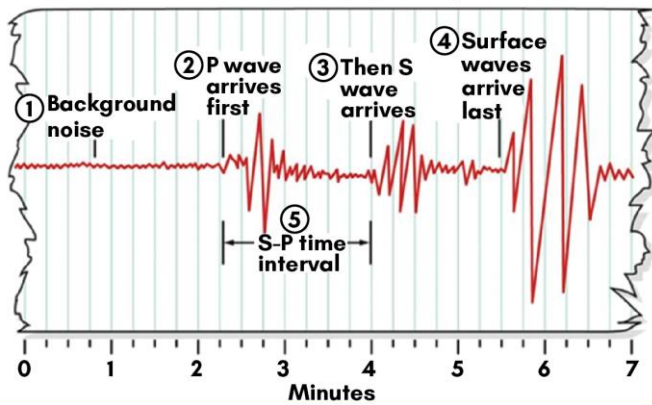
- It was launched, by the Union Ministry of Home Affairs, from the earmarked allocation of the Preparedness and Capacity Building Funding Window under the National Disaster Response Fund (NDRF).
 - NDRF is a fund constituted under Disaster Management Act 2005.
 - India's approach towards disaster management has shifted from relief-centric and reactionary to Disaster Risk Reduction, focusing on early warning systems, prevention, mitigation and preparedness at the grassroots level.
- The scheme is based on recommendations of the 15th Finance Commission.
 - It allows an allocation of 12.5 per cent of each of the NDRF and State Disaster Response Fund (SDRF) for the Funding Window of Preparedness and Capacity Building.
- Features of schemes :
 - **Objective:** to expand and modernise Fire Services in the States.
 - Of the total NDRF corpus, Rs. 5,000 Crore was earmarked for priority "Expanding and Modernization of Fire Services".

- ✓ Rs. 500 crore has been kept for incentivising the States on the basis of their legal and infrastructure-based reforms.
- To avail funds under the Scheme, the respective State Governments must provide 25% of the total project cost from their budgetary resources.
 - ✓ North-Eastern and Himalayan (NEH) States shall have to contribute 10%

5.11.14. EARTHQUAKE SWARM

- 2,200 earthquakes were observed in Iceland in 24 hours.
- Iceland is Europe's largest and most active volcanic region due to its presence on the Mid-Atlantic Ridge.
 - The diverging plate movements in the ridge region are the main cause of these swarms of earthquakes and also lead to the creation of Hotspots through which a vertical plume of hot molten rock erupts from the mantle.
 - Mount Fagradalsfjall and Eyjafjallajokull volcano are two major earthquake zones in Iceland.
- Earthquakes and Earthquake Swarm:
 - Any sudden shaking of the ground caused by the passage of seismic waves (Body Waves (P and S) and Surface Waves (Rayleigh and Love) through Earth's rocks (refer infographic).
 - ✓ S-Waves can only travel through solids.
 - Earthquake swarms are sequences of many earthquakes that occur in a relatively short period without a specific foreshock, mainshock or after Shocks.
 - ✓ Earthquake swarms can last for hours, days, or even weeks.
 - ✓ They mostly consist of low to moderate-magnitude events, although larger quakes can occur within the swarm sequence.
 - ✓ They often occur at relatively shallow depths within the Earth's crust.
 - ✓ They usually occur along existing fault systems which experience continuous stress and strain accumulation.

Mechanism of Earthquake



① The earthquake happens at time 0.	② The first P waves arrive a little over 2 minutes later.	③ The first S waves arrive 4 minutes later.
④ The surface waves, which travel the long way around Earth's surface, arrive last.		⑤ The S-P interval, here slightly less than 2 minutes, tells the seismologist how far away the earthquake was.

5.11.15. SHELF CLOUD

- A shelf cloud was recently witnessed in Uttarakhand.
- Shelf clouds - **also known as Arcus clouds** - are often associated with powerful storm systems and are often reported as wall clouds, funnel clouds, or rotation.
- These clouds are **sometimes seen beneath cumulonimbus clouds**, the dense, towering vertical clouds that cause intense rain.
- It is formed when a **cold downdraft from a cumulonimbus cloud reaches the ground**; the cold air may spread rapidly along the ground, pushing existing warm moist air upwards.
 - As this air rises, **water vapour condenses into the patterns associated with shelf clouds.**

Shelf Clouds



5.11.16. KAAS PLATEAU

- Kaas Plateau or Pathar, also known as **Valley of Flowers**, is in **Satara District, Maharashtra**. It falls in the biosphere of **the Western Ghats**.

- Its name is derived from the **Kaasa tree**, botanically known as **Elaeocarpus glandulosus (rudraksha family)**.
- It is made of **igneous rocks**.
- This plateau is **inscribed in the UNESCO World Natural Heritage Site list under the Western Ghats**.

5.11.17. UREILITE

- A study suggested that the **Dhala crater** in Madhya Pradesh resulted from the **collision of a meteorite**, known as Ureilite, some 2500-1700 million years ago.
 - It is **Asia's largest and the world's seventh-largest impact crater**.
 - In India, **three meteor impact craters** are found. The other two are **Ramgarh in Rajasthan and Lonar in Maharashtra**.
- **Ureilites' are a rare class of primitive meteorites** that constitute a tiny fraction of meteorites on Earth.
 - They consist of **silicate rock, mostly olivine and pyroxene**, interspersed with less than 10% carbon (diamond or graphite), **metal sulphides** and a few **fine-grained silicates**.

5.11.18. ANTHROPOCENE EPOCH

- Scientists say the 'Anthropocene epoch' began in the 1950s.
- **The sediment study at Crawford Lake (Canada)** has provided **evidence of the beginning of the Anthropocene epoch**.
 - Crawford Lake was **chosen because it is meromictic** (water layers there do not mix), and its **layers of sediment preserved the annual impact of human activities** on Earth's climate.
- The Anthropocene epoch is a **proposed epoch that denotes the present geological time interval in which Earth's ecosystem has undergone radical changes due to human impact**, especially since the onset of the Industrial Revolution.
 - **Numerous phenomena** are associated with this epoch, such as **global warming, sea-level rise, ocean acidification, mass-scale soil erosion, deadly heat waves** etc.
 - The term was first **coined by Nobel Prize-winning chemist Paul Crutzen and biology professor Eugene Stoermer** in 2000.
- However, there are **disagreements over enough evidence to prove** its advent.
- **Earth's geological time scale** is divided into **five broad categories**: eons, epochs, eras, periods, epochs and ages.
 - **Officially we're in** the Phanerozoic eon, Cenozoic era, Quaternary period, Holocene epoch and Meghalayan age.

- ✓ **Meghalayan age (4200 years ago)** began with an **abrupt mega-drought** that caused the **collapse of several civilisations**.
- ✓ Geologists found proof of this event in **Meghalaya's Mawmluh Cave system**.

5.11.19. ERRATA

- Due to a typological error in Article 5.6.17 'Indian Ocean Dipole (IOD) And El-Nino' of June 2023, the correct spelling is "**La-Nina**" and complete full form ENSO is "**El Niño/La Niña Southern Oscillation (ENSO)**".

Divisions of Cenozoic Era

Era	Period	Epoch	Age/ Years Before Present	Life/Major Events
Cenozoic (From 65 million years to the present times)	Quaternary	Holocene	0 - 10,000	Modern Man
		Pleistocene	10,000-2 million	Homo Sapiens
	Tertiary	Pliocene	2-5 million	Early Human
		Miocene	5- 24 million	Ancestor Ape: Flowering Plants and Trees
		Oligocene	24-37 million	
		Eocene	37-58 Million	Anthropoid Ape
		Palaeocene	57-65 Million	Rabbits and Hare Small Mammals: Rats - Mice



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6. SOCIAL ISSUES

6.1. RIGHT-BASED APPROACH FOR DEVELOPMENT

Why in the news?

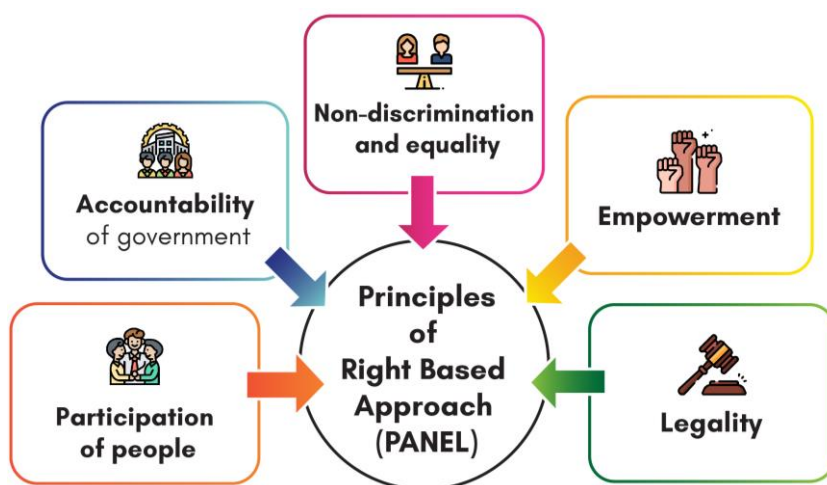
Recently, the Rajasthan government introduced 'The Rajasthan Minimum Guaranteed Income Bill, 2023'.

More about News

- Bill proposes a minimum guaranteed income in the form of a guaranteed wage or through pension.
 - The bill seeks to provide employment at both Urban and Rural levels.
 - The Bill is also in line with **Article 38(2) (to minimise inequalities) and Article 41 (Right to Work) of the Directive Principles of State Policy.**
- Similar approach was also followed by many states like Tamil Nadu, Jharkhand, Himachal Pradesh, etc during the **Covid-19 Pandemic.**
- Experts believe that such initiatives are **advocates for a Right based approach towards development.**

About Right Based Approach

- A **rights-based approach views development as the process of realizing fundamental human rights and freedoms**, thus expanding people's choices and capabilities to live the lives that they value.
- A rights-based approach **puts the poor, marginalized, vulnerable groups at the core of policy and the focus of capacity development strategies.**
- In general, **the developmental ecosystem includes Health, Education, Employment, Disability Cover, Gratuity, pension, etc.**
- India has implemented such right based approaches towards development like **MGNREGA Act, RTI Act, etc.**



Instances of Right based Approaches in India



Need of Right based approach

- **People's participation:** It recognizes that people are actors in their development, rather than passive recipients of services.
- **Inclusive development:** Preferential treatment for certain disadvantaged groups can lead to equitable development. For example the Forest Rights Act, establishes special rights of tribals over forest areas.
 - Right-based social security systems also respond better to new demographic challenges, such as ageing and changing family structures for inclusive development.
- **Accountability of Government:** A rights-based approach develops the capacity of duty-bearers to meet their obligations and encourages rights holders to claim their rights. For e.g. **Right to Information Act 2005.**
- **Poverty reduction:** 'National Multidimensional Poverty Index: A Progress Review 2023' reported that **14.96% (2019-2021) population comes under multidimensional poverty.**
 - The right-based approach can be useful for breaking the **intergenerational transmission of poverty.**

- **Act as a cushion in the time of Crisis:** For e.g. during COVID-19 Indian government was able to extend **NFSA** to other beneficiaries and increase the allotment of food grains.

Challenges in implementing Right based Approach

- **Development foregone:** The mass distribution of welfare goods also has high **costs to the public exchequer**, especially in terms of **trade-offs with long-term developmental initiatives**.
 - For example, the **cost of food subsidy** is estimated to be **Rs 2 lakh crore for the Centre** for 2023.
- **Technology constraints:** Lack of data protection legislation hinders effective utilisation of technological intervention.
- **Beneficiary may become averse:** This could be due to **cumbersome documentation** requirements during enrolment or subsequent **inclusion-exclusion errors** and **lack of grievance redressal**.

Way forward

- **Autonomy to Financial institutions:** So that invisible and **irrational expenditures** of Governments can be better monitored and channelled towards **more productive uses**.
- **Eliminate leakage:** Streamline identification measures for **better targeting of the poor** and implement sound **policy correction** is needed to plug corruption during the distribution of welfare goods.
- **Data-based policy:** **Collect** disaggregated data regarding **gender, age, ethnicity, and disability** to monitor and evaluate social protection programmes. Also, **the protection of such data is a prerequisite** for public trust.
- **Grievance redressal mechanism:** Incorporate effective complaints mechanisms that guarantee **anonymity, allow for individual and collective complaints, etc.**
- **Periodical reviews:** These will help rectify any shortcoming that is hindering the goal of the welfare scheme.

6.2. WATER, SANITATION AND HYGIENE (WASH)

Why in the news?

Recently, World Health Organization (WHO) released a report ‘**Burden of disease attributable to unsafe drinking-water, sanitation and hygiene (WASH)**’.

More on News

- WASH is a collective term for Water, Sanitation and Hygiene relating to:
 - **Access to safe drinking water**
 - **Improved sanitation facilities**
 - **Maintaining basic level of hygiene**
- **SDG 6: Clean Water and Sanitation** aims to ensure the availability and sustainable management of water and sanitation for all.
- The report stated that in 2019, the use of safe WASH services could have prevented **2.5% of all deaths** and **2.9% of all Disability-Adjusted Life years (DALYs)** globally.
- **Current Status of India, as per UNICEF**
 - The number of people defecating in the open in India has reduced significantly by an estimated 450 million people.
 - Inadequate WASH services in health facilities contributes to the high neonatal mortality rate, which is currently around 24 deaths per 1000 live births.

Challenges of WASH implementation

- **Gender Inequality:** Women are often left out when it comes to the planning or designing of WASH projects making the implementation of the project a challenge.
 - According to UN report, in India a quarter of rural households’ women and girls devote more than 50 minutes per day for collecting water.
- **Behavioural challenges:** Multiple factors such as habits, attitude, and lack of will, prevent the conversion of hygiene-related knowledge into practice.

Benefits of WASH



Preventing spread of diseases such as Neglected tropical diseases (NTDs)-trachoma, etc.



Women's Safety improves if they have a toilet at home.



Reduces economic losses as it reduces expenses on health of households and improves **Productivity of Workforce**



Boosting Tourism as implementation of WASH help to attract tourist.

- For e.g. familiarity to traditional setup makes people to resist to new hygiene facilities and ideas. For example, Toilets made under SBM were often not used.

- **Poor affordability to Hygiene products:** For example-In the remote location, not many women can afford to buy enough sanitary products such as disposable pads, tampons or menstrual cups.
- **Lack of involvement of civil society:** Most of the hygiene initiatives are implemented by nongovernmental

organizations (NGOs) but they have little role in policy/scheme formulation.

- **Exposure to unsafe drinking-water:** Central Pollution Control Board (CPCB) had reported that 276 districts in India have groundwater contaminated with fluoride, arsenic, and nitrate beyond the permissible limits.
- **Lack of information on hygiene infrastructure:** There is a lack of recent, reliable information on the condition of existing hygiene infrastructure.

Way forward

- **Behavioural Change: Nudging** was used under the SBM for changing open defecating behaviour through mass media “nudge” interventions such as the **Darwaza Band campaign**.
- **Awareness:** Households/Individuals need to be taught with the help of Information, Education, and Communication (IEC) about the benefits of WASH and its positive impacts.
- **Gender sensitive building code:** Community water and sanitation facilities should include sex segregated cubicles, closeness to the house and lighted pathways to and at facilities.
- **Community participation:** This will help to consider local factors in planning and it will help to break the **One Size Fit for All** approach.
- **Focusing Disadvantaged areas:** Areas such Left Wing affected areas often lack human resources to manage and implement the WASH strategy hence they require more human resource and financial allocations.
- **Cost-efficient investments:** Making programmes cost-efficient by following an outcome-based approach and also on the usability of social infrastructure constructed.
- **Strengthening Enforcement, Monitoring & Feedback:** Strengthening accountability mechanisms, enforcement, participatory monitoring, evaluation iterative learning through doing and closing the feedback loop by modifying responses.
- **Cross-Sectoral Collaborations:** Continue to strengthen and expand cross-sectional collaboration including protection for disability, older people, children, etc.

Major initiatives for WASH by India



Water-related

- Water Quality Management Information System (WQMIS)
- Jal Jeevan Mission (Appreciated by above WHO report)
- Namami Gange Programme



Sanitation

- Swachh Bharat Mission-Grameen (SBM-G)
- Swachh Bharat Mission-Urban (SBM-U)



Hygiene

- Promotion of Menstrual Hygiene among adolescent girls



Common

- Rural WASH Partners' Forum (RWPF)
- Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

Global Initiatives for WASH



WHO WASH Strategy, 2018-25



UNICEF Strategy for WASH 2016-2030: Its purpose is to achieve SDG-6 by 2030.



UN Sanitation and Hygiene Fund (SHF): Launched in 2020 to provide accelerated funding to countries with the heaviest disease burden.



Sanitation and Water for All (SWA): Hosted by UNICEF for global partnership of government and civil Society organizations, etc.

6.3. WORLD FOOD PROGRAMME (WFP) AND GLOBAL FOOD CRISIS

Why in the news?


This year **the World Food Programme** has received funding half of the operating requirement.

More on News


- The WFP has a presence in over 120 countries and territories **to bring life-saving food to people displaced by conflict and made destitute by disasters.**
- However, given the extent of the current global food crisis, **WFP is struggling to manage the crisis.**

Global Food Crisis and WFP

- **An acute rise in hunger:** More than 345 million people face high levels of food insecurity in 2023.
 - That is more than double the number in 2020 due to COVID-19, the Russia-Ukraine war, conflicts, economic decline, etc.
- **Lack of funds:** The number of acutely hungry people continues to increase at a pace that funding is unable to match.
 - The cost of delivering food assistance is 44 per cent more than in 2019 **because of food and fuel prices.**



About World Food Programme



Genesis: It is a joint **United Nations and the Food and Agriculture Organization (FAO)** program.
 ↳ It was founded in **December 1961** and began its activities in **1963**.

Funding: WFP is funded **by voluntary donations** from governments, corporates, and private donors.

Reports: Global Report on Food Crisis.

Other key information:





- ↳ It completely **relies on voluntary contributions for functioning.**
- ↳ It has been functioning **in India since 1963.**
- ↳ It has been **awarded the Nobel Prize for Peace 2020** for its efforts to combat hunger.

- **Logistics:** The world's hungry often live in remote, difficult-to-access areas. For example, in South Sudan areas of the country are isolated during the rainy season.
- **Climate Change and Natural Disasters:** Increasing frequency and intensity of natural disasters, exacerbated by climate change has affected WFP response capacities.

Way forward

- **Efficient Logistics Management:** Investing in advanced logistics systems, partnering with local organisations and companies, and using technology to track and optimise food delivery.
- **Empowering Local Communities:** Working with local communities and empowering them to take an active role in food security initiatives can foster sustainability and enhance the effectiveness of assistance programs.
- **Better coordination:** with other humanitarian organisations, UN agencies, and local governments can lead to more efficient resource allocation and avoid duplication of efforts.
- **Better data analysis:** Technological innovations in the area of data collection and processing to ensure that affected people's voices and perspectives are being heard and incorporated into the solutions offered by WFP.

Significance of WFP

-  **Food security and Zero Hunger under SDG 2**
-  **Two-thirds of its work is in conflict-affected countries.**
-  **WFP provides school meals to 18.3 million children across 65 countries.**
-  **Technical and development support** for emergency preparedness and response.

Other Related Information: WFP works in India

Transforming the Targeted Public Distribution System (PDS)	<ul style="list-style-type: none"> • Piloting innovative solutions such as the recent 'Annapurta', automatic grain dispensers-ATMs for rice-that are aimed at checking malpractices in the distribution system.
Fortification of government-distributed food	<ul style="list-style-type: none"> • To boost the nutritional value of the Government's Midday Meal school feeding program, WFP is pioneering the multi-micronutrient fortification of school meals.
Food insecurity mapping and monitoring	<ul style="list-style-type: none"> • WFP uses its own Vulnerability Analysis and Mapping software to identify India's most food-insecure areas, which allows policy and relief work to be targeted appropriately. • WFP is also supporting the government's Poverty and Human Development Monitoring Agency in establishing a State-level Food Security Analysis Unit.

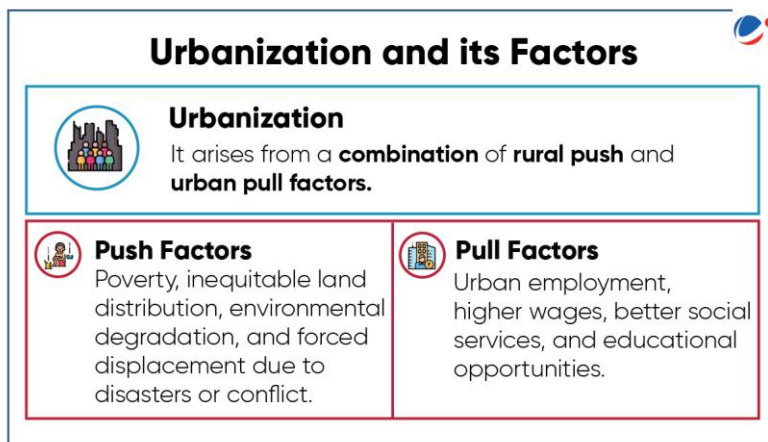
6.4. URBANISATION AND AGRI-FOOD SYSTEM

Why in the news?

The **State of Food Security and Nutrition in the World (SOFI)**, 2023, was recently released.

About the report

- Annual Report jointly prepared by:
 - **Food and Agriculture Organization (FAO)** of the United Nations,
 - **International Fund for Agricultural Development (IFAD)**,
 - **United Nations Children’s Fund (UNICEF)**,
 - **World Food Programme (WFP)**, and
 - **World Health Organization (WHO)**.
- **Key Findings related to hunger and nutrition:**
 - **122 million more people are facing hunger since 2019** due to the pandemic and repeated weather shocks and conflicts.
 - In 2021,
 - ✓ **22.3% of children were stunted** (low height-for-age),
 - ✓ **6.8% were wasted** (weight too low for their height),
 - ✓ **5.6% were overweight**.
- SOFI 2023 has also emphasised different aspects of the **changing agrifood systems amidst urbanisation**.
 - Urbanisation has changed how, where and what food is produced, supplied and consumed.



How urbanisation influences agri-food systems?

- **Creates diversity in food choices:** With urbanisation and rising incomes, households consume more and more diverse food, including more processed foods.
- **Better linkages:** Midstream and downstream food supply chains have grown due to increased infrastructure investments such as roads, warehouses, and cold storage facilities.
 - With better interlinkages, **rural producers** often have better access to **agricultural inputs**, allowing for **improved productivity** and **increased income levels**.
- **Diverse employment opportunities:** along the **food value chain**, including processing, marketing, and trade.
- **Other:** Increasing **number and size of (peri-)urban food markets** (formal and informal) and retail outlets and substantial expansion of supermarkets.

Adverse consequences emerging from the impact of urbanisation on agri-food systems

- **The high cost of nutritious foods** relative to processed, energy-dense foods high in fats, sugars, and salt is also unaffordable for the poor.
 - It can also **contribute to malnutrition**.
- **Loss of income opportunities** due to exclusion from value chains of small farmers due to value chain formalisation.
- **Peri-urban agricultural livelihoods threatened** by urban expansion.
- **Reduced demand for traditional foods** and increasing unhealthy diets.
- **Change in land use due to urban expansion.**
- **Growth of food deserts and swamps:**
 - **Food deserts** are geographic areas where **residents’ access to diverse, fresh or nutritious foods is limited** due to the absence of “food entry points” within a practical travelling distance.
 - **Food swamps** are areas with an **overabundance of high-energy-density foods** and **minimal nutritional value**.

Measures to tackle challenges and promote opportunities

- **The policy approach** needs to leverage the **progressive connectivity** between urban, peri-urban, and rural areas.

- **Investments in infrastructure, public goods, and enhanced capacities** to increase access to ensure **food security and nutrition**.
- **Public investment in research and development** needs to be increased to **develop technologies and innovations**.
- **Agrifood systems governance mechanisms and institutions** need to **cross-sectoral** and administrative boundaries.

Scan the QR code to know more about **Future of Food**.

Weekly Focus #89: Future of Food: Food Sustainability for 8 Billion Populace



6.5. PERFORMANCE GRADING INDEX (PGI) FOR SCHOOL EDUCATION SYSTEM

Why in the news?

Recently, the Ministry of Education released two reports, **PGI 2.0 for States/UTs** and **PGI for Districts (PGI-D)**.

About PGI and PGI-D

- They assess the performance of **school education system** at the State and District level.
 - Both reports took data from **Unified District Information System for Education Plus (UDISE +) 2021-22** data and **National Achievement Survey (NAS) 2021** for preparing report.
 - It has classified the States/UTs and districts into **ten grades**
 - ✓ In **decreasing order of grades**- Daksh (highest grade), Utkarsh, Atti-Uttam, Uttam, Prachesta-1,2 and 3, Akanshi-1, 2 and 3(Lowest grade).
- **PGI 2.0 for the year 2021-22**
 - The PGI - States/UTs was first released for the year 2017-18 and so far it has been released up to the year 2020-21.
 - **Major Highlights of Index**
 - ✓ **None of the States/UTs** has attained the highest Grade i.e., Daksh.
 - ✓ The top-most grade attained in PGI 2.0 is **Prachesta – 2** by only 2 State/UTs-Punjab and Chandigarh.
 - ✓ 3 States, Arunachal Pradesh, Meghalaya and Mizoram are in lowest grade **Akanshi – 3**.
 - ✓ **Reduction in deviation** i.e. the deviation between the maximum and minimum scores obtained by States/UTs is **23.8%** of the maximum points in 2021-22, whereas this disparity was **51 %** in 2017-18.
- **PGI-D combined report for the year 2020-21 & 2021-22**
 - The index focuses on **outcomes, effective classroom transaction, school safety**, etc.
 - ✓ **None of the districts** attained top two grade viz., Daksh and Utkarsh.

6.6. MOTHER TONGUE IN FOUNDATIONAL EDUCATION

Why in the news?

The Central Board of Secondary Education (CBSE) has directed its affiliated schools to **consider Indian languages as optional mediums of instruction** to promote multilingual education.

More on News

- The CBSE has advised using an **Indian language** listed in **Schedule 8** of the Indian **Constitution** as an option **from pre-primary classes till Class 12**.
- The move aligns with the **National Education Policy (NEP), 2020**, which aims to introduce **education in multiple languages**.

Constitutional/Legal provisions w.r.t. education in mother tongue



Article 350A of the Constitution: **The government** must try to ensure that **children from linguistic minority groups are educated in their mother tongue**.



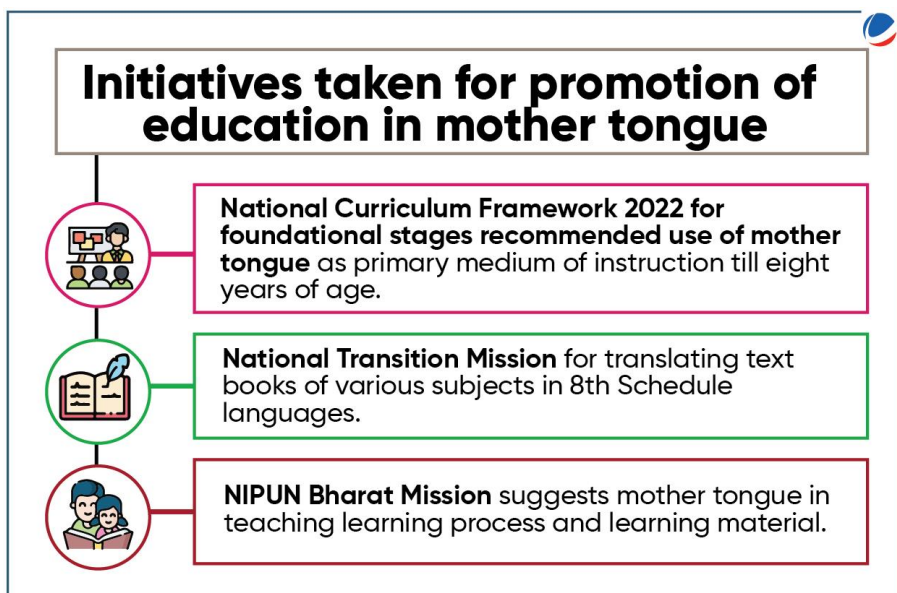
Right to Education Act, 2009: As far as possible, the **medium of instruction in school should be the child's mother tongue**.

Importance of schooling in the mother tongue

- **Better cognitive development:** Teaching in a language other than mother tongue often compromises **comprehension** and results in **rote memorisation and copying of text**.
- **Personality development:** Teaching in the mother tongue can **nourish a child's self-esteem and confidence**.
- **Better engagement:** Studies show that it **increases classroom participation, reduces the number of dropouts** and grade repetition.
- **Home-school partnership:** Parents can participate in their child's education and make the learning experience for the students more wholesome.
- **Preserves cultural heritage:** Multilingual education has been widely recognised as a valuable approach to **fostering linguistic diversity, and cultural understanding**.

Challenges in using mother tongue in schools.

- **Diversity of Languages:** The 2011 census identified **270 mother tongues**. Hence, classrooms might have children with more than one spoken language.
- **Schools' resistance to change:** In schools affiliated to the CBSE or ICSE, **English is the main medium** of instruction from the primary classes **despite efforts to get them to adopt the mother tongue** or dominant regional languages.
- **Availability of teachers:** Teachers currently are **not recruited based on languages** understood, spoken and written by children.



- **Financial viability:** High initial investment need for **developing new learning material** especially for languages that have not been **standardised or do not have a script**.
- **Policy issues:** Under NEP, 2020 use of mother tongue or home language or regional language is **desired not mandated**. Also, there is no **clear path to implement** this change.
- **Preference for English:** Parents perceive that knowledge of English can go a long way for their child in the future.

Way ahead

- **Gradual transition:** The **Kothari Commission (1964-66)** suggested that **in tribal areas**, for the **first two years** of school, the medium of instruction and books should be in the **local tribal language**.
 - The **regional language should be taught separately and become the medium of instruction by the third year**.
- **Learning by implementing pilot projects:** to identify the **problems** in implementation and the **cost of change**.
- **Hiring skilled teachers:** For multilingual education (MLE) to be successful, it has to be accompanied by **pedagogical changes and trained teachers**.
- **Collaborative approach:** Schools need to **collaborate and pool available resources to effectively** implement multilingual education.
- **Bridge the digital divide:** There is a major linguistic divide in cyberspace today. The inclusion of languages in the digital world and the creation of inclusive learning content is vital.

Do you know?

- > **Odisha is the only states to introduced Multilingual Education.**
- > The policy is **implemented only in its tribal areas**.
- > The MLE programme was designed to **cover the primary education of children from class I to class V**.


6.7. THE PATHS TO EQUAL REPORT

Why in the news?


Recently UNDP and UN Women jointly released 'The Paths to Equal: Twin Indices on Women's Empowerment and Gender Equality Report.

About the report

- The report introduces two new indices:
 - **Global Gender Parity Index (GGPI):** Evaluates the **status of women relative to men** across four dimensions
 - ✓ Life and good **health**
 - ✓ **Education**, skill building and knowledge
 - ✓ Labour and **Financial Inclusion**
 - ✓ **Decision making**
 - **Women's Empowerment Index (WEI):** Focuses **solely on women**, measuring their power and freedom to **make choices and seize opportunities** in life. It **covers five dimensions**.
 - ✓ In addition to the **four dimensions of GGPI**, it also covers a **new dimension Freedom from violence**.



United Nations Development Programme (UNDP)



New York City, US

Genesis: Established in 1966.

Mandate: To eradicate poverty, reduce inequalities and exclusion, and build resilience so countries can sustain progress.

Engagement: Works in about 177 countries (including India) and territories.


UNDP's Gender Equality Strategy 2022-2025: It describes how UNDP, together with its partners, will **pursue gender equality**. **Finance, Digitalisation and Innovations** are its **3 enablers**.

Reports


- Human Development Report
- Global Multidimensional Poverty Index (MPI)

Key findings of the report

- **Gender parity: No country** has achieved **full gender parity**.
 - In India, **gender parity** was '**low**' despite 'medium' human development.
- **Life and good health:** In 2022 more than **1.2 billion women and girls** of reproductive age (ages 15–49) lived in countries with some **restriction** on access to **safe abortion**.
- **Education, skill building and knowledge: 11–20 million** secondary school-age girls might have **been forced out of school** due to the pandemic.
- **Labour and Financial Inclusion: Only 61.8%** of prime-working-age (ages 25–54) **women globally are in the labour force** since the past three decades against **more than 90% of men**.
- **Decision making: Close to 9 of 10** men and women **hold biases against women**.
- **Freedom from violence: 245 million women** (ages 15 and older) are victims of **physical/ sexual violence** from an intimate partner **each year**.



UN Women



New York City, US

Genesis: Established in 2010

About: UN Women is the **UN entity dedicated to gender equality and the empowerment of women**.


Main roles:

- To **support inter-governmental bodies** in their formulation of **policies, global standards and norms**.
- To **help Member States to implement these standards**, and to **forge effective partnerships with civil society**.
- To hold the **UN system accountable for its own commitments on gender equality**.

6.8. NEWS IN SHORTS

6.8.1. SUSTAINABLE DEVELOPMENT GOALS (SDG) PROGRESS REPORT 2023

- Sustainable Development Goals (SDG) **Progress Report 2023: Special Edition released by UN.**
- The report, **by the UN Department of Economic and Social Affairs (UNDESA)**, monitors global progress on the 2030 Agenda for Sustainable Development.
 - **SDGs are a set of 17 goals and 169 targets** to help streamline development actions for human well-being.
- **Key Findings of the Report**
 - Progress on **more than 50% of targets of SDGs is weak; on 30 %, it has stalled** or gone into reverse.
 - **The COVID-19 pandemic** and triple crises of **climate change, biodiversity loss and pollution** are having a lasting impact.
 - **By 2030, some 84 million children will be out of school** and 300 million children or young people attending school will leave unable to read and write.
 - Under current trends, **575 million people** will still live in **extreme poverty in 2030.**
- **Key areas for urgent action**
 - **Heads of state and government should recommit** accelerated and transformative action to deliver on the promise of SDGs.
 - **The international community should deliver on Addis Ababa Action Agenda** (which provides a new global framework for financing sustainable development).
 - **Target policies and actions** to eradicate poverty and reduce inequality **with a focus on advancing the rights of women and girls.**
 - **Boost the capacity of the multilateral system** to tackle emerging challenges.



UN Department of Economic and Social Affairs (UNDESA)
New York City, United States

Genesis: It is rooted in UN Charter.

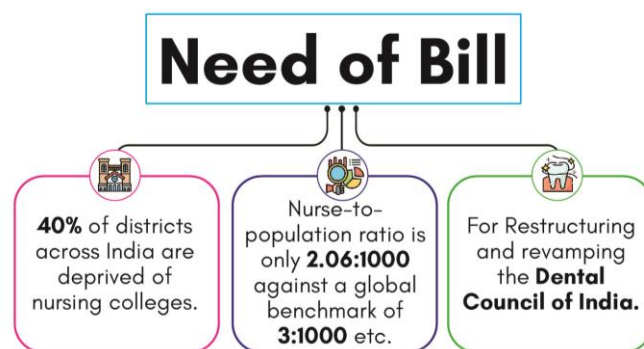
About: It is guided by transformative 2030 Agenda for Sustainable Development, **it upholds the development pillar of UN.**

Objectives: It works closely with governments and stakeholders to **help countries meet their economic, social and environmental goals.**

Other reports by UNDESA: Population and Vital Statistics Report, World Youth Report, World Social Report, World Economic Situation and Prospectus Report etc.

6.8.2. TWO NEW HEALTH BILLS PASSED IN PARLIAMENT



- The **National Nursing and Midwifery Commission (NNMC) Bill, 2023** and the **National Dental Commission (NDC) Bill, 2023**, were introduced aimed at improving quality education in the **paramedical (including nurses and midwives) and dental sector**, respectively.
 - **Bills are on the lines of the National Medical Commission (NMC)**, which aims to improve access to quality and affordable medical education.
- **NDC Bill 2023** seeks to repeal the Dentists Act 1948.
 - It proposes to set up the National Dental Commission (NDC) **to regulate dental education and the profession in the country.**
 - It provides an **exit test for dentists** on the lines of the **National Exit Test.**
- **NNMC Bill** seeks to repeal the Indian Nursing Council Act of 1947.
 - It provides for the establishment of the **NNMC** to frame policies and regulate standards for the governance of nursing and midwifery education and training.
 - It will provide a **uniform mechanism for admission into nursing and midwifery institutions.**



6.8.3. INSTITUTIONAL DEVELOPMENT PLAN (IDP) FOR HIGHER EDUCATION INSTITUTIONS

- **UGC passed guidelines for Institutional Development Plan (IDP)** for Higher Education Institutions (HEIs).
- National Education Policy (NEP) 2020 recognises the **importance of IDP and recommends that each institution will make a strategic IDP.**
 - Subsequently, UGC has developed guidelines for individual HEIs to **develop their IDP.**
- The necessity for IDPs arises from acknowledging that a uniform set of norms may not apply to all, as each HEI requires a different path to progress.

- UGC believes that the IDP needs to reflect an **integrated approach** that is mindful of the institution’s vision and mission, context, life cycle stage, location, character, and aspirations.
- **Guidelines in the framework**
 - **Physical infrastructure** should support the academic and research activities of various schools and departments of universities.
 - The HEIs must also create a road map along with requisite modes of learning and teaching using ICT and virtual technologies **to move towards the idea of ‘Digital Universities’.**
 - **Proposes a “fast track promotion system”** for faculty members to recognise “very high-impact” research and contribution.
 - **It says 50% of the total faculty requirement** can be contractual (tenured) or visiting from the profession/industry.
 - Each HEI needs to maintain the **faculty-student ratio as set by the UGC.**

 <p>SMART QUIZ</p>	<p>You can scan this QR code to practice the Smart Quiz of Social Issues & Social Schemes at our open test online platform for testing your understanding and recalling of the concepts.</p>	
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7. SCIENCE AND TECHNOLOGY

7.1. CHANDRAYAAN-3

Why in the news?

Chandrayaan-3 was successfully launched from the Satish Dhawan Space Center (SDSC) in Sriharikota.

About Chandrayaan-3

- **Objectives:**
 - Demonstrate Safe and Soft Landing on Lunar Surface
 - Demonstrate Rover roving on the moon and
 - Conduct in-situ scientific experiments.
- **Launch vehicle: Geosynchronous Satellite Launch Vehicle Mk III** will place the integrated module in an Elliptic Parking Orbit (EPO).
- **Indigenous Payloads:**
 - **Lander module (LM),**
 - **Propulsion module (PM): will carry the Lander** from launch vehicle injection **till final lunar 100 km circular polar orbit**
 - **Rover:** carry out in-situ chemical analysis of the lunar surface
- **Landing site:** Similar to **Chandrayaan-2** i.e. near south pole of moon at around 70 degrees latitude.
 - Chandrayaan-3 **will reach the lunar orbit almost a month after its launch.**
 - Its lander (Vikram), and rover (Pragyaan), are **likely to land on the Moon on August 23.**
- If successful, Chandrayaan-3 will become **world's first mission to soft-land near lunar south pole** and India will become **fourth country to soft land on moon**, after US, Russia, and China.

Soft-landing challenges

- **Difficult terrain:** Unexpected and sudden terrain changes can lead to altitude sensor errors or software glitches.
- **Distance:** After the lander separates from the propulsion module and enters a 100 km x 30 km orbit (farthest it will be from the moon is 100 km, and the closest is 30 km).
- **Speed:** Soft-landing a lunar module means going from the screaming speeds of over 6,000 km/h to zero. As moon has no atmosphere, the parachutes cannot slow the descent.
- **Lunar Dust:** can obscure the camera lens and trigger faulty readings.

How Chandrayaan-3 plans to tackle this?

- **Larger landing site:** the area of landing has been expanded from earlier 500m x 500m to four km by 2.5 km.
- **Increased landing velocity:** Landing velocity has been increased from 2 m/sec to 3.2 m/sec. This means even at 3m/sec, the lander will not crash or break.
- **Improved thrusters:** While its predecessor had five thrusters, this mission's lander has only four, making it easier to maintain equilibrium.
- **Rigorous testing:** Tested equipment by soaking them in temperatures as cold as those in the moon and tested the lander's legs by running landing simulations on surfaces similar to the lunar surface.

Lander Payloads



RAMBHA-LP

Langmuir Probe

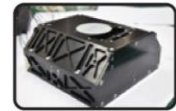
To measure the near surface plasma (ions and electrons) density and its changes with time



ChaSTE

Chandra's Surface Thermo-physical Experiment

To carry out the measurements of thermal properties of lunar surface near polar region.



ILSA

Instrument for Lunar Seismic Activity

To measure seismicity around the landing site and delineating the structure of the lunar crust and mantle.

Rover Payloads



APXS

Alpha Particle X-Ray Spectrometer

To derive the chemical composition and infer mineralogical composition to further enhance our understanding of lunar surface



LIBS

Laser Induced Breakdown Spectroscope

To determine the elemental composition (Mg, Al, Si, K, Ca, Ti, Fe) of lunar soil and rocks around the lunar landing site

Propulsion Module Payload



SHAPE

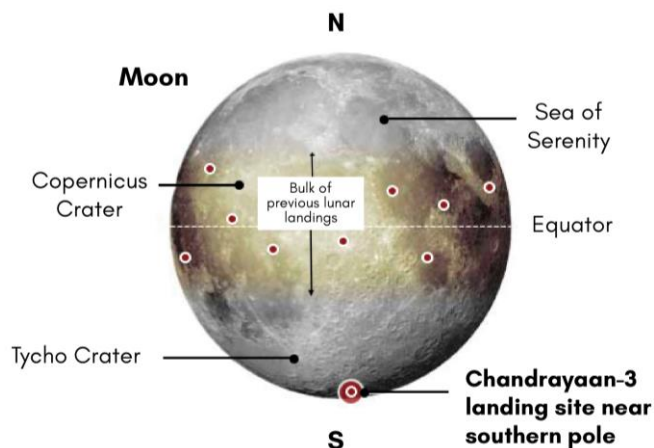
Spectro-polarimetry of Habitable Planet Earth

An experimental payload to study the spectro-polarimetric signatures of the habitable planet Earth in the near-infrared (NIR) wavelength range (1-1.7 μm).

- **Other improvements:** ISRO has given it larger solar panels, increased fuel-carrying capacity, added laser doppler velocity metre, and improved soft-landing sequences.

Why South Pole of the Moon?

- **Moon's south pole has certain advantages** including:
 - Its **craters have been untouched by sunlight** for billions of years — offering an **undisturbed record of solar system's origins**.
 - Its **permanently shadowed craters** are estimated to **hold enough water** that could potentially be used for **future missions**.
 - Its **positional advantages** make it a suitable **pit stop for future space exploration**.
 - It has **traces of hydrogen, ammonia, methane, sodium, mercury, and silver** — making it an **untapped source of essential resources**.
- **All previous spacecraft to have landed on Moon have landed in equatorial region.**
 - It is **easier and safer to land** near equator.
 - **Terrain and temperature are more hospitable** and conducive for a **long and sustained operation** of instruments.
 - **Sunlight is present in abundance**, at least on the side facing earth.



Previous Lunar Missions of India

	Chandrayaan 1 (2009)	Chandrayaan 2 (2019)
Objective	<ul style="list-style-type: none"> • To prepare a three-dimensional atlas of both near and far side of the moon. • To conduct chemical and mineralogical mapping of the entire lunar surface. 	<ul style="list-style-type: none"> • Widened the scientific objectives of Chandrayaan-1 by way of soft landing on the Moon and deploying a rover to study the lunar surface.
Modules/ Payloads	<ul style="list-style-type: none"> • Carried 11 scientific instruments built in India, USA, UK, Germany, Sweden and Bulgaria. 	<ul style="list-style-type: none"> • Comprises of an Orbiter, Lander (Vikram) and Rover (Pragyaan). • Carried eight experiment payload for studying surface geology, composition and exospheric measurements of Moon.
Launcher	PSLV C-11	GSLV Mk-III
Key Findings	<ul style="list-style-type: none"> • Detected water in vapour form in trace amounts and also discovered water ice in the North polar region of the Moon. • Confirmed Ocean Magma Hypothesis. • Detected x-ray signals during weak solar flares thus indicating presence of magnesium, aluminum, silicon and calcium on lunar surface. • Detected new spinel-rich rocks. 	<ul style="list-style-type: none"> • Detected hydroxyl radical (OH) and the water molecule (H2O) separately and further found unique characteristics about both. • Finding water signatures at all latitudes on the surface of the moon. • Observations related to the distribution of Argon-40 in lunar exosphere. • Detected minor elements – chromium and manganese on lunar surface. • Collected information about Solar flares
<ul style="list-style-type: none"> • Note: Earlier in 2019, Chandrayaan-2 mission had partially failed after its lander and rover could not execute a soft-landing on the Moon. 		

Conclusion

Success of Chandrayaan 3 will further strengthen India's place in global space research. By pushing the boundaries of scientific knowledge, it also throws challenges at the youth of the country, spurring future research and development.

Recent lunar missions and planned missions

 South Korea Danuri mission Mission: Orbiter will study moon from January 2023 after entering lunar orbit Launch: Aug. 2022	 Japan ispace's Hakuto-R Mission Mission: UAE rover and Japanese payload on a lander; crash-landed Launch: Dec. 2022	 Russia Luna 25 Mission: Sample gathering from southern pole Launch: July 2023	 U.S.A Artemis II Mission: Crewed mission to the moon Launch: 2024	 Israel Spacel's Beresheet 2 Mission: Lunar landing with two lander (first ever), orbiter Launch: By 2025
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Scan the QR code to know more about **Space Exploration**.

Weekly Focus #37: Space Exploration: Changing Dynamics & Pathway to the future



7.2. BLACK HOLES

Why in the news?

Scientists recently observed a **class of black holes (quasars) demonstrating time dilation in the early universe.**

More about News

- This time dilation showed **how time then passed only about a fifth as quickly as it does today.**
- Quasars are **tremendously active supermassive black holes** millions to billions of times more massive than our sun, usually residing at centres of galaxies.
 - There are **no quasars near Milky Way.**

About Time Dilation

- It refers to the fact that **time passes at different rates for different observers, depending on their relative motion or positions in a gravitational field.**
- **Einstein's Theory of Relativity:** Time dilation is a **consequence of Einstein's Theory of relativity.**
 - The theory showed that **time and space are intertwined** and that the **universe has been expanding outward in all directions since the Big Bang.**
- **Occurrence:**
 - **This occurs because objects with a lot of mass** create a strong gravitational field.
 - **Stronger the gravity, the more spacetime curves,** and the slower time itself proceeds.
- **Present findings on Time Dilation:**
 - It was **previously dated to roughly 7 billion years ago,** based on observations of supernovas.
 - **Researchers now used** observations from several **quasars dating to about 1.5 billion years** after the Big Bang event.
 - **The brightness of these quasars was compared** to that of quasars existing today, **showing certain fluctuations about a fifth as quickly as it does today.**

About Black Holes

- It is a place in space where **gravity pulls so much that even light cannot get out.**
 - The gravity is so strong because **matter has been squeezed into a tiny space.**

2020 Nobel Prize in Physics

- **Roger Penrose** was awarded for discovering that **black hole formation** is a robust **prediction of the General theory of relativity.**
- **Reinhard Genzel and Andrea Ghez** was awarded for the **discovery of a supermassive compact object** at the center of our galaxy. A supermassive black hole is the only currently known explanation.
 - They **focused on a region called Sagittarius A*** at the center of our galaxy.

Einstein's General Relativity and Your Age

Einstein's theory of general relativity means **you age very slightly slower or faster** at places with **stronger or weaker gravitational fields** due to your **distance from a massive object** nearby. Here's how your age would change if you spent 30 years at the following locations instead of at sea level on Earth:



Jupiter

Your age minus 18.4 seconds



The Moon

Your age plus 629 milliseconds (thousandths of a second)

Importance of studying Black Holes



Laboratories for testing fundamental theories that explain how the Universe works like formation and evolution of galaxies.



Enhances the understanding of gravitational force - which can be useful for the Global Positioning Satellites.



Detected of gravitational waves which are generated when two black holes collide.



Bending of light around a black hole helps to see light from material that is behind the black hole.

- **Formation:**
 - Most black holes form from the remnants of a large star that dies in a supernova explosion.
 - **Our sun will never turn into a black hole** as it is not big enough to make a black hole.
- **Other Features:**
 - **Invisible** and can be **big or small**.
 - **No black hole is close enough to the solar system** for Earth to **fall into it**.
 - In 2019, **scientists got the first optical image of a black hole**, at the centre of a galaxy named Messier 87, through **Event Horizon Telescope**.
- **Detection**
 - **Cannot be directly observed** because they themselves do not emit or radiate light, or any other electromagnetic waves.
 - But the **area just outside the boundary of the black hole (Event Horizon), emits all kinds of radiation, including even visible light**.
 - ✓ This area has **vast amounts of gas, clouds and plasma swirling violently**.

Types of Black Holes (according to their mass)			
Primordial Black Holes <ul style="list-style-type: none"> • Formed in the first second after the birth of the universe. • Masses ranging from 100,000 times less than a paperclip to 100,000 times more than the Sun's. 	Stellar Black Holes <ul style="list-style-type: none"> • Mass up to 20 times more than Sun. • Formed when centre of a very big star falls upon itself or collapses. • When this happens, it causes a supernova. 	Intermediate Black Holes <ul style="list-style-type: none"> • Range from around one hundred to hundreds of thousands of times the Sun's mass. 	Supermassive Black Holes <ul style="list-style-type: none"> • Mass more than 1 million suns together. • Almost every large galaxy, including our Milky Way (Sagittarius A* black hole), has a supermassive black hole at its center.

Basic Parts of Black Holes

- **The Schwarzschild Radius:** This is the event horizon's radius at which the escape velocity is equal to the speed of light.
- **The Ergosphere:** If the black hole is rotating, then as it spins, its mass causes the space time around the black hole to rotate as well.



7.3. NEUTRINO PARTICLES

Why in the news?

For the first time, **scientists have seen neutrinos originating from the central disk of the Milky Way.**

About the discovery

- **Data collected by the IceCube Neutrino Observatory** has produced the first view of the **Milky Way galaxy through the lens of neutrino particles.**
- This **view differs fundamentally** from what one can see with eyes or with instruments that measure other electromagnetic sources like radio waves, microwaves, infrared, ultraviolet, X-rays etc.

About Neutrinos

- They are **fundamental particles** (but not part of the atom), **like electrons**, so they **can't be broken down** into smaller parts.
- **Key characteristics:**
 - **Very tiny mass, has no charge and half spin.**
 - **Travel at almost the speed of light** and **in straight lines** from their source.
 - **Rarely interact** with other matter (therefore also referred to as ghost particle).
 - **Outnumber all the atoms in the universe.**
 - **Only affected by gravity and the weak force.**
 - **3 types** – electron neutrino, tau neutrino and muon neutrino.
 - ✓ They can change from one type to another as they travel. This process is called **neutrino oscillation.**
- **Sources of Neutrinos:**
 - **Emitted from our galaxy** when cosmic rays collide with interstellar matter.
 - **Produced by stars like the Sun**, exploding stars, supernovas, gamma-ray bursts and quasars as well.
 - ✓ Most of the **neutrinos around Earth come from the Sun** (produced in Sun's core).
 - **On Earth**, neutrinos are produced **when unstable atoms decay**, which happens in the planet's core and nuclear reactors.
 - ✓ **Created by particle accelerators** and **high-speed particle collisions** in the atmosphere.
 - ✓ **Even a banana emits neutrinos**— they come from the **natural radioactivity of the potassium in the fruit.**
- **Detection of Neutrinos**
 - **Interact with other particles in the ice** through the weak force **and turn into muons, electrons, and taus.**
 - The **new particles gain the neutrinos' speed** and travel faster than light in the ice, which produces a **particular kind of radiation** (Cherenkov radiation that gives off a blue light).
 - **Proposed India-based Neutrino Observatory (INO)** will study atmospheric neutrinos only.

About IceCube Neutrino Observatory

- It is the **first detector** of its kind, designed to **observe the cosmos** from deep **within the South Pole ice** and **searches for neutrinos.**
 - IceCube **needs a large volume of transparent material**, water or ice, to capture an event.
 - **South Pole holds such large quantities** of clear, pure, and stable ice.
- IceCube collaborators **address several big questions in physics**, like the nature of dark matter and the properties of the neutrino itself.
- It also **observes cosmic rays** that interact with the Earth's atmosphere.
- **58 institutions** (none from India) in 14 countries **make up the IceCube Collaboration.**
- **U.S. National Science Foundation (NSF)**- an independent federal agency **provides the primary funding for the IceCube Neutrino Observatory.**

Significance of studying Neutrinos



Provide information to probe the most violent astrophysical sources like exploding stars, gamma-ray bursts, etc.



Understand the objects and phenomena from where the neutrinos are produced.



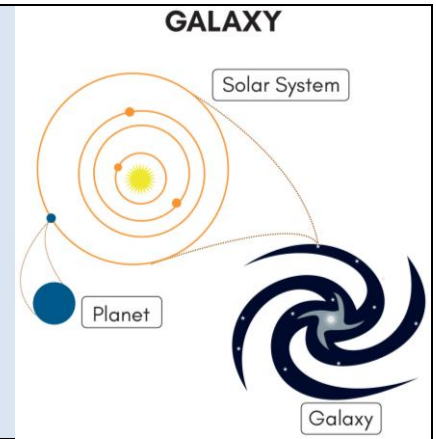
Enhance understanding of basic physical laws as it provides a tool to study the structure of nucleons (protons and neutrons).

Atmospheric neutrinos

- They are **typically produced around 15 kms** above Earth's surface.
- They are **produced from cosmic rays** which consist of protons and heavy nuclei.
- These collide with atmospheric molecules such as Nitrogen to give off **pions and muons** which further decay to produce neutrinos.

About Milky Way Galaxy

- A galaxy is a **huge collection of gas, dust, and billions of stars** and their solar systems, **all held together by gravity**.
- Galaxies can be **spiral-shaped** (e.g. Milky Way), **elliptical** (largest and most common galaxies observed) or **irregular** (among the smallest galaxies) shaped.
- **Earth is in the Milky Way Galaxy.**
 - **Milky Way** was formed approximately 14 billion years ago and it also has a **supermassive black hole** in the middle.
- Sometimes **galaxies get too close and smash into each other**. **Milky Way galaxy** will someday bump **into Andromeda**, our closest galactic neighbor.
- There are **also satellite galaxies**, that **orbit a galaxy**.
 - **Milky Way** has a number of **satellite galaxies**, but the biggest one is the **Large Magellanic Cloud**.




7.4. UNAIDS GLOBAL AIDS UPDATE 2023

Why in the news?


UNAIDS released 'The Path that Ends AIDS' report.

Key Highlights of the Report

- **Success achieved in HIV response**
 - **Decrease in the number of new HIV infections and AIDS (Acquired Immunodeficiency Syndrome)-related deaths** is helping to achieve **SDG 3.3 of ending AIDS as a public health threat by 2030**.
 - ✓ **AIDS-related deaths:** Reduced by 69% since the peak in 2004.
 - **Treatment Received:** Almost 76% of people living with HIV globally receive life-saving treatment.
 - **Access to antiretroviral therapy** has expanded massively in sub-Saharan Africa, Asia, and the Pacific.
- **Obstacles that hold back HIV response**
 - **Adolescent girls and young women still face extraordinarily high risks** of HIV infection.
 - **HIV and other health services for people from key populations** (such as gay men, sex workers etc.) are scarce, inaccessible or absent in many countries.
 - **Globally, in 2022, about 9.2 million people** living with HIV were **not receiving HIV treatment**.



United Nations Programme on HIV/AIDS (UNAIDS)



About: Started operations in 1996. UNAIDS is **leading the global effort to end AIDS as a public health threat by 2030** as part of the Sustainable Development Goals.

Established by: United Nations Economic and Social Council (ECOSOC) and remains the only cosponsored joint programme of the United Nations system.

UNAIDS Secretariat has offices in 70 countries.



Data Bank

- **24 lakhs** Number of People Living with HIV (PLHIV) in India
- **46.3%** decline Annual New Infection (ANI) from 2010-2021.
- **76.5%** decline in AIDS Related Deaths (ARD) from 2010-21.

About NACP

- **NACP is considered as an extremely successful programme** highlighted by facts such as
 - **Annual new HIV infections** in India have **declined by 48%** (baseline year of 2010).
 - **Annual AIDS-related deaths** have declined by **82%** (baseline year of 2010).
 - **HIV prevalence in India continues to be low.**

How has India responded to HIV?

- **Continuation of the National AIDS and STD Control Programme (NACP)**, a Central Sector Scheme, for five years (from 1st April 2021 to 31st March 2026) by approving phase V of the programme.
 - **NACP was launched in 1992**, and four phases have been successfully completed since.
- **HIV & AIDS Prevention and Control Act 2017** provides a legal and enabling framework to safeguard the human rights of infected and affected populations.
- **National AIDS Control Organization (NACO)**, a Ministry of Health and Family Welfare division, **provides leadership to HIV/AIDS control programme**.

- Under National AIDS Control Programme, Government provides **free lifelong antiretroviral (ARV) medicines for People Living with HIV (PLHIV)**.
- **National Strategic Plan 2017-24** and **Mission SAMPARK** for tracing under ART services.
- **Other initiatives:** Multimedia campaigns by NACO, Red Ribbon Clubs are formed in colleges, training and sensitisation programmes for Self-Help Groups, Anganwadi workers, ASHA etc.
- **Top 3 States with the most rapid decline** are Himachal Pradesh, Tamil Nadu, and Telangana.
 - **Highest adult HIV prevalence:** Northeast region States (Mizoram, Nagaland, and Manipur are top three) followed by southern States (Andhra Pradesh, Telangana and Karnataka are top three).

Recommendations for quick progress towards ending AIDS

- **More funding:** Some countries where HIV incidence is declining, including India, put between 3% and 16% of HIV spending towards prevention.
- **People first approach** such as removal of criminalising laws, ending police harassment and violence, reducing stigma and discrimination (such as India recognising the right of sex workers) etc.
- **Affordable and accessible essential healthcare technologies.**
- **Integrated services:** Deeper integration of HIV and other health services—including NCD and mental health services.

About HIV

- HIV is a virus that attacks the **body's immune system**. If not treated, it can lead to **AIDS**.
 - It **targets the immune system and weakens people's defence** against many infections and some types of cancer.
- May be caused by **one of two retroviruses, HIV-1 or HIV-2** and HIV-1 is more prevalent worldwide.
- HIV in **infected people progress in three stages** (see infographic) in the absence of effective medicine.
- **Treatment:** Can be **managed (not cured)** by treatment regimens composed of a **combination of three or more antiretroviral drugs**.
- Luc Montagnier won **Nobel Prize for Medicine in 2008** for discovery of the **HIV that causes AIDS**.

Progression of HIV in Infected People



Related Information

Sixth person (Geneva patient) likely been cured of HIV

- **All the patients** who have achieved HIV remission so far **needed stem cell transplantation (SCT)** for treatment.
 - **In the first five cases**, treatment teams **specifically looked for donors with CCR5 delta 32 mutation** that is **associated with lower risk of HIV**.
- **HIV mainly attacks CD4 immune cells** (type of white blood cell) **in human body**, thereby **reducing a person's ability to fight off secondary infections**.
 - **CCR5 receptors** on surface of CD4 immune cells **act as a doorway for HIV virus**.

Chromodomain Helicase DNA Binding Protein 1 Like (CHD1L)

- A study has revealed that **CHD1L gene variant is likely to control HIV**.
- A **variant of CHD1L gene** is specifically present in **African population**.
 - **CHD1L gene variant** has been linked to **reduced viral load (amount of HIV in blood)** of HIV-1 (most common).
 - The gene variant **CHD1L is found on chromosome 1**.

7.5. NON-SUGAR SWEETENERS (NSS)

Why in the news?

WHO's International Agency for Research on Cancer (IARC) classified the commonly used non-sugar sweetener (NSS) **aspartame** as **"possibly carcinogenic to humans"**.

More on News

- **Citing "limited evidence" for carcinogenicity in humans**, International Agency for Research on Cancer (IARC) classified aspartame as possibly carcinogenic to humans (IARC Group 2B) and JECFA reaffirmed the acceptable daily intake of 40 mg/kg body weight.
 - **IARC is the cancer agency of WHO** and belongs to the broader United Nations (UN) family.

- ✓ Its mission is to coordinate and conduct research on the causes of human cancer, the mechanisms of carcinogenesis and to develop scientific strategies for cancer control.

- **Joint FAO/WHO Expert Committee on Food Additives (JECFA)** is an international scientific expert committee administered jointly by FAO and WHO. It helps in
 - ✓ **Evaluation of the safety of food additives.**
 - ✓ **Evaluation of contaminants,** naturally occurring toxicants and residues of veterinary drugs in food.
 - ✓ **Providing advice to FAO, WHO and the member countries** of both organisations, as well as to the **Codex Alimentarius Commission (CAC).**





About Non-Sugar sweeteners (NSS) (low-calorie sweeteners (LCS), artificial sweeteners etc.)

- **Contains few to no calories but has a higher sweetness intensity** per gram than sweeteners with calories—like table sugar, fruit juice concentrates etc.
- Also used to **enhance the flavour of foods.**
- **Include synthetically derived chemicals and natural extracts** that may or may not be chemically modified (refer to table).
- **Found in many beverages and foods** like frozen desserts, yoghurt, candies, baked goods, chewing gum, breakfast cereals, gelatins, and puddings.
- Foods and beverages containing **LCS sometimes carry the label “sugar-free” or “diet.”**
- **Health effects of NSS**
 - **Inconclusive,** with research showing mixed findings.
 - **WHO’s conditional guidelines** state that **NSS like aspartame and stevia do not help in weight loss** and can increase the risk of type 2 diabetes and cardiovascular diseases.
 - ✓ The guideline **does not apply to people with diabetes** and for small dosages taken on prescription.

Guidelines for Usage of Artificial Sweeteners in India

- **Food Safety and Standards Authority of India (FSSAI)** has laid down the **standards for various artificial sweeteners** in the **Food Safety and Standards (Food Products Standards and Food Additives) Regulation, 2011.**
 - These **standards and limits have been laid down** on the basis of risk assessment and Acceptable Daily Intake (ADI) **established by JECFA** and are in **harmonization with Codex Alimentarius Commission.**
- **FSSAI has approved several artificial sweeteners** such as saccharin sodium, aspartame, acesulfame potassium, sucralose, neotame for use in food in India.

IARC Monographs Hazard Classification

	Higher level of certainty →			Lower level of certainty
IARC Group	GROUP 1	GROUP 2A	GROUP 2B	GROUP 3
Level of certainty that a substance can cause cancer (typical examples of evidence leading to each group)	CARCINOGENIC TO HUMANS Sufficient evidence for cancer in humans.	PROBABLY CARCINOGENIC TO HUMANS Limited evidence for cancer in humans. Sufficient evidence in experimental animals.	POSSIBLY CARCINOGENIC TO HUMANS Limited evidence in humans. Less than sufficient evidence in experimental animals.	NOT CLASSIFIABLE AS TO ITS CARCINOGENICITY TO HUMANS Inadequate evidence in humans. Inadequate evidence in experimental animals.
Substances evaluated	 Tobacco smoking, solar radiation, consumption of alcoholic beverages, ionizing radiation	 Emissions from high-temperature frying. DDT, consumption of red meat, night shift work	 Gasoline engine exhaust, occupational exposure as a hairdresser or barber, lead	 Coffee drinking, crude oil, mercury, paracetamol
The classification indicates the level of certainty that a substance can cause cancer (hazard identification)				

Different Types of Non-Sugar Sweeteners (NSS)	
Aspartame	<ul style="list-style-type: none"> • Composed primarily of two amino acids. • Completely hydrolysed in gastrointestinal tract to methanol, aspartic acid, and phenylalanine. • Used in multiple food and beverage products; breakfast cereals, toothpaste, and medications such as cough drops and chewable vitamins.

Acesulfame-K	<ul style="list-style-type: none"> Derived from aceto-acetic acid and used in a wide range of non-medicinal products. About 200 times sweeter than table sugar (sucrose) and is often combined with other sweeteners.
Neotame	<ul style="list-style-type: none"> A derivate of aspartame and a general-purpose sweetener and flavor enhancer. It is heat stable (stays sweet even when used at high temperatures during baking).
Sucralose	<ul style="list-style-type: none"> A zero-calorie artificial sweetener made from sugar in a multistep chemical process. About 600 times sweeter than sugar. Heat stable.
Advantame	<ul style="list-style-type: none"> Approximately 20,000 times sweeter than table sugar (sucrose).
Saccharin	<ul style="list-style-type: none"> About 300 times as sweet as sucrose.
Sorbitol	<ul style="list-style-type: none"> A polyhydric alcohol and used as a sweetening agent in many oral medicinal liquids.
Monk Fruit/ Luo han guo/ Siraitia grosvenorii	<ul style="list-style-type: none"> A fruit extract from a plant native to Southern China. It is 100-250 times sweeter than sugar.
Steviol Glycosides	<ul style="list-style-type: none"> Natural constituents of the leaves of Stevia rebaudiana (Bertoni) Bertoni, a plant native to parts of South America and commonly known as Stevia. 200 to 400 times sweeter than table sugar.
Thaumatococcus	<ul style="list-style-type: none"> Group of intensely sweet basic proteins isolated from the fruit of <i>Thaumatococcus daniellii</i> (West African Katemfe fruit). Used as a sweetener in various foods, including wine and other fermented or distilled beverages, jams, ice cream, bakery items, potato-based and similar snacks, and breakfast cereals.

7.6. NEWS IN SHORTS

7.6.1. BHARAT 6G ALLIANCE (B6GA)

- Department of Telecommunication (DoT) **launched Bharat 6G Alliance (B6GA)**.
 - B6GA is a **collaborative platform comprising public and private companies**, academia, research institutions, and Standards development organisations.
 - It'll **forge coalitions and synergies with other 6G Global Alliances**, fostering international collaboration and knowledge exchange.
 - Other initiatives launched**
 - Two agreements were signed for projects under **Telecom Technology Development Fund (TTDF)**.
 - ✓ **TTDF scheme was launched by Universal Service Obligation Fund (USOF) in 2022**. USOF is a body under DoT.
 - ✓ **5% of annual collections from USOF are available for TTDF for funding R&D in rural-specific communication technology applications** and form synergies among academia, start-ups, and industry to build and develop a telecom ecosystem.
 - Under **DCIS (Digital Communication Innovation Square)**, funds were allocated to Start-ups and MSMEs.
- 6G is the successor of 5G** with ability to use **higher frequencies** (Sub-6 GHz and 95 GHz to 3 THz (Terahertz)) with **greater speed** (Up to 1,000 Gbps) and **lower latency** (1 millisecond).
 - **Significance:** Support **high-performance computing, edge computing, Technology Convergence** etc.

Objectives of B6GA



7.6.2. MAJORANA ZERO MODES

- Microsoft announced Majorana zero modes to revolutionise quantum computing.
- Quantum computing is a **multidisciplinary field that utilises quantum mechanics to solve complex problems** faster than classical computers.
 - It **uses two fundamental principles** of quantum physics: **superposition and entanglement**.
- All particles** in nature are **either bosons or fermions**.
 - **Bosons carry energy and forces** throughout the universe.
 - **All subatomic particles** that makeup matter are called **fermions**.

- In 1928, **Physicist Paul Dirac predicted** the existence of an **antiparticle for each particle**, such that if the two meet, **they annihilate each other**.
 - Based on his prediction, **scientists found the first antiparticle**, the **positron** (or the anti-electron).
- **Later Physicist Ettore Majorana predicted particles** that satisfied certain **conditions to be their antiparticles**.
 - In his honour, **fermions that are their own antiparticles are called Majorana fermions** (neutrinos are considered to be Majorana fermions).
- **Pair, or bound states, of fermions that are their own antiparticles, are called Majorana zero modes**.
 - **Majorana zero modes could help build quantum computers that are much less fragile** than they are today, making them **computationally superior**.

Know the term

- **Superposition:** It means that each quantum bit or **qubit can represent both 1 and 0** at the same time.
- **Entanglement:** It means that qubits in a **superposition can be correlated with each other**; i.e., state of one (whether it is a 1 or a 0) can depend on state of another.

7.6.3. ROBOMAPPER

- **RoboMapper** has identified **perovskite materials used in solar cells** that have more stability and efficiency.
- RoboMapper is a **robot** (created by Researchers US) that conducts **experiments more efficiently** and sustainably.
- It facilitates the **conduct of materials testing more quickly**.
 - It performs **each step** of the data collection process but does so for **multiple materials in parallel, saving time and energy**.
 - The process also **reduced greenhouse gas emissions of the characterisation process by ten times**.

7.6.4. PERSEVERANCE ROVER

- NASA's Perseverance rover **found diverse organic matter on Mars**.
- **Scanning Habitable Environments with Raman and Luminescence for Organics and Chemicals (SHERLOC) instrument** on rover detected **organic molecules in Jezero Crater** (an ancient lake basin site on Mars).

- SHERLOC operates day or night and uses **ultraviolet laser light to search for organics and minerals**.
 - ✓ **SHERLOC uses Raman spectroscopy**. It works by **shining light on molecules** and measuring the scattered light at different frequencies. It helps in determining which compounds exist in a sample.
- **Organic chemicals were discovered in meteorites sent from Mars and Gale Crater earlier**.
- Organic molecules are **key blocks of life on Earth** (made primarily of **carbon, hydrogen and other elements** like oxygen, nitrogen, phosphorus, and sulphur).
- So far, **only the Mars Phoenix lander and Curiosity rover** have been able to **detect organic carbon** using methods like evolved gas analysis and gas chromatography-mass spectrometry.

Prominent Mars Missions

 Country	Missions
 India	Mangalyaan
 USA	Mars Reconnaissance Orbiter and Mars Odyssey
 China	Tianwen-1
 Europe (European Space Agency)	Mars Express
 United Arab Emirates (UAE)	Hope

7.6.5. EUCLID MISSION

- **ESA's (European Space Agency) Euclid mission** lifted off.
- Euclid aims to **investigate cosmic mysteries of dark matter and dark energy**. It will make a **3D map of the Universe** by observing billions of galaxies.
 - Universe composed of: 68% dark energy, ~27% dark matter, and ~5% normal matter.
- Euclid has a **reflecting telescope** that feeds the two instruments: a **visible-wavelength camera (VIS)** and **Near-Infrared Spectrometer and Photometer (NISP)**.
 - It will travel **towards Sun-Earth Lagrange point 2**.

7.6.6. DE-ORBITING OF SATELLITES

- **Indian Space Research Organisation (ISRO)** successfully launched the PSLV-C56 carrying Singapore's DS-SAR satellite and six other satellites.
- Launch conducted the **fourth stage (PS4) de-orbiting experiment**

- **De-orbiting of satellites** is a technology to drag satellites to the graveyard orbit, i.e., orbit 200 miles farther away from Earth than the farthest active satellites.)
 - **De-orbiting systems can be passive** (use of integrated spacecraft) **and active systems** (designed to move satellites in the graveyard orbit).
- **De-orbiting experiment** result in reduced space debris and sustainable use of space.

IALA: Established in 1957, it is a non-profit, international technical association.

7.6.8. SOLAR FLARE

- Recently, X-class solar flare led to a radio blackout in parts of the US Pacific Ocean.
- **Classification of Solar Flares:**
 - They are classified **according to their strength**. The smallest are A-class, followed by B, C, M, and X, the largest.
 - **Each letter represents a 10-fold increase in energy output.** So an X is ten times an M and 100 times a C.
 - **Within each letter class**, there is a finer scale from 1 to 9.

Classes of Solar Flares	Impact on Earth
X (Strongest)	Can trigger planet-wide radio blackouts and long-lasting radiation storms
M	Can cause brief radio blackouts that affect Earth's polar regions and minor radiation storms.
C	Small with few noticeable consequences on Earth.
B	Too small to harm Earth.
A (Weakest)	Are hardly noticed and does not cause any harm

7.6.7. SAGAR SAMPARK

- **Indigenous Differential Global Navigation Satellite System (DGNSS) – “SAGAR SAMPARK”** was inaugurated by the Ministry of Ports, Shipping and Waterways (MoPSW).
- DGNSS is a terrestrial-based **enhancement system** which **corrects errors and inaccuracies in Global Navigation Satellite System (GNSS)**, allowing for more accurate positioning information.
 - GNSS refers to a **constellation of satellites providing signals from space** that transmit positioning and timing data **to GNSS receivers** to have Global coverage.
 - **Major GNSS are: GPS (USA), GLONASS (Russia), Galileo (Europe), BeiDou (China), NAVIC (India).**
- DGNSS involves **having reference stations** at precisely known locations that **provide real-time corrections for GNSS signals**.
 - DGNSS systems **provide shore-to-ship services**.
- **Significance of DGNSS**
 - **Providing safe navigation and reducing the risk of collisions**, groundings, and accidents in port and harbour areas.
 - **Fulfilment of international navigation obligations** of the International Maritime Organisation (IMO), Safety of Life at Sea (SOLAS) and International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA).
 - **GPS error correction accuracy improved** from 5 to 10 meters **to less than 5 meters** for 100 Nautical Miles from Indian coastlines.
 - **Will enhance the capability of the Directorate General of Lighthouses and Lightships (DGLL)** in Radio Aids to Marine Navigation.
 - ✓ DGLL, a **subordinate office under MoPSW**, provides General Aids to Marine Navigation along the Indian coast.

- **What are solar flares?**
 - Solar flares are **giant explosions on the sun** that send energy, light, and high-speed particles into space.
 - These flares are often associated with **solar magnetic storms known as coronal mass ejections (CMEs)**.
 - It happens when energy stored in **‘twisted’ magnetic fields (usually above sunspots)** is suddenly released.

7.6.9. AURORAS ON MERCURY

- During a close Mercury flyby, the **BepiColombo spacecraft** collected data showing how electrons raining down on the planet's surface trigger **X-ray auroras**.
- **BepiColombo** is a joint mission by the **European Space Agency (ESA) and the Japanese Aerospace Exploration Agency (JAXA) to Mercury**.
 - Auroras on Earth are triggered when a **stream of charged particles** emitted by the Sun interact **with the ionosphere**.
 - But Mercury has a **very thin atmosphere** (called an exosphere). Auroras on the planet are created when **solar wind**, the stream of particles, interacts **directly with the planet’s surface**.

IMO: UN specialized agency with responsibility for safety and security of shipping and prevention of marine and atmospheric pollution by ships.
SOLAS Convention in its successive forms is related the safety of merchant ships. First version was adopted in 1914, in response to Titanic disaster.

7.6.10. 100 MICROSITES PROJECT

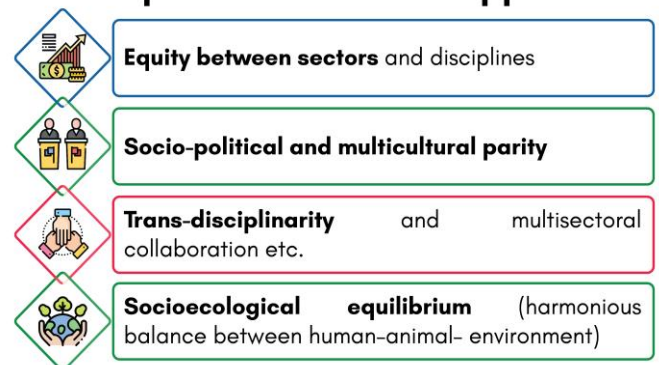
- National Health Authority (NHA) launched the 100 Microsites Project under Ayushman Bharat Digital Mission (ABDM).
- Microsites Project was launched to **accelerate digital health adoption across the country**.
- Microsites aim to **establish a small ecosystem within a particular geographic area where there is complete ABDM adoption** and the entire patient journey is digitised.
 - Microsite is a **cluster of healthcare stakeholders** (all healthcare providers, pharmacies etc.) interconnected by common characteristics.
 - Microsites are **implemented to counter challenges encountered in ABDM adoption** and **increase private sector participation** in healthcare penetration.
 - NHA would provide financial resources and overall guidance.
 - Earlier, ABDM implemented Microsite in Mumbai (2022), Ahmedabad and Surat (2023).
- NHA is the **apex body responsible for implementing Ayushman Bharat Pradhan Mantri Jan Arogya Yojana and ABDM**.
 - NHA is **governed by a Governing Board chaired by Union Minister for Health and Family Welfare (MoH&FW)**.
- ABDM aims to create a seamless online platform to **enable interoperability within the digital healthcare ecosystem** (refer image).
 - **NHA, under MoH&FW**, is the nodal agency for its implementation.
- **Benefits of ABDM: Improve efficiency, transparency of healthcare services, better access to data, enabling evidence-based decision making, etc.**



7.6.11. ANTIMICROBIAL RESISTANCE (AMR)

- **One Health Priority Research Agenda** for Antimicrobial Resistance (AMR) was released.
- It was released by FAO, UN Environment Programme (UNEP), WHO and World Organisation for Animal Health (WOAH) to **better advocate for increased research and investment in AMR**.
 - AMR occurs **when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines** making infections harder to treat and increasing the risk of disease spread, severe illness and death.
 - Earlier, **WHO also launched a global research agenda for AMR** in human health in 2023.
- **Agenda presented a five-pillar based one health approach** to tackle the growing threat of AMR, including:
 - **Transmission:** Focuses on **environment, plant, animal, and human sectors** where AMR transmission, circulation and spread occur.
 - **Integrated surveillance:** To identify **cross-cutting priority research questions** to improve common **technical understanding and information exchange** among One Health stakeholders.
 - **Interventions** aimed at preventing, containing, or reducing AMR incidence, prevalence, and spread.
 - **Behavioural insights and change:** across various groups and actors involved in the development and spread of AMR at the One Health interface.
 - **Economics and policy:** consider the cost-effectiveness of an AMR investment case, financial sustainability, and long-term financial impact.

Principles of One Health Approach



7.6.12. MALARIA VACCINE

- 18 million doses of the **first-ever malaria vaccine RTS, S/AS01**, were allocated to 12 African countries for 2023-25 by WHO, GAVI and UNICEF
 - **RTS,S/AS01 (RTS,S) malaria vaccine** can be used for prevention of **P. falciparum malaria**.

- Known by the name **Mosquirix**, it is a **recombinant protein vaccine (RPV)**.
- RPVs are a **type of Recombinant Subunit Vaccines (RSVs) that use protein as antigen**.
 - RSVs rely on the capacity of **one or multiple defined antigens** (a subpart of a pathogen like proteins, peptides, DNAs, etc., that causes the formation of antibodies) to induce **immunity against the pathogen**.
 - RPVs are considered **safer as compared to vaccines derived from live viruses** as they are **non-replicating** and **lack any infectious components** of viral particles.
- **About Malaria**
 - It is a **life-threatening vector-borne disease** caused by **Plasmodium (parasite)**.
 - **Vector:** Female Anopheles mosquito.
 - **Symptoms:** High fevers, shaking chills, and flu-like illness.
 - **Four kinds of malaria parasites infect humans:** P. Falciparum, P. vivax, P. ovale, and P. malariae.
 - In addition, P. knowlesi naturally infects macaques in Southeast Asia, also infects humans (**zoonotic malaria**).
 - Illness and death from malaria are both **preventable** as well as **curable**.
- **About Global Alliance for Vaccine and Immunization (GAVI)**
 - It was set up as a **Global Health Partnership in 2000**
 - **Core partners:** WHO, World Bank, UNICEF, and Bill & Melinda Gates Foundation
 - It is critical to strengthen primary health care and bring us closer to the **Universal Health Coverage (SDG 3)**.

7.4.13. BPAL REGIMEN TRIAL

- For tuberculosis, an over 85% cure rate was seen in the modified **BPAL regimen trial**.
- **BPAL** is a **six-month**, all-oral, three-drug regimen that is used to treat people with highly drug-resistant forms of TB (i.e., **XDR TB**)
 - It consists of the pretomanid and two other antibiotics: Bedaquiline and Linezolid.
- **XDR TB** is a rare type of multidrug-resistant tuberculosis (MDR TB) that is resistant to isoniazid, rifampin, fluoroquinolone, and a **second-line injectable** (amikacin, capreomycin, and kanamycin).

7.4.14. ZOMBIE DRUG

- **Xylazine**, also known as “tranq,” “tranq dope”, and “zombie drug”, has sedative-like **symptoms such as extreme sleepiness**.

- Tranq is known for its ability to induce a “zombie” like stupor and cause flesh rot near injection sites.
- When combined with opioids like fentanyl, xylazine **increases the life-threatening effect of respiratory depression (slowing or stopping breathing) caused by opioids**, increasing the risk of overdose and death.
- **Zombie drugs can cause raw wounds on the user’s skin**. It starts with ulcers, hardens to dead skin called eschar, and, if left untreated, can result in amputation.
- It is usually used as a **tranquilliser on cows and horses**.

7.4.15. GLOBAL FOOD REGULATORS SUMMIT 2023

- Summit is an endeavour of the FSSAI to **create a global platform for food regulators** to exchange perspectives on strengthening food safety systems and regulatory frameworks.
- **Key launches:**
 - Release of **Food-o-Copoeia**, a collection of **food category-wise monographs and a single point reference for all applicable standards** for a specific product category.
 - **Common regulators platform 'SaNGRAH'**, a database of Food Regulatory Authorities of 76 countries worldwide, their mandate, food testing facilities etc.

7.4.16. BLUE SKY PROJECT



- **Recently**, The Government has released a **draft R&D roadmap for the green hydrogen ecosystem** in India, which **stresses on developing fuel cells for long-range travel**, particularly for the road transport sector.
- The roadmap has proposed three key approaches for promoting R&D: **mission mode, grand challenge projects and blue-sky projects**.
- **Blue-sky projects are projects having a long-term (0 - 15 years) horizon** would be taken up with a focus on establishing global IP and competitive advantage for the Indian industry.
 - Blue Sky projects will aim to develop capabilities of the Indian R&D sector within an array of subjects like **the development of 3rd generation electrocatalysts, reversible Solid Oxide Electrolysers (SOECs) and Solid Oxide Fuel Cells (SOFCs), thermochemical water splitting for hydrogen production etc.**
- **Mission mode projects are projects with short-term (0 - 5 years) impact horizon**. It is also known as ‘early-stage research action’.

- Grand challenge projects are projects with a mid-term (0 - 8 years) impact horizon. They are also known as 'Demonstration Actions' for encouraging start-ups and industries to grow.

7.4.17. DIRECT METHANOL FUEL CELLS (DMFCS)

- An alloy of Cobalt and Platinum doped with Manganese has been found to be an effective catalyst in DMFCs.

- DMFC is an electrochemical energy conversion device that directly converts liquid methanol's chemical energy into electrical energy.
- DMFCs have a high energy density, high efficiency and low operating temperature and are safer to operate as they deal with liquid fuel (methanol).
- **Application:** an alternate power source for small vehicles, such as battery chargers for mobile phones, digital cameras, laptops, and other small electronic gadgets etc.

 <p>SMART QUIZ</p>	<p>You can scan this QR code to practice the Smart Quiz of Science & Technology at our open test online platform for testing your understanding and recalling of the concepts.</p>	
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DAKSHA MAINS

MENTORING PROGRAM 2024

DAKSHA MAINS MENTORING PROGRAM 2024

(A Strategic Revision, Practice, and Enrichment Mentoring Program for Mains Examination 2024)

<p style="text-align: center; font-weight: bold;">DATE</p> <p style="text-align: center; font-weight: bold;">17th August</p> <p style="text-align: center; font-weight: bold;">हिन्दी/English Medium</p>	<p style="text-align: center; font-weight: bold;">DURATION</p> <p style="text-align: center; font-weight: bold;">5 Months</p>
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HIGHLIGHTS OF THE PROGRAMME

<ul style="list-style-type: none">  Highly experienced and qualified team of mentors  Scheduled group sessions for strategy discussions, live practice, and peer interaction  Well-structured revision and practice plan for GSMains, Essay & Ethics  Access to Daksha Mains Practice Tests 	<ul style="list-style-type: none">  Emphasis on score maximization and performance improvement  Personalized one-to-one sessions with mentors  Subject-wise strategy documents based on thorough research  Continuous performance assessment, monitoring and smart interventions
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8. CULTURE

8.1. MIHIR BHOJA

Why in the news?

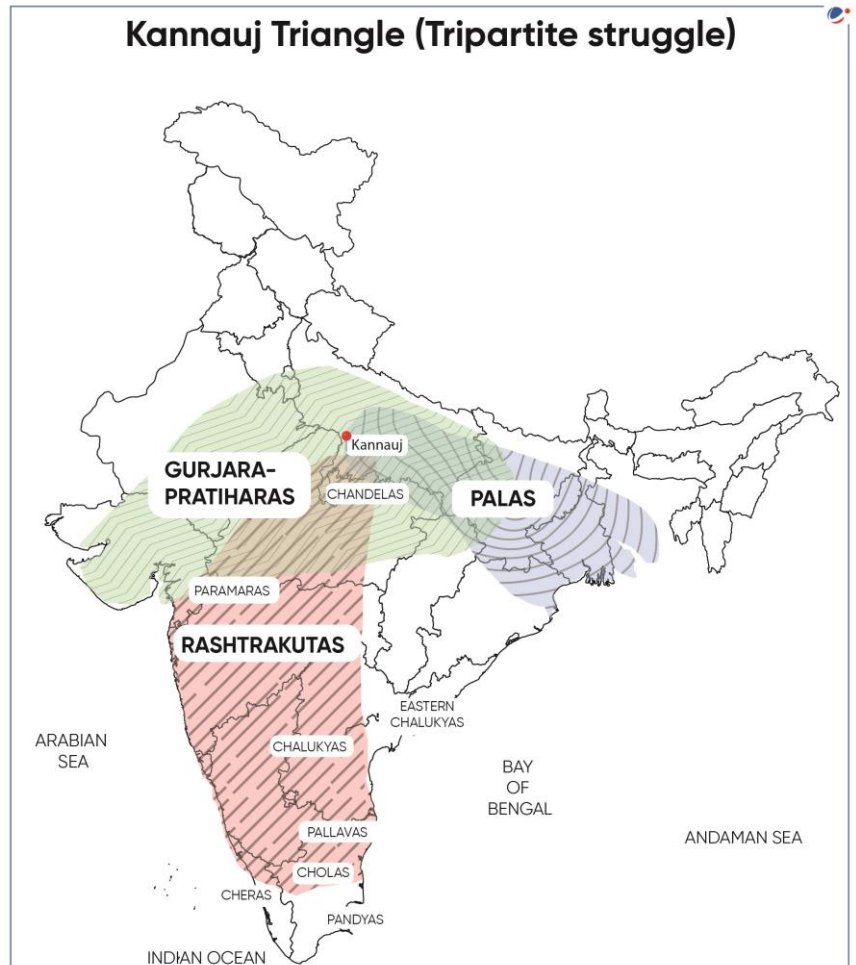
Recently a statute of Raja Mihir Bhoja was unveiled in Kaithal, Haryana.

About Mihir Bhoja







- A prominent **9th-century ruler from Gurjar – Pratihara dynasty.**
- He succeeded his **father Rambhadra and ascended to the throne in 836 CE.**
- He adopted the **title of Adivaraha (devotee of Lord Vishnu).** Also, some of the **coins from his era feature the term Adivaraha.**
- **Arab merchant Sulaiman** described him as one of the **greatest Gurjara – Pratihara emperors.**
- He was also a **great patron of art and literature.** **Poet Rajsekhara** adorned his court.

Political consolidation by Mihir Bhoja

- He **reorganized and consolidated** the Pratihara empire through conquests and diplomacy.
 - Various **inscriptions at Varaha, Daulatpur, Kahala, Pahewa, etc.,** indicate his control over **Malwa, Rajputana, Madhyadesh.**
 - **Kalhana's Rajatringini** mentions the **expanse of his empire to Kashmir** in the north.
- **Tripartite struggle:**
 - He was also involved in tripartite struggle **for Kannauj with Palas in the East and Rashtrakutas in the Deccan.**
 - He fought wars with Pala king **Devapala.** Later, according to **Gwalior prashasti,** Bhoja **defeated the son of Devapala.**
 - During his reign, **Amoghavarsa and Krishna II** were Rashtrakuta kings ruling over Kannauj. Bhoja captured Kannauj from Rashtrakutas and **extended his empire up to the river Narmada.**



Gurjara Pratihara (730 CE – 1036 CE)

Prominent Rulers 	<ul style="list-style-type: none"> ➤ Nagabhata (Founder) ➤ Vatsraja ➤ Nagabhata II ➤ Mihir Bhoja ➤ Mahendrapal ➤ Jasapala (last ruler)
Major Cities 	<ul style="list-style-type: none"> ➤ Ujjain: Capital of Vatsraja ➤ Kannauj: Capital city of Mihir Bhoja and later rulers
Literary records 	<ul style="list-style-type: none"> ➤ Aihole inscriptions of Pulakesin II ➤ Travelogues of Hiuen Tsang ➤ Harshacharita of Banabhatta
Administration 	<ul style="list-style-type: none"> ➤ Kings adopted big titles like 'Parameshwara', 'Maharajadhiraj', etc. ➤ No references of council of ministers. ➤ State was divided into Bhuktis, Bhuktis into Mandalas, and Mandalas into cities and villages. ➤ Villages were locally administered
Socio-Religious conditions 	<ul style="list-style-type: none"> ➤ Prevalence of caste system, inter-caste marriages, polygamy for royal and rich classes, etc. ➤ This was the age of progress for the Brahminical religious order with Vaishnava, Shaiva, Shakti and Surya being the most prominent sects. ➤ Idol worship, Yajanas and giving charity to religious places were also prominent.
Art and Architecture 	<ul style="list-style-type: none"> ➤ Rulers of the dynasty were great patrons of arts, architecture and literature. ➤ Notable sculptures of this period include Viswaroopa form of Vishnu, marriage of Shiva and Parvati, female figure Sursundari, etc. ➤ The most important architectural work of this dynasty are at Osian (in modern day Jodhpur district of Rajasthan), which includes Hari-Hara temple built in Maha-Maru style of architecture. ➤ Early works at Osian also portray Panchayatana style (central shrine surrounded by four subsidiary shrines) of temple building. ➤ Teli ka Mandir at Gwalior fort, dedicated to a Shakti-cult, is one of the oldest surviving large-scale works of this dynasty. It was built during the reign of Mihir Bhoja.

- Dynasty ended in 1036 CE due to a quick succession of rulers, family feuds, Turkic attacks from the west and Pala advances from the east.

8.2. SRI ALLURI SITARAMA RAJU

Why in the news?

Recently, the yearlong celebration of the **125th Birth Anniversary** of Shri Alluri Sitarama Raju and **100 years of the Rampa Rebellion** concluded in Hyderabad.

Early Childhood

- **Birth Place:** Born on 04 July 1897, at Mogallu near **Bhimavaram, Andhra Pradesh**.
- By the age of 18, he renounced all worldly pleasures and became a Sanyasi.

Contribution in India's Independence

- **Influenced by Mahatma Gandhi during Non-Cooperation Movement (NCM):**
 - He inspired the tribals to seek justice in the **local panchayat courts** and boycott the colonial courts.
 - He persuaded people to wear **khadi** and give up **drinking**.

Alluri Sitarama Raju



- **Rampa Rebellion (1922-1924)**

- It is also known as the **Manyam (which means forest area) Rebellion**.
 - ✓ He is also referred as **“Manyam Veerudu”** (Hero of the Jungles) by the local people.
- In August **1922**, Shri Alluri Sitarama Raju launched movement against British tyranny rule.
 - ✓ He began to **organise adivasis** against oppressive Madras Forest Act, 1882.
 - ✓ Organised **militant guerrilla movement** spread in the early 1920s
 - ✓ He soon realised that the **traditional weaponry** would be of no use against the heavily armed the British forces.
 - ✓ To get modern weapons, he found the best way to snatch them from the enemy, and for that he launched attacks on **police stations**.
 - ✓ The first of such attacks was made on **Chintapalli police station** in Visakhapatnam.
- After a relentless chase by British forces, Shri Alluri Sitarama Raju was caught and martyred on May 7, 1924.
- Rampa Rebellion later inspired the tribals of Orissa and they started no rent Struggle along with violating forest laws.

Factors behind Rampa Rebellion

- **Alienation of tribal population from Rampa and Gudem Hills:** By passing the **Madras Forest Act, of 1882**, Agency restricted the free movement and collection Minor Forest Produce by the tribal communities.
- **Banning traditional Podu agricultural system (slash-and-burn shifting cultivation).**
- **Exploitation of Tribals:**
 - **Vetti worker (free customary or unpaid Labours):** The tribal folk refused to work as vetti labour in the construction of roads and railway lines in the hilly region.
 - **Gothi Labour (A form of debt bondage):** Gothi labours were employed by private forest contractors in the region without proper wage.
 - **System of Coolie Labour:** Labours were paid at local rate for their work but remain unpaid for certain type of forest work.
- **Muttadars (Village Headman) power curtailed:** Muttadars in the traditional socio-economic framework of the Rampa region had been actual rulers in their capacity.
 - British rule altered this power structure of tribal community which antagonised the muttadars.

- He was also a member of a **Calcutta Secret Society** where he learnt to make bombs.

8.3. BASTILLE DAY AND FRENCH REVOLUTION (1789-1815)

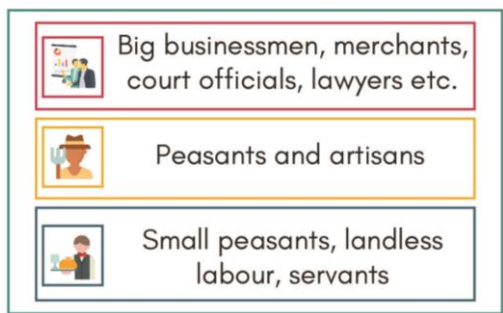
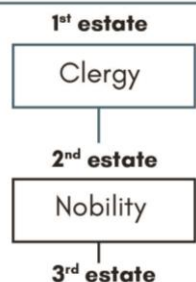
Why in the news?

Recently Prime Minister of India attended **Bastille Day Parade** as a Guest of Honour in France.

About Bastille Day

- **July 14** marks the anniversary of the storming of the Bastille prison on 14th July 1789, which **marks the beginning of the French Revolution (FR)**.
- **Events of the day:**
 - King and Assembly were suspicious of each other. The King commanded the troops to move into the city.
 - Rumours spread that king would soon order the army to open fire upon the citizens.
 - A group of several hundred people stormed **the fortress prison, the Bastille**, where they hoped to find hoarded ammunition. (**Bastille was a 14th-century fortress prison** in Paris that was hated by all because it stood for the **despotic power of the king.**)
 - **The Commander of the Bastille was killed** and the prisoners were released by the mob.

3 Estates of French Society



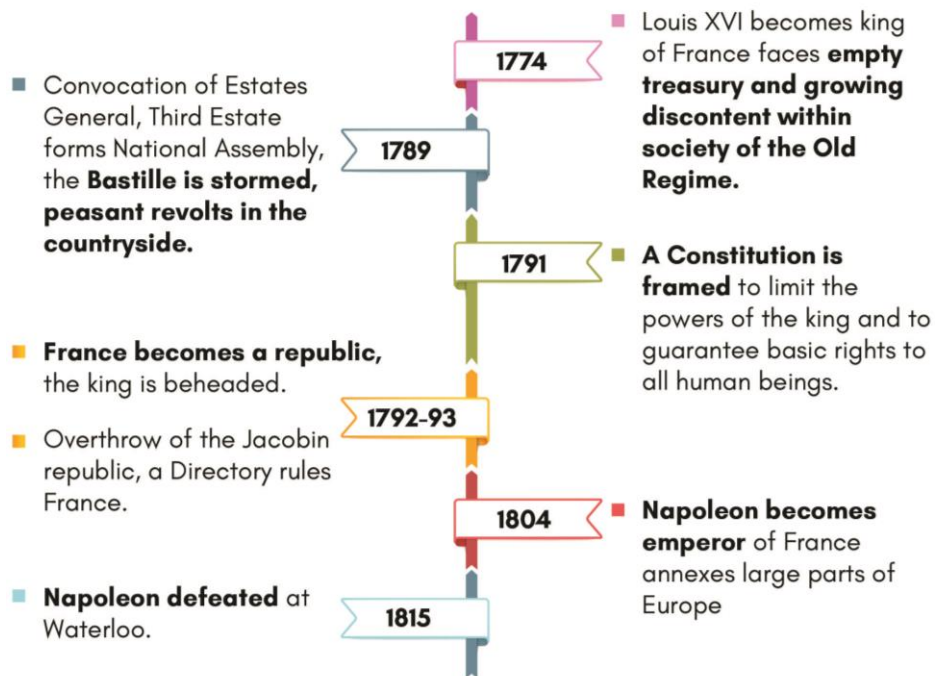
- This was the **beginning of a chain of events** in FR which was as much a struggle of **weapons as of ideas**.

Reasons for French Revolution

- **No representation in administration:** People had no participation in it. Though France had a representative institution called the Estates General, its session had not been held since 1614.

- **French Society during the late 18th century (Unequal distribution of power):** Diverse and disintegrated society with a **retrogressive system of feudalism**.
 - The society of **estates was part of the feudal system** that dated back to the middle ages.
 - **Peasants made up about 90% of the population.** However, only a small number of them owned the land they cultivated.
 - Members of the first two estates, that is, the clergy and the nobility, **enjoyed certain privileges by birth.**
- **Economic Condition of France:** Constant wars led to deplorable conditions and France reached the **brink of bankruptcy.**
- **Intellectual Enlightenment:** **Montesquieu, Voltaire, Rousseau** etc. were some of the scholars who inspired people to think independently. They raised several questions against **religious, economic, social and political institutions** basing them on their special rights and injustice.
- **Immediate Cause of Revolution:** Improvident policy of **King Louis XVI**, economic crisis pitched the proletariat into misery, growing middle class.

Timeline of the French Revolution



Impact of the French Revolution

Impact on France	Worldwide Permanent Impact
<ul style="list-style-type: none"> • End of Autocratic and Despotic Bourbon Dynasty: Revolution uprooted them and after the new constitution of 1791, no king claimed divine rights. • Impact on the social system: <ul style="list-style-type: none"> ○ End of Privileged Class: Revolution started a new social organisation. ○ End of Feudalism: Feudal lords occupied all key posts in administration, military, and church. This drastically reduced post-revolution. ○ Improvement in Conditions of Middle and Lower Classes: Forced labour was banned. Land was allotted to peasants and several taxes were revoked. • Decline in Supremacy of Church: Religious freedom was granted to all sects. Revolutionaries laid more emphasis on intellect and reason. • Declaration of Human Rights: Declaration granted personal freedom as well as freedom of expression and speech. • Negative Effects of the Revolution: <ul style="list-style-type: none"> ○ Many innocent people were guillotined during the Reign of Terror, which followed the Revolution. ○ Disturbance, anarchy and disorder continued in France for a long time. 	<ul style="list-style-type: none"> • Revolution awakened the spirit of nationalism: It paved the way for unification of Italy & Germany. This spirit soon infused the people in Belgium, Serbia, Greece, and Hungary. • Declaration of Human Rights: It kicked a number of movements where people demanded not only political freedom but also the right to property and freedom of expression. • Popularized democratic values: Ideologies of liberty, equality and fraternity inspired movements in various countries. <ul style="list-style-type: none"> ○ Tipu Sultan and Rammohan Roy are examples of individuals who responded to the ideas coming from revolutionary France.

Conclusion

French Revolution was **not a local occurrence**, it initiated principles which became the guiding force of several events in history in the ensuing ages. **Liberty, Equality and Fraternity** are eternal contributions of the French Revolution.

8.4. NEWS IN SHORTS

8.4.1. ANUBHAV MANTAPA

- **International Exhibition-cum-Convention Centre (IECC)** at Pragati Maidan, New Delhi, **has been named 'Bharat Mandapam'**.
- Bharat Mandapam – **derives its root from Lord Basaveshwara's** (12th century) idea of **Anubhav Mantapa**.
- Anubhava Mantapa was **one of the earliest Parliament** in history, **where Sharanas** (poets and socio-spiritual reformers) **deliberated for reforms** in various spheres.
 - **Prabhudeva**, a great Yogi, **was the President**, and **Lord Basaveshwara acted as PM**.
 - **Members were not elected by the people** but were picked up or **nominated by higher authorities** of Mantapa.

8.4.2. PORPANAIKOTTAI SITE

- **A gold stud, a bone point and a carnelian bead belonging to Sangam Age** have been excavated at the Porpanaikottai site in the Pudukottai district of Tamil Nadu.
 - Sangam Age refers to the **period of ancient Tamil Nadu, Kerala, from c. 6th century BCE to c. 3rd century CE**.
- **The Excavation site indicated a burial site, and the fort area** showed signs of water bodies inside the site.
- The discovery of a carnelian bead (generally found in the Northern part of India) **Indicated a trade within the country**.
- The discovery of bone point tools indicated that a Porpanaikottai was **a site of the weaving industry**.

8.4.3. TANKAI SHIPBUILDING METHOD

- **Ministry of Culture and Indian Navy** to launch a project **to revive the 2000-year-old technique** of shipbuilding known as the **Tankai method**.
- In this method, the **ship is constructed by stitching wooden planks together rather than using nails**.
- This method offered **flexibility and durability**, making them **less susceptible to damage** from shoals and sandbars.
- **The arrival of European ships** led to a **shift in shipbuilding techniques**.

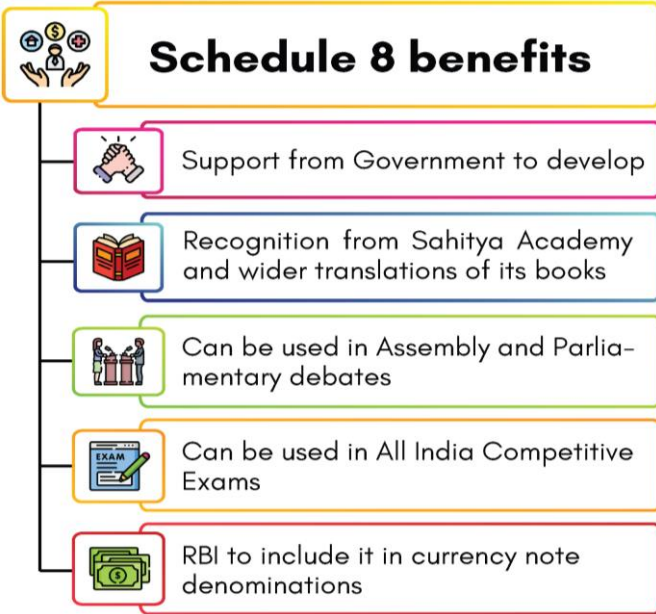
8.4.4. OL CHIKI SCRIPT

- Prime Minister wished the people of the Santhali tribe on the occasion of Hul diwas using the Ol Chiki Script of the Santhali language.

- 92nd Constitutional Amendment Act **added Santali to Schedule VIII to the Constitution of India, which lists the official languages of India**, along with Bodo, Dogri and Maithili languages.
- Ol Chiki script **was created in 1925 by Raghunath Murmu**.
 - **Santhali is a Munda language spoken mainly in Jharkhand, West Bengal, Odisha, and also in Bangladesh, eastern Nepal and Bhutan**.
 - There are about 7.3 million speakers of Santhali in India, according to the 2011 census.
- **June 30 is celebrated as Hul (revolution) Diwas**, marking **the beginning of the Santhal rebellion 1885**.
- **Santhal rebellion (1855-56)** was one of the **first expressions of revolt against the British** colonial regime.
- It is **attributed to the Permanent Settlement Act of 1790** that led to their displacement from Birbhum and Manbhum regions (present-day Bengal) and **subsequent exploitation by Zamindars, police and the British**.
 - The rebellion **occurred in the Damin-i-Koh region in the Rajmahal Hills of Jharkhand**.
 - The two brothers headed it- Sidhu and Kanhu Murmu.

8.4.5. KUI LANGUAGE

- Odisha Cabinet has proposed including the Kui language in the 8th Schedule of the Constitution.
- **Kui Language** belongs to the **Dravidian Family of languages** and is spoken mainly by people of the **Kondh/ Kandha Tribe**, the largest tribe of Odisha.
 - It **uses Odia Script**, and Khondi, Gumsai are its dialects.
- **Schedule 8 of the Indian Constitution:**
 - It currently enlists the Official language of the Country and consists of 22 languages.
 - **Fourteen languages were initially listed** in the Constitution, and the rest were added over time.
 - Sindhi was introduced in 1967, Konkani, Manipuri, and Nepali in 1992, and Santali, Dogri, Maithili, and Bodo by the 92nd Amendment Act 2003.
- **Inclusion of New Language:**
 - **Currently, no fixed criteria exist for a language to be considered for inclusion in the Eighth Schedule**.
 - Though two committees under **Pahwa (1996)** and **Sitakant Mohapatra (2003)** were set up to evolve fixed criteria, the objective was not achieved.




8.4.6. ZO PEOPLE

- Zo people include:
 - All tribes of the Chin-Kuki-Mizo ethnic group spread across Myanmar, India, and Bangladesh.
 - Many sub-tribes and clans include the Chin, Kuki, Mizo, Lushei, Zomi, Paitei, Hmar, Ralte, Pawi, Lai, Mara, Gangte, Thadou, etc.
- Tribes are believed to have migrated from China through Tibet to settle in Myanmar.
- They speak a group of Tibeto-Burman languages.


8.4.7. KER PUJA

- It is a festival celebrated in Tripura two weeks after Kharchi Puja and honours Ker, a guardian god.
- During the festival, entrances to Agartala are closed to create a protected area, and people are not allowed to light fires, dance, sing or even wear shoes.
- It is also held in a few other northeastern states and in the Chittagong Hill Tracts in Bangladesh.



SMART QUIZ

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फाउंडेशन कोर्स

सामान्य अध्ययन

प्रारंभिक एवं मुख्य परीक्षा 2024

इनोवेटिव क्लासरूम प्रोग्राम

• प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक का विस्तृत कवरेज

• मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान

• एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग

• अंतर - विषयक समझ विकसित करने का प्रयास

• योजनाबद्ध तैयारी हेतु करंट ओरिएंटेड अप्रोच

• नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन

• सीसेट कक्षाएं

• PT 365 कक्षाएं

• MAINS 365 कक्षाएं

• PT टेस्ट सीरीज

• मुख्य परीक्षा टेस्ट सीरीज

• निबंध टेस्ट सीरीज

• सीसेट टेस्ट सीरीज

• निबंध लेखन - शैली की कक्षाएं

• करंट अफेयर्स मैगजीन

DELHI: 25 जुलाई, 9 AM | 5 सितंबर, 1 PM | JAIPUR: 17 अगस्त & 1 अगस्त 7:30 AM & 4 PM

BHOPAL: 8 अगस्त, 9 AM | JODHPUR: 21 अगस्त 7:30 AM & 4 PM

SIKAR: 4 सितंबर 7:30 AM & 4 PM | LUCKNOW: 22 जून, 9 AM

लाइव/ऑनलाइन कक्षाएं भी उपलब्ध

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9. ETHICS

9.1. SCIENCE WITHOUT HUMANITY

Introduction

Science without humanity is one of the **seven deadly sins** propounded by Mahatma Gandhiji. He asserted that if science becomes all technique and technology, it quickly degenerates into man against humanity. He emphasised focusing on the higher **human purposes** that technology should strive to serve.

Recent Examples of Scientific development sans humanity

- Use of **deadly weapons in the Russia-Ukraine war** despite knowledge of negative repercussions on human lives.
- A researcher in China used gene editing techniques **to create a designer baby (children with desired characteristics)**.
- **Artificial technology and related disruptive technologies** are progressing quickly without considering their consequences, such as privacy violations (human dignity).

Key stakeholders and their interests

Scientific Community	<ul style="list-style-type: none">• Scientists: Scientific development, personal growth along with public welfare at large.• Institutions: Includes both public and private entities.<ul style="list-style-type: none">○ Public institutions are generally guided by the national interest.○ Private institutions generally emphasize more on profit.
Regulatory Bodies (national and international)	<ul style="list-style-type: none">• Regulatory bodies aim to promote utilizing science for the welfare of humanity.<ul style="list-style-type: none">○ They aim to bring transparency and accountability among others in the sphere of research and scientific development.
Sovereign States	<ul style="list-style-type: none">• The interest of Sovereign states depends on their national interest.<ul style="list-style-type: none">○ This interest can vary with geopolitical conditions and domestic needs among others.
Citizens /Individuals	<ul style="list-style-type: none">• Aspiration of an individual is to improve his/her life with the help of scientific developments along with the overall welfare of the human civilization.

Ethical concerns/issues in Science without Humanity

- **Unequitable distribution of benefits:** The direction of scientific development is often driven by issues of more well-off sections of society.
 - For instance, many common problems poorer sections of society face do not receive their due weight, such as manual scavenging, malnutrition, etc.
- **Limited accountability:** Lack of precise accountability mechanisms and systems to check the development of potentially destructive technologies.
 - E.g., the development of chemical or biological weapons by some countries.
- **Illicit use of technology:** Public trust is eroded when scientific development or methodologies are hidden or manipulated for personal gain or to support a specific agenda.
- **Human being as means:** Often, science uses human beings as a means which **violates human dignity and fundamental human rights**. For instance, in some surrogacy cases, financially vulnerable women are exploited.
- **Science as a means:** In the present scenario, many countries use science **to enhance their influence**. Priority is given to personal interest or gain rather than the collective welfare of people.

The issues of Science without Humanity get further compounded by a growing appeal for **reckless development, limited consideration for ethical principles** in technological projects, and the need for **global cooperation** in developing a collective ethical framework.

Way Forward

- **Scientific Ethics:** Implementation of scientific ethics needs to be an **integral part of the scientific process**, ensuring that science is used responsibly and for the greater good.
- **Multistakeholder engagement mechanisms:** Creating systems where **scientists, researchers, policymakers**, and the **public** can engage in seamless and open dialogue. Such a discourse can shape the direction of scientific development.







- **Part of the education system: Emphasizing Moral education**, i.e., focus on principles and values and **scientific knowledge**, needs to be promoted.
- **Social Impact Indicators: Common social impact indicators can be developed** for technological developments. This will indirectly nudge the scientists and technocrats towards a more welfarist direction.
- **Establishing a permanent forum** that includes all primary global science and technology players will provide a platform for international deliberation.

“ **Humanity without science is fragile, science without humanity is lethal.**

— Abhijit Naskar



Outcome of Scientific Development at a glance

 Sphere	 Ethical Values/Principles are not incorporated	 Ethical Values/Principles are incorporated
 Development	Skewed development and few get the benefit of it.	Development is sustainable in nature. All get the benefit of scientific development.
 Human dignity	It undermines the human dignity	It is given the highest priority in it.
 Future of Humanity	It poses challenges such as nuclear and biological weapons are being developed.	Promotes the technologies which ease the life of human beings.

Scan the QR code to know more about **Ethics of Emerging Technology**.

Weekly Focus #80: Ethics of Emerging Technology



9.2. ETHICAL CONDUCT OF CONTROLLED HUMAN INFECTION STUDIES (CHIS)

Why in the news?

Indian Council of Medical Research (ICMR) Bioethics Unit has formulated a consensus policy statement for the **ethical conduct of CHIS**, also known as **Human Challenge Studies**, in India.

About Controlled Human Infection Studies (CHIS)

In CHIS, healthy volunteers are **intentionally exposed** to pathogens in a controlled environment to **promote an understanding** of the pathogenesis, transmission, prevention and **treatment of infectious diseases in humans**.

While Infectious disease contributes **about 30% of the disease burden** in India, it **has not undertaken such trials before**.

The **key difference between** Human Clinical Trials and Human Challenge Studies **is the nature of exposure-**

- **Human Clinical Trials:** The core objective of clinical trials is to **test the efficacy of medical, surgical, or behavioural interventions in people**.
 - **Here participants avoid getting infected**, and any exposure to the microbes and infection arising in the participants from such exposure is left to chance.

- **Human Challenge Studies:** The core objective of Human Challenge Studies is to **learn more about the disease** by studying an infected body. Thus, volunteers are **deliberately exposed to disease-causing pathogens**.

Key stakeholders and interests

Participants	<ul style="list-style-type: none"> • Right to receive comprehensive information about the research, ensuring they fully comprehend it and voluntarily participate. • Compensation for Research-Related Harm after proper assessment. • Privacy and Confidentiality of Participants.
Society	<ul style="list-style-type: none"> • Public health benefits, improved pandemic preparedness, and community empowerment. <ul style="list-style-type: none"> ○ Many infectious diseases are endemic in several developing countries, and resistance to existing drugs is increasing.
Regulatory Agency	<ul style="list-style-type: none"> • Responsible stewardship of science and research resources. • Ensure that the social and scientific value of research justifies the potential risks. • Transparency and Accountability in research plans and outcomes.
Researcher	<ul style="list-style-type: none"> • Researchers are responsible for protecting the environment and resources at all stages of the research. • Minimization of suffering and the promotion of human health.
Media	<ul style="list-style-type: none"> • Increasing awareness and disseminating information about CHIS.

Ethical Concerns

- **Violates medical ethics principle of ‘do no harm’:** Intentional exposure to pathogens in developing a human infection is considered a contravention of the **Hippocratic Oath** and infringes the **“do no harm” ethical code** for medical practitioners.
- **Psychological distress:** Reduced social interaction and limited access to emotional support systems can adversely affect **participants' mental well-being**—for example, **psychological distress** such as **anxiety, loneliness and depression**.
- **Non-adherence to Informed Consent in some cases:** For instance, the human papillomavirus (**HPV**) **vaccine trial in 2010** became notorious as informed consent requirements were **violated**.
- **Privacy & Confidentiality issue:** CHIS involves sensitive data which may affect participants' health and well-being with a **risk of social stigmatisation**.
- **Risk to Third Parties & Communities:** Risks of **transmission to other individuals**, **Environmental risks** (such as the contamination of local groundwater systems), and **Erosion of public trust** in case of a mishap, among others.
- **Nefarious means to invite participation:** Enticing people to participate by advertising the large amount of money that volunteers will be paid is quite common in traditional clinical trials, as was seen in the Covaxin trial conducted in Bhopal.

Way Forward

- **Risk Minimisation Strategy:**
 - **Society:** Public engagement regarding research design.
 - **Participants:** Selection of low-risk participants, close monitoring, early diagnosis and supportive care, including critical care if required, Compensation for any study-related harms, and appropriate provisions to cover insurance.
 - **Third parties:** Selection of sites with stringent infection control processes, including protective equipment for staff.
- **Responsibility of Researcher:**
 - The informed consent content should align with **ICMR National Ethical Guidelines 2017**.
 - **Researchers and their teams** should be adequately qualified, trained, and skilled with prior experience in conducting clinical trials.
 - They must be trained per **Good Clinical Practice (GCP)** and **ICMR National Ethical Guidelines for Biomedical and Health Research Involving Human Participants**.
- **Collaboration and data sharing:** CHIS is a **highly complex area** and may require collaborations at different levels between researchers, institutions, organisations, and other countries.
- **Transparent regulatory ecosystem:** Institutions must comply with the regulations and guidelines set forth by the appropriate regulatory bodies in India, such as the **Central Drugs Standard Control Organization (CDSCO)** and the **bio-safety monitoring committee**.

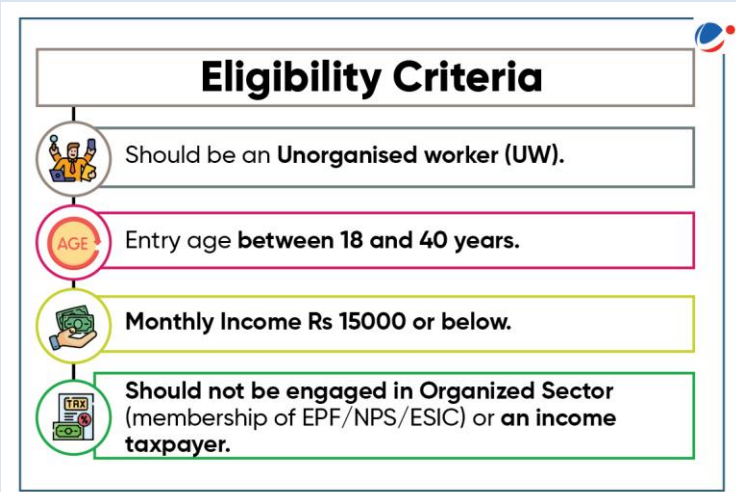
10. SCHEMES IN NEWS

10.1. PRADHAN MANTRI SHRAM YOGI MAAN DHAAN (PM-SYM)

Why in the news?

Recently, 21% unorganised workers have exited from the PM-SYM owing to growing inflation and high cost of living.

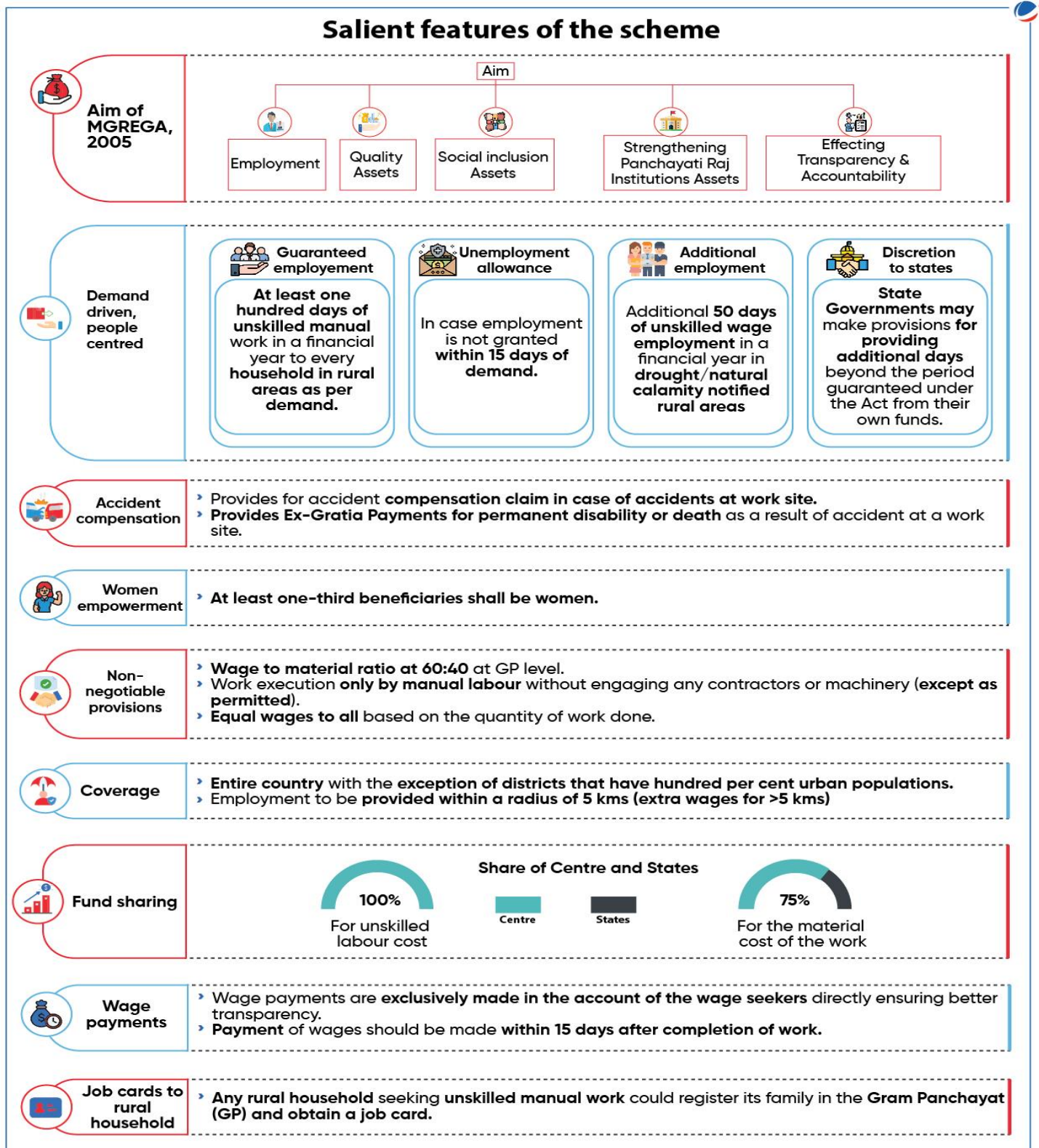
Objectives	Salient features
<ul style="list-style-type: none"> To ensure old age protection for Unorganized Workers. 	<ul style="list-style-type: none"> It is a Central Sector Scheme administered by the Ministry of Labour and Employment. It is implemented through Life Insurance Corporation of India and CSC e-Governance Services India Limited (CSC SPV). <ul style="list-style-type: none"> LIC will be the Pension Fund Manager and responsible for Pension pay out. The enrolment will be carried out by all the Common Services Centres (CSC) in the country. There will be no administrative cost to the subscriber as it is a purely Social Security Scheme of Government of India. It is a voluntary and contributory pension scheme, under which the subscriber would receive a minimum assured pension of Rs 3000/- per month after attaining the age of 60 years. Also, if the subscriber dies, the spouse of the beneficiary shall be entitled to receive 50% of the pension as family pension. <ul style="list-style-type: none"> Family pension is applicable only to spouse. Requirements: <ul style="list-style-type: none"> Aadhar card Savings Bank Account / Jan Dhan account number with Indian Financial System Code (IFSC). Contribution by the Subscriber: Primarily, the mode of contribution is on monthly basis by auto-debit. However, it will also have provisions of quarterly, half yearly and yearly contribution. <ul style="list-style-type: none"> First contribution is to be paid in cash at Common Service Centre. The Union Government will also give equal matching contribution in his pension account. Once the beneficiary joins the scheme at the entry age of 18-40 years, the beneficiary has to contribute till 60 years of age. Exit scheme: The exit provisions of scheme have been kept flexible. <ul style="list-style-type: none"> If beneficiary moves to any organized sector and remains there for a minimum period of 3 years, his account will be active, but Government's contribution (50%) shall be stopped. If he/ she exits the scheme within a period of less than 10 years, the beneficiary's share of contribution only will be returned to him with savings bank interest rate. If he/she is unable to contribute owing disability or any other reasons, beneficiary may opt voluntarily to exit the scheme after minimum 5 years of regular contributions. Default of Contributions: If a subscriber has not paid the contribution continuously, he/she will be allowed to regularize his contribution by paying entire outstanding dues, along with penalty charges, if any, decided by the Government. One can join PM-SYM also in addition to Atal Pension Yojana, if eligible.

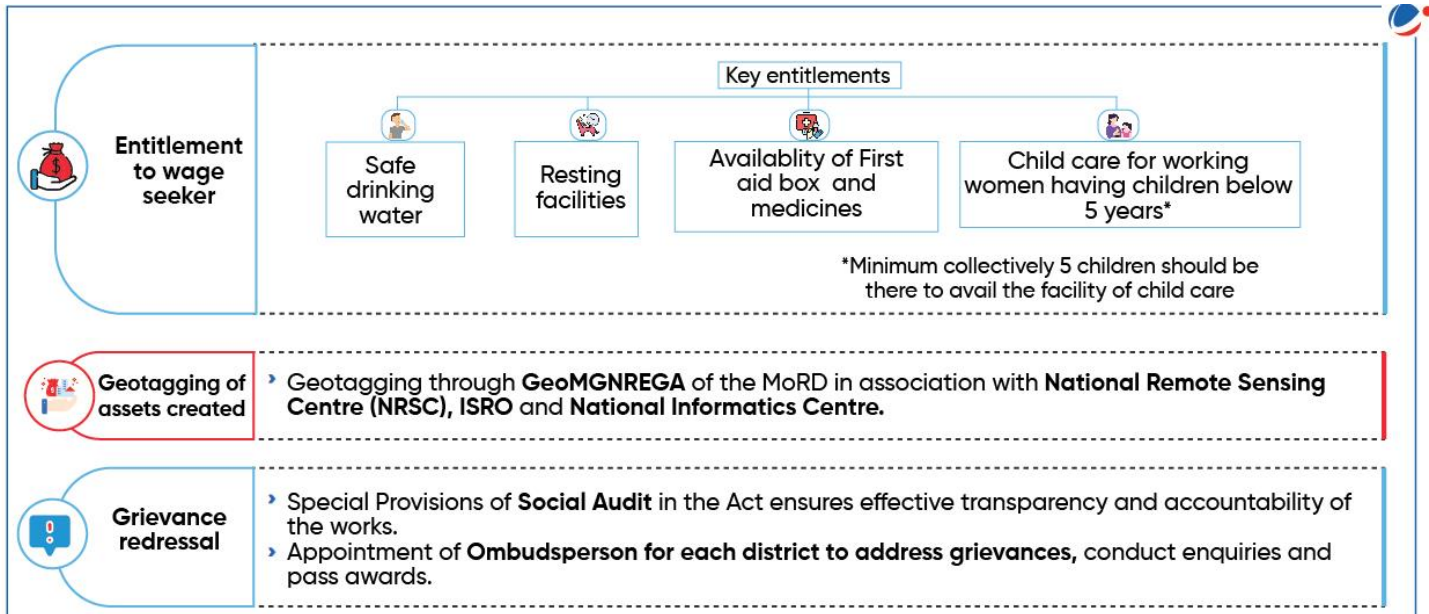


APPENDIX I: MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE (MGNREG) SCHEME, 2005

Objectives

To enhance **livelihood security** in rural areas by providing at least 100 days of guaranteed wage employment in a financial year to **every household** whose adult member volunteers to **do unskilled manual work**.





CSAT





क्लासेस

2024

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ऑफलाइन **ऑनलाइन**

Personalities In News

Personality	About	Ethical Values Exhibited by the Personality
 <p>Mangal Pandey</p>	<ul style="list-style-type: none"> Often known as First freedom fighter of India, he was born in a town near Faizabad in what is now eastern Uttar Pradesh state in northern India. He was made a soldier (sepoy) in 6th Company of the 34th Bengal Native Infantry in 1849. He revolted against East India Company in 1857 by attacking British officers at military garrison in Barrackpore. The revolt was considered as First War of Independence in India against Britishers. 	<p>Nationalist and Courage</p> <ul style="list-style-type: none"> The courageous soldier was sentenced to death by hanging after he attacked British officer in Kolkata.
 <p>Vyomesh Chandra Banerjee</p>	<ul style="list-style-type: none"> He was one of the pioneer leaders of the nationalist movement. Contribution <ul style="list-style-type: none"> He became the first Indian to be appointed as a permanent lawyer. In 1883 he defended Surendranath Banerjea in the famous Contempt of Court Case in the Calcutta High Court. He presided over the first session of the Indian National Congress held at Bombay in 1885. (A moderate in politics) 	<p>Justice and Vision</p> <ul style="list-style-type: none"> His defense in a landmark Contempt of Court Case reflects his commitment to justice and equity. Presiding over the first session of the Indian National Congress he demonstrated his leadership and vision for a united India.
 <p>Swami Sahajanand Saraswati</p>	<ul style="list-style-type: none"> Born in Ghazipur, Uttar Pradesh. By organising farmers, he infused a new consciousness in the Freedom Movement. At Congress session in Lucknow in April 1936, All India Kisan Sabha was formed and he was elected as its 1st President. He organised Bakasht movement in Bihar against zamindars evicting tenants from Bakasht lands. <ul style="list-style-type: none"> This led to enactment of Bihar Tenancy Act and Bakasht Land Tax to protect farmers' rights. He also led the successful struggle in the Dalmia Sugar Mill at Bihta, where peasant-worker unity was the most important characteristics. 	<p>Community development and Selfless service</p> <ul style="list-style-type: none"> He promoted Khadi and prohibition as a means of empowering and self-sustaining local communities. He dedicated his life to the political and economic independence of the Indian people, as seen in his involvement in the non-cooperation movement.
 <p>Jairamdas Daulatram</p>	<ul style="list-style-type: none"> He was freedom fighter and a disciple of Mahatma Gandhi. Contribution <ul style="list-style-type: none"> Participated in Quit India Movement, along with Home Rule Movement . Later served as a Governor of Bihar and Assam after India's Independence. He was one of the founding members of the All India Sindi Language and Literature Congress. 	<p>Commitment and Leadership</p> <ul style="list-style-type: none"> Being a disciple of Mahatma Gandhi, he was deeply committed to the principles of nonviolence and peaceful resistance, core to Gandhian philosophy. Leading significant movements and later taking on pivotal roles in governance demonstrates the trust that people and peers placed in him.



Chandra Shekhar Azad

- He was a revolutionary Freedom fighter.
- **Contribution:**
 - ▶ He **participated in the non-cooperation movement (1920-22).**
 - ▶ He played a key role in the **formation of Hindustan Socialist Republican Association (HSRA) in 1928** (successor of the **Hindustan Republican Association (HRA), 1924.**
 - ▶ He was also involved in revolutionary activities like-
 - ✓ famous **Kakori train robbery** of 1925
 - ✓ attempt to blow up the **Viceroy's train (1926)**
 - ✓ shooting of **J P. Saunders in Lahore (1928)** to avenge the killing of Lala Lajpat Rai.

Leadership and Fearlessness

- He successfully led the group of Indian revolutionaries fighting against Britishers.
- He vowed to himself for not to touch by Britishers hence he shot himself when surrounded by enemies to keep his vow.



Aruna Asaf Ali

- She is popularly known as **'Grand Old Lady' of Independence Movement.**
- **Contribution**
 - ▶ She **actively participated in the Salt Satyagraha in 1930.**
 - ▶ She is known for **hoisting the Indian flag at Gowalia Tank Maidan in Mumbai during Quit India Movement in 1942.**
 - ▶ Post-independence, she worked towards **upliftment of women status by encouraging women education. Started a weekly journal 'Weekly' and newspaper 'Patriot' to attain this objective.**
 - ▶ **In 1958, she served as first elected Mayor of Delhi.**
- **Awards: Padma Vibhushan (1992), Bharat Ratna (1997).**

Empowerment and Determination

- Post-independence, her work for the upliftment of women, particularly through encouraging education, is a testament to her belief in gender equality and women's empowerment.

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Places in News: India

Parkachik Glacier (Ladakh)

- Likely to have three lakes of different dimensions due to rapid ice melt.

Pangong Tso lake (Ladakh)

- Both India and China are ramping up infrastructure on north bank of lake.

Dhala crater (Madhya Pradesh)

- Study suggests that **Ureilite meteorite** has formed Dhala crater.

Khadir Bet and bela region, Kutch (Gujarat)

- New species of shrub discovered.

Palamu Tiger Reserve (Jharkhand)

- Four soft-release centres for Cheetals are under construction.

Kaas Plateau (Maharashtra)

- Study of sediments from a seasonal indicated a major shift in Indian Summer Monsoons.

Amravati (Maharashtra)

- PM MITRA Textile Park launched.

Hampi Group of Monuments (Karnataka)

- Third G20 Culture Group (CWG) meet held in Hampi.

Rudragiri hillock, Guntur (Andhra Pradesh)

- Fusion of Rock Art found.

Porpanaikottai site (Tamil Nadu)

- Items belonging to Sangam Age have been excavated.

Places in News: World

Iceland
2,200 earthquakes observed in 24 hours.

Greece
Wildfires at Greece islands (Rhodes and Corfu).

Black Sea
Russia terminated its participation in Black Sea Grain Initiative.

Sudan
Heavy fighting raged across Khartoum.

Orkney Islands
Proposed to split from U.K.

Tanzania

- First overseas IIT campus will be set up.
- India and Tanzania start trade settlements in local currencies.

Panama
India and Panama signed MoU on Electoral Cooperation.

Sea of Japan
China and Russia's joint air and sea drill.

Thailand
BIMSTEC meeting held.

Philippines
Typhoon Doksuri hit Philippines.

Peru
Explosions observed in Ubinas volcano.

Solomon Island
China and Solomon Islands signed diplomatic agreements.

Argentina
Signed letter of intent with Hindustan Aeronautics Limited (HAL) to buy helicopters.

Nigeria
Declared a State of Emergency over Food Security

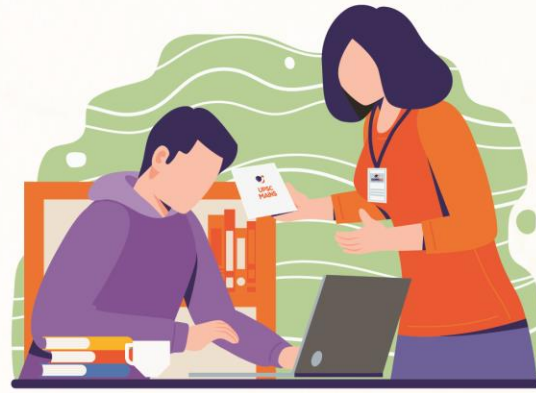
Chad
Hosts the largest number of refugees in west and central Africa.

Mozambique
Cabo Delgado gasfield (ONGC Videsh, BPCL etc hold stake) to resume production.

Cocos Islands
Indian Navy aircraft's visited Cocos Islands.

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(A Strategic Revision, Practice, and Enrichment Mentoring Program for Mains Examination 2024)



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FEATURES OF THE PROGRAMME



Targeted Revision and Consolidation

- Covering static and dynamic part for Mains examination in a stimulated manner
- Development of analytical skills by establishing cross-linkages across the syllabus.
- Preparation strategies for current affairs and its integration with static syllabus

Development of Advanced Answer Writing Skills

- Analyzing the evolving demand of UPSC Mains papers
- Foundational skill assessment through the Baseline Analysis Test
- Need-based interventions to improve answer writing skills
- Gaining valuable insights from topper's answer writing approaches
- Emphasis on answer enrichment in GS subjects
- Live answer writing practice and discussion sessions



Continuous Performance Assessment and Feedback

- Performance and progress tracking through Daksha Mains Practice Test
- Detailed one-to-one feedback sessions on answer-scripts
- Subject specific smart interventions for performance maximization

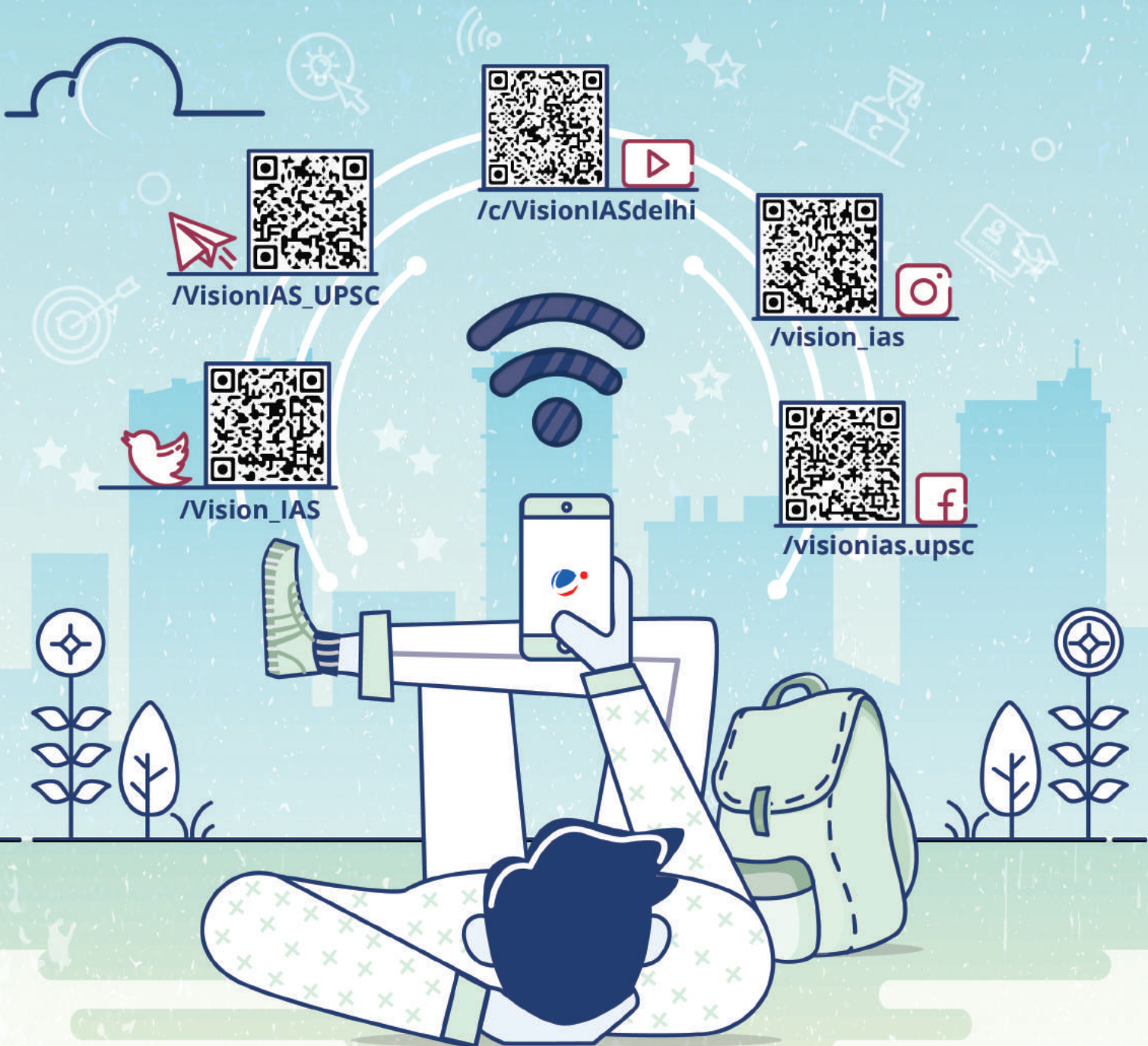
Dedicated Support and Motivation

- Resolution of student queries through regular one-to-one session
- Providing platform to students for discussion and engage in peer-learning
- Multi-platform support through telephonic, email, and in-person interaction
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**2
AIR**
Garima Lohia



**3
AIR**
Uma Harathi N

**8 in Top 10
Selections
in CSE 2021**



**2
AIR**
ANKITA AGARWAL



**3
AIR**
GAMINI
SINGLA



**4
AIR**
AISHWARYA
VERMA



**5
AIR**
UTKARSH
DWIVEDI



**6
AIR**
YAKSH
CHAUDHARY



**7
AIR**
SAMYAK S
JAIN



**8
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