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# FOUNDATION COURSE GENERAL STUDIES PRELIMS CUM MAINS

## 2024

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### DELHI

**15 JUNE, 5 PM | 30 MAY, 1 PM | 16 MAY, 9 AM | 28 APR, 9 AM**

**AHMEDABAD:** 22 May, 8:30 AM | **CHANDIGARH:** 1 June, 5 PM | 19 Jan, 5 PM  
**HYDERABAD:** 12 June, 8 AM & 4 PM | **LUCKNOW:** 25 May, 5 PM | 18 Jan, 5 PM  
**JAIPUR:** 15 May, 7:30 AM & 5 PM | **PUNE:** 14 May, 8 AM | **BHOPAL:** 1 June, 5 PM

# ADVANCED COURSE GS MAINS



Targeted towards those students who are aware of the basics but want to improve their understanding of complex topics, inter-linkages among them, and analytical ability to tackle the problems posed by the Mains examination.



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**13 JUNE  
1 PM**



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## NOTE:

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.



# 1. POLITY AND GOVERNANCE

## 1.1. BASIC STRUCTURE DOCTRINE

Why in news?

The landmark Kesavananda Bharati judgement, 1973 which propounded the basic structure doctrine completed 50 years.

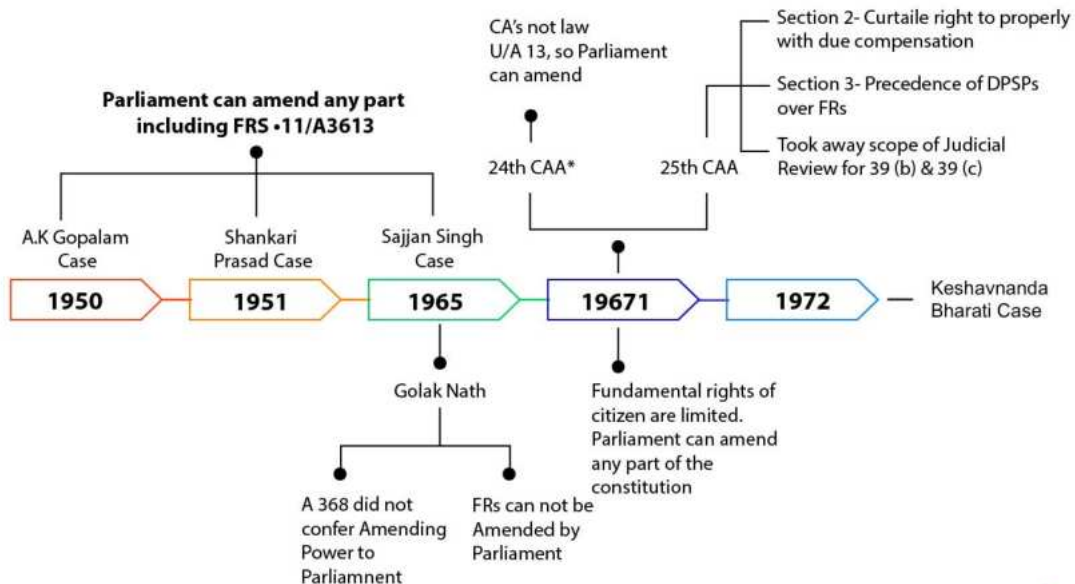
About the Kesavananda Bharati Case, 1973

- The case dealt with a petition against the Kerala Government challenging the compulsory acquisition of his land by the government under the Kerala Land Reforms Act 1963, as a violation of Fundamental Rights (FRs), as enshrined in - **Articles 25, 26 and 31 of the Constitution of India**.
- The case was heard by a **Bench of 13 judges** — the largest formed in the Supreme Court (SC).
- Key Outcomes:**
  - Introduction of Basic Structure Doctrine:** SC upheld the validity of the 24th amendment and **held that Parliament had the power to amend any or all provisions of the Constitution (including FRs)**, with a condition that the amendments **should not alter, damage or destroy the essential features or the fundamental principles of the Constitution**.  
✓ This came to be known as the “**Basic Structure Doctrine**”.
  - Corrected judgments of the Golaknath case:** SC held that Article 368 contained both the power and the procedure for amending the Constitution and that amending powers and legislative powers of Parliament were different.
  - Other judgments:** SC upheld the 25th and 29th Amendments except for the parts that curtailed its power of judicial review and also asserted that the Preamble is a part of the Constitution and hence amendable.

About Basic Structure Doctrine

- The basic structure doctrine holds that **certain fundamental features of the Constitution, cannot be amended or abrogated by the Parliament through a constitutional amendment**.
- There is **no mention of the term “Basic Structure” anywhere in the Constitution of India**.

### EVOLUTION OF DOCTRINE OF BASIC STRUCTURE



Some Principles that are presently part of the 'Basic Structure'

- Sovereignty** of India
- Essential features of the **individual freedoms secured to the Citizens**
- Mandate to build a **welfare State**
- Supremacy of the Constitution**
- Republican and democratic** form of government
- Secular and federal** character of the Constitution
- Separation of powers** between the legislature, executive and the judiciary
- Unity and integrity** of the nation
- Power of **judicial review**
- Harmony and **balance between FRs and DPSPs**



## Significance of the doctrine

- Serves as a check on the power of the Parliament to amend the Constitution.
- Ensures that the Constitution remains a living document that is responsive to changing times while preserving its fundamental values and principles.
- Laid down several principles that have become the bedrock of constitutional law in India such as rule of law, separation of powers, and the independence of the judiciary.
- Ensures that the federal structure of the Constitution is not undermined
- Instrumental in shaping the Indian judiciary's approach to constitutional interpretation.

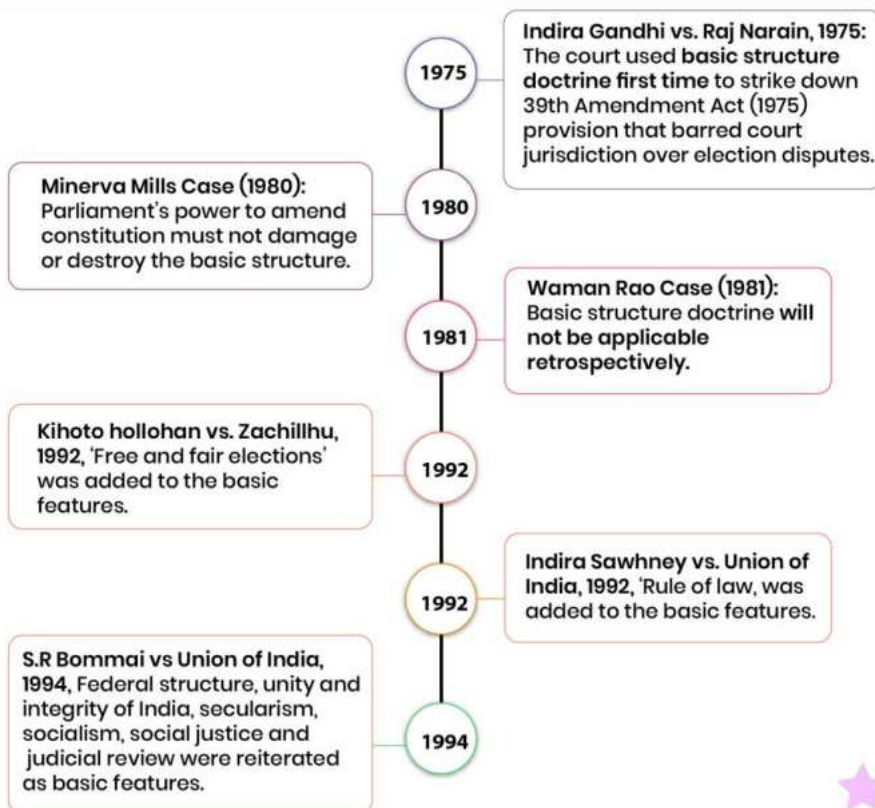
## Major challenges with regard to Basic Structure

- **Scope of Basic Structure:** The interpretation of what constitutes the "basic structure" is often contested which can lead to differing interpretations and confusion.
- **Judicial Activism:** The use of the Basic Structure Doctrine allows the courts to invalidate constitutional amendments passed by the elected representatives of the people.
  - For instance, in the 2019 the Supreme Court's struck down the National Judicial Appointments Commission (NJAC) Act to reform the appointment process for judges.
- **Conflict with parliamentary sovereignty:** The Doctrine is often seen as a limitation on the powers of Parliament to amend the Constitution, which can be perceived as a challenge to the principle of parliamentary sovereignty.
  - For example, the move to remove special status for Jammu and Kashmir under the Jammu and Kashmir Reorganisation Act in 2019, was challenged in the Supreme Court on the grounds that it undermines federalism, secularism, and the right to self-determination. However, the Supreme Court upheld the constitutionality of the act.
- **Difficulty in Amending the Constitution:** The doctrine might make it difficult to amend the Constitution, even when such amendments are necessary to address changing societal needs.

## Way ahead

- **Clarity in the definition:** The Supreme Court needs to provide a clear definition of the basic structure, including the fundamental principles and values that cannot be amended.
- **Consistency in application:** The doctrine must be applied consistently in all cases, ensuring that the basic features of the Constitution are not tampered with by any organ of the state.
- **Limiting judicial activism:** The courts should exercise restraint in interpreting the Constitution and upholding the basic structure, respecting the separation of powers and the role of the Parliament.
- **Public awareness and participation:** There is a need for public awareness and participation in understanding the importance of the basic structure doctrine and its impact on the governance of the country. This can help in building public support for the doctrine and its continued relevance in protecting the Constitution.

## Application and Evolution of Basic Structure Doctrine





## 1.2. DEMOCRATIC DECENTRALISATION IN INDIA

### Why in news?

The year 2023 marks the **30th anniversary of the 73rd and 74th Amendment to the Indian Constitution** that led to the establishment of local self-governments in rural and urban areas thereby a three-tier federal structure.

### More on news

- The Ministry of Panchayati Raj in collaboration with the Government of Madhya Pradesh celebrated **National Panchayati Raj Day on 24th April** at Rewa in Madhya Pradesh (first state in the country to implement the 3-tier panchayati raj envisaged in the 73rd Constitution Amendment Act, 1992).
- On the occasion,
  - PM inaugurated integrated e-GramSwaraj and GeM portal.**
    - ✓ The objective of eGramSwaraj–Government e-Marketplace (GeM) Integration is to enable the Panchayats to procure their goods and services through GeM leveraging the eGramSwaraj platform.
  - PM handed over the SVAMITVA (Survey of Villages and Mapping with Improved Technology in Village Areas) Property Card** to select beneficiaries, symbolizing the attainment of the milestone of 1.25 crore property cards distribution under SVAMITVA Scheme in the country.

### About 73<sup>rd</sup> and 74<sup>th</sup> Constitutional Amendment Acts

73rd Constitutional Amendment Act, 1992	74th Constitutional Amendment Act, 1992
<ul style="list-style-type: none"><li><b>Panchayati Raj Institution was constitutionalized</b> through the Act.</li><li>This act has <b>added a new Part-IX</b> to the Constitution of India and consists of provisions from <b>Articles 243 to 243 O</b>.</li><li>In addition, the act has also <b>added a new 11th Schedule</b> to the Constitution that contains <b>29 functional items of the panchayats</b>.</li></ul>	<ul style="list-style-type: none"><li><b>Urban local governments were constitutionalized.</b></li><li>It <b>added Part IX -A</b> and consists of provisions from <b>Articles 243-P to 243-ZG</b>.</li><li>It also <b>added the 12th Schedule</b> to the Constitution that contains <b>18 functional items of Municipalities</b>.</li></ul>

### About Democratic Decentralisation in India

- Democratic decentralization in India **refers to the devolution of power, resources and decision-making authority from the central government to local governments**, such as panchayats and municipalities.
- The **73rd and 74th Constitutional Amendment Acts of 1992** that came into force in 1993 are landmark pieces of legislation that **introduced democratic decentralization in India**.

### Significant achievements after democratic decentralisation in India

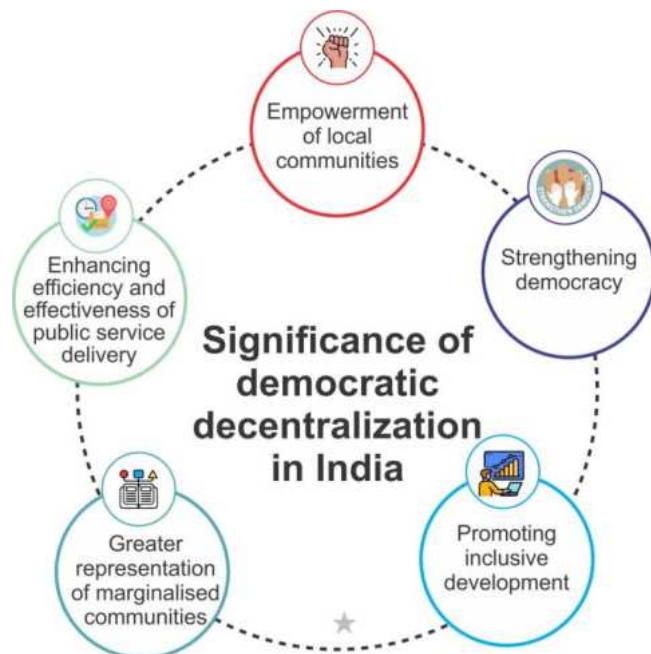
- Empowerment of women and marginalized communities:** The proportion of elected women representatives has been steadily rising since the enactment of the 73rd amendment Act.
  - Currently, **49 percent of elected local representatives (1.4 million) are women** and **over 400,000 members belonged to Scheduled Castes and Scheduled Tribes**.
  - In states like Rajasthan, Uttarakhand, Chhattisgarh and Kerala, the number of elected women representatives has exceeded the number of their male counterparts.
- Positive impacts due to increased representation of women and SC/STs:** This includes **increased spending on community-based welfare for women, and increased reporting of crimes**. At the same time, SC sarpanch/pradhans are more likely to **invest in public goods in SC hamlets**—an important change in the severely segregated villages of India.
- Healthy competition among states:** The acts have also created healthy competition among various states regarding devolution of funds, functions, and functionaries (the 3Fs).
  - For example, while Kerala has devolved all 29 functions to Panchayats, Bihar came out with the idea of “Panchayat Sarkar” and states such as Odisha have increased 50 percent seats for women.

### Challenges to democratic decentralisation

- Limited powers and resources:** PRIs and ULBs lack control over key areas like education, health, and policing. They rely on central and state government grants, constraining their capacity to execute independent development plans.
- Economic Inequalities:** Some states and districts have better resources and infrastructure than others, **leading to uneven development**.
- Bureaucratic hurdles:** PRIs and ULBs face bureaucratic hurdles in executing their plans and projects, including delays in approvals, inefficient implementation, and corruption.



- **Lack of political will:** The central and state governments often resist devolution of power due to fears of losing control.
  - There is delay in appointment of the finance commission and its recommendations are rarely taken into the budgetary plans. This **undermines the autonomy of local governments.**
- **Creation of parallel bodies:** Many states have created parallel bodies to take over the functions assigned for panchayats. **For instance,** recently the Haryana government created a **Rural Development Agency** under the chairmanship of the chief minister to oversee the works of local bodies.
- **Social inequalities:** Women and marginalized communities often face discrimination in local decision-making processes, which limits their participation and influence.
- **Lack of accountability:** There is often a lack of accountability and transparency in local decision-making processes, which can **lead to corruption and misuse of resources.**
- **Weak capacity building:** PRIs and ULBs often lack the necessary technical and administrative capacity to manage their functions effectively.



#### Steps taken to strengthen PRIs in India

- **Rashtriya Gram Swaraj Abhiyan (RGSA):** For **developing and strengthening the capacities of PRIs** to become more responsive towards local development needs.
- **e-GramSwaraj:** A **user friendly web-based portal** unifies the planning, accounting, and monitoring functions of Gram Panchayats.
- **People's Plan Campaign (PPC)- Sabki Yojana Sabka Vikas:** To **draw up Gram Panchayat Development Plans (GDPs)** in the country and place them on a website where anyone can see the status of the various government's flagship schemes.
- **Backward Regions Grants Fund (BRGF):** Under this, **untied funds are given for meeting critical gaps in local infrastructure** and other development requirements in some identified backward districts.
- **National Institute of Rural Development and Panchayati Raj:** It is an autonomous organisation under the Union Ministry of Rural Development for **capacity building of rural development functionaries**, elected representatives of PRIs, bankers, NGOs, and other stakeholders.
- **National Panchayat Awards:** Under this, **best performing Panchayats are selected** based on various criteria and indicators.
- **SWAMITVA Scheme:** Aims to **provide the 'record of rights' to village household owners** issuance of property cards to the property owners. This **empowers PRIs with better data on land ownership.**

#### Way Forward

- **Strengthening financial devolution:** This can be done through higher allocation of funds from the Finance Commissions, and by exploring innovative sources of financing such as municipal bonds.
- **Capacity building and training:** There is a need to provide continuous capacity building and training to elected representatives and officials in PRIs through the establishment of dedicated training centers, such as the National Institute of Rural Development and Panchayati Raj, and by developing training modules in regional languages.
- **Empowering PRIs through legislation:** This can include provisions for participatory planning, public disclosure of budgets and plans, and greater involvement of citizens in the decision-making process.
- **Leveraging technology:** Efficient implementation of and awareness building about e-governance platforms, such as online portals and mobile applications, that enable citizens to interact with PRIs and access information.

- **Strengthening the role of women:** A parliamentary panel in its report calls for focus on empowering women elected representatives (ERs) in PRIs through training and capacity building to curb prevalent concepts "Sarpanch Pati" or "Pradhan Pati" (husbands trying to act as the proxy for elected women sarpanches).

### 1.3. COOPERATIVE FEDERALISM

#### Why in news?

Prime Minister recently underlined the importance of cooperative federalism in India.

#### About Cooperative Federalism

- Cooperative federalism is the **horizontal relationship between union and states** and shows neither is above the other.
  - It envisages that national and state agencies **undertake government functions jointly** rather than exclusively.
- **Indian constitution has incorporated instruments to ensure co-operation** between the centre and states.
- **National Institution for Transforming India Aayog (NITI) Aayog** acts as a platform to promote cooperative federalism in India.
  - Some of the key roles of NITI Aayog include Collaborative policy-making, Center-state dialogue, Incentivizing states and Monitoring and Evaluation.

#### Constitutional Provisions to promote cooperative federalism in India

- **7th schedule** which demarcates central, state, and concurrent lists based on the principle of subsidiarity.
- **All India Services under Article 312**
- **Integrated judicial system** to enforce both states as well as central laws.
- **Inter-State Council under article 263** of the constitution to discuss and investigate the subject of common interest between the center and the states.
- **Full Faith and Credit Clause under article 261** provides that full faith and credit shall be given throughout the territory of India to all the public acts, records, and judicial proceedings of the Union and every State.
- **Zonal council** established as statutory bodies under the State reorganization act of 1956 to ensure coordination.
- **Finance Commission under article 280** for recommending the distribution of financial resources between the Union and the States.
- **GST Council under article 279A** which is responsible for deciding the rates of the GST and the modalities of its implementation.

#### Need for cooperative federalism in India

- **Addressing regional disparities:** To achieve inclusive and balanced development, states must collaborate with the central government to bridge socio-economic and infrastructural gaps.
- **Effective implementation of policies:** Effective implementation of central government policies requires crucial cooperation between central and state governments as many policies are implemented by the latter.
- **Sharing of resources:** Cooperative federalism facilitates fair and equitable sharing of resources, ensuring that all states have access to resources for development.
- **Strengthening Democracy:** Cooperative federalism promotes decentralization of power, giving more autonomy to the states. This helps to ensure that the diverse needs and aspirations of the people are taken into account in the decision-making process.
- **Collaboration on emerging issues:** Cooperative federalism ensures that issues such as national security, disaster management, and environmental protection are tackled in a coordinated manner, with all levels of government working together towards a common goal.

#### Challenges to cooperative federalism in India

- **Over-Centralization of power:** The centre enjoys more power than states on certain matters and imposes rules and regulations which many states find discriminatory to them. As a result, conflict of interest situation arises between the centre and state.
  - For example, during the COVID pandemic, Disaster Management Act was used by the centre to effectively bypass States and assume complete control.

#### KNOW THE TERM

##### Competitive Federalism

- ★ It refers to **vertical relationship between the States and the Central government** while states compete among themselves.
- ★ NITI Aayog encourages healthy competition among states through indices like School Education Quality Index, State Health Index, Composite Water Management Index, Sustainable Development Goals Index etc.
- ★ NITI Aayog also releases **Delta rankings for the performance of Aspirational Districts**.



- **Political differences:** The central government has been accused of using its power to target opposition-ruled states and deny them funds and resources.
- **Inter-state disputes:** The central government has often been called upon to mediate disputes between states over resources such as water and land and has been criticized for taking sides.
- **Diversity:** India's diversity demands a customized approach to policymaking for different regions. This makes cooperation between centre and state governments all the more difficult.
- **Interference in state matters:** This has led to a lack of autonomy for states.
  - For example, the recent controversy over the new farm laws, which are opposed by several states, has highlighted the tension between the central government and the states.

#### Way forward to strengthen cooperative federalism in India

- **Empowering Local Bodies:** Empowering local bodies such as Panchayati Raj Institutions and Urban Local Bodies to take up developmental activities and to enable them to play a more significant role in the development process.
- **Financial Devolution:** Increasing the share of States in central taxes to increase the financial resources of States and to promote fiscal federalism.
- **Sharing of Best Practices:** Sharing of best practices among States specially on contentious issues like land, labour and natural resources.
- **Resolving Centre-State Disputes:** The Supreme Court of India has set up various tribunals to resolve disputes related to water sharing, inter-state borders, and other issues.
  - This will help in building trust and creating a conducive environment for cooperation and collaboration.
- **Promoting Paradiplomacy:** States are often equipped better to undertake diplomatic measures in areas of trade, commerce, FDI, education and cultural exchanges. Paradiplomacy(i.e. foreign policy decentralisation) is therefore emerging as a great example of cooperative federalism, making states as equal partners in the development of the country.
  - India's presidency of G20 and the meetings held in different cities will give a further boost to cooperative federalism.
- **Inclusive Decision-Making:** Ensuring inclusive decision-making processes that involve all stakeholders, including civil society organizations, to promote greater accountability and transparency in governance.

#### Steps Taken to foster Cooperative federalism in India

- **Share of states in central tax revenue has been increased from 32% to 42% after the recommendation of the 14<sup>th</sup> Finance Commission.**
- **States have freedom to plan their expenditure** based on their own priorities.
- **Restructuring of centrally sponsored schemes.**
- **Financial sector bailout programme** under Ujwal DISCOM Assurance Yojana (UDAY) scheme.
- **State wise Ease of Doing Business ranking**
- **Goods and Services tax (GST)**
- **Various steps taken by NITI Aayog such as:**
  - **Meetings between the Prime Minister/Cabinet Ministers and all Chief Ministers;**
  - **Subgroups of Chief Ministers** on subjects of national importance;
  - **Sharing of best practices among states;**
  - **Policy support and capacity development** of State/UT functionaries;
  - **Launching of the Aspirational Districts Programme** for development of backward districts;
  - **Framing model laws for land leasing and agriculture marketing reforms**
  - **Area-specific interventions** for the North-Eastern and Himalayan States and island development.
  - **Sustainable Action for Transforming Human Capital (SATH) programme** to initiate transformation in the education and health sectors and to identify and build three future 'role model' states.

Scan the QR code to know more about **Federalism**.

**Weekly Focus #51:** Sui Generis Indian Federalism: Evolving Dynamics and Emerging Concerns



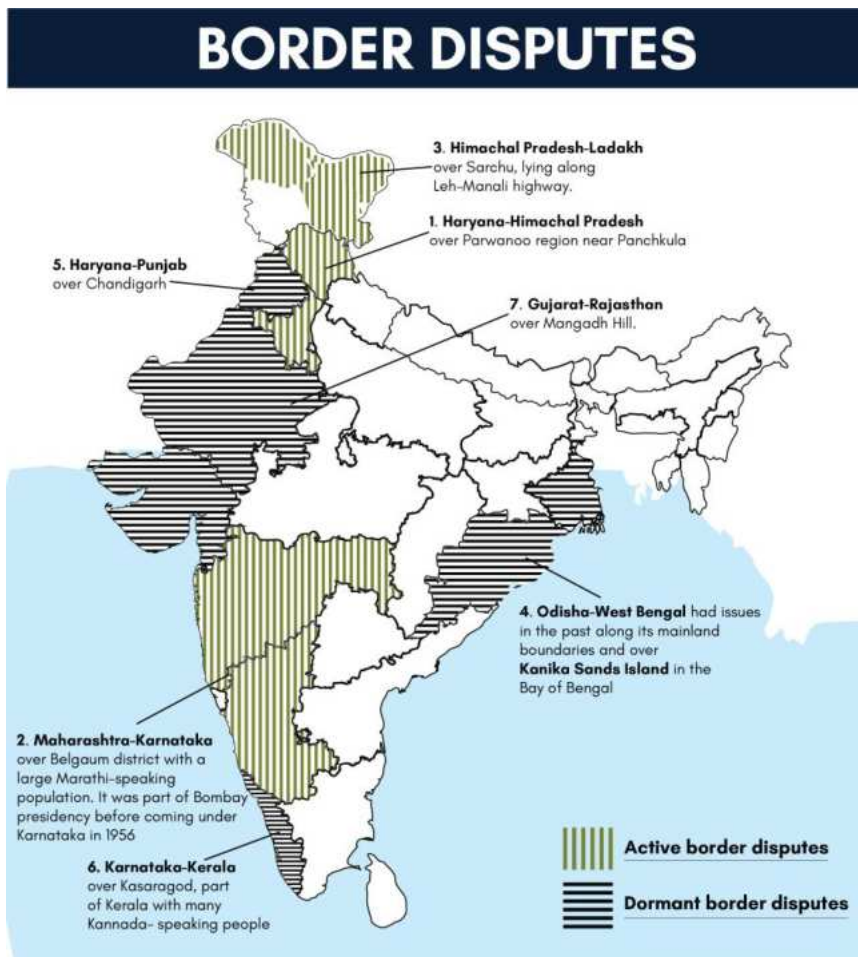
## 1.4. INTER-STATE BORDER DISPUTES

### Why in news?

Assam and Arunachal Pradesh signed a **memorandum of understanding (MoU)** to end a **decades-long inter-state border dispute**.

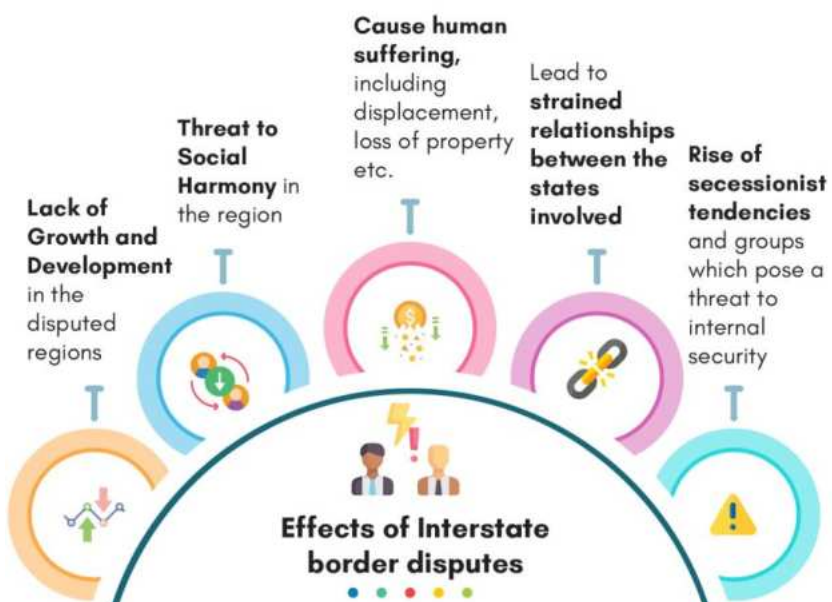
### More in news

- The dispute in question is over 123 villages that stretch across 12 districts of Arunachal Pradesh and eight of Assam.
- According to the MoU, the **state governments agree that no new claim area or village will be added in future** beyond these 123 villages.
- As per the MoU signed, **disputes over 34 of these villages stand resolved**.
  - The **disputes over 37 villages had been resolved** through the **Namsai Declaration of July 2022**.
  - Of 71 villages, an understanding has been reached where Arunachal Pradesh cedes one village to Assam while receiving 60 villages from Assam; 10 villages remain in Assam.
- The exercise to resolve the dispute had started with the **formation of 12 regional committees** in 2022 from both states.
  - The suggestions made by these committees have been **accepted by the two states**.



### Causes of inter-state border disputes

- **Colonial legacy:** Britishers prioritized easy governance, leading to administrative unification and not cultural or linguistic unification. This caused a **mismatch between people's personal identities and the territories they inhabited**.
- **Varied geographical features:** **Complex terrain across the borders in form of rivers, hills and forests** makes it difficult to clearly mark physical boundaries.
- **Inadequacy of mechanisms to solve border dispute:** Although the Constitution provides for judicial redressal (Article 131) and the Inter-state Council (Article 263), the former cannot address political disputes, and the latter is underutilized for resolving inter-state border disputes.
  - Meetings of inter-state council **have been sporadic**. In last 16 years, **just two meetings** have been held.





- **Non-binding nature of commissions/committees formed:** Committees are generally formed to understand the **ground situation**. However, their success depends on **effective implementation**. **Varied political interests** of various groups, resulted in poor acceptance or implementation of recommendations.
  - For instance, in 1966, Centre set up the **Mahajan Commission** to resolve the border dispute in **Maharashtra, Karnataka and Kerala**. However, Commission's recommendations **regarding Belgaum** were rejected by Maharashtra.
- **Political differences:** Differences in political ideologies, party affiliations, and regional interests can also cause inter-state border disputes, with political parties and leaders using such disputes as a tool for mobilization and gaining electoral advantage.
- **Lack of political will:** Inter-state border disputes continue due to a lack of long-term efforts and political commitment to their resolution, ultimately exacerbating tensions and conflicts.

### Road ahead

- **Adopting a give and-take approach:** Right approach towards such dispute is **not seeing it as a zero-sum game**. It must be a **win-win situation** for all parties. **Redressal** must be the responsibility of the union government and **due compensation** must be given on time.
- **Understanding core issues:** Policymakers must **understand the dispute's core issues**. Efforts should be redoubled to find a **political solution**, mediated by the Union government, which is **binding on all the parties**.
- **Raising awareness among people:** Political leaders should also spread awareness about the **benefits of settled and peaceful borders** in terms of better **infrastructure, connectivity and development**.
- **Inclusion of all stakeholders:** The inclusion of locals would **bridge the gap between government and people**, thus, enhancing communication.
  - With the help of **NGOs, civil societies and student organisations**, the government must propagate the idea of '**mutual co-existence and development**'.
- **Framing proper Re-habilitation Policy:** Resolution of border disputes, at times, **leads to displacement** of people. A people-friendly settlement policy will **make dispute-resolution process** peaceful and help **develop trust** among the people.
- **People's interests must remain paramount:** Resolving inter-state border disputes at the village level can address genuine grievances and put people's interests first for effective solutions.

#### Methods to resolve disputes among states

- **Judicial redressal:** Supreme Court in its **original jurisdiction** decides imputes between states. Article 131 provides that Supreme Court shall, to exclusion of any other court, have **original jurisdiction in any dispute**.
  - Between the Government of India and **one or more States**; or
  - Between the **Government of India and any State** or States on one side and **one or more other States** on the other; or
  - Between **two or more States**.
- **Inter-state Council:** Article 263 gives powers to the President to **set up an Inter-state Council** for resolution of disputes between states. The Council is envisaged as a **forum for discussion** between the states and the Centre and charged with **the duty of**
  - Inquiring into and **advising upon disputes** which may have arisen between States;
  - Investigating and discussing subjects in which **some or all of the States**, or the Union and one or more of the States, have a **common interest**; or
  - Making recommendations upon any such subject and recommendations for the **better coordination of policy and action** with respect to that subject.
- **Zonal Councils:** They are the statutory bodies established by **States Reorganisation Act of 1956**. They aim at **promoting cooperation and coordination** between states, union territories and the Centre. They are **only deliberative and advisory bodies**.

## 1.5. AADHAAR

### Why in news?

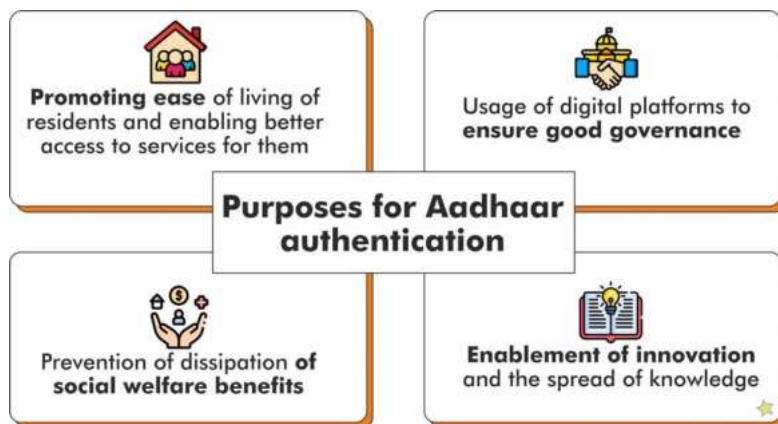
Ministry of Electronics and Information Technology (MeitY) has proposed rules to enable Aadhaar authentication by entities other than Government Ministries and Departments for better delivery of services to citizens.

## More in news

- In 2019, an amendment to the **Aadhaar Act allowed entities to enable Aadhaar authentication** with the Unique Identification Authority of India's (UIDAI) approval after ensuring compliance with security and privacy requirements.
- At present, Ministries and Departments are allowed to **undertake Aadhaar Authentication under 2020 rules**.
  - It is allowed for purposes like in **interest of good governance, preventing leakage of public funds and enablement of innovation and spread of knowledge**.
- Also, entities such as **banks and telecom companies** were allowed to perform authentication if UIDAI was satisfied about **standards of privacy and security**.
- Now, it is proposed that **any entity other than a ministry or department** that desires to use Aadhaar authentication need to **submit its proposal to concerned ministry/department** at Centre or state level.

## Issues with the Aadhaar

- Faulty database:** A CAG report (2022) pointed out that UIDAI generated Aadhaar numbers with **incomplete information, along with a lack of proper documentation or poor- quality biometrics**. This has resulted in multiple or duplicate Aadhaar cards being issued to the same person.
- Concerns about residence status:** UIDAI has not prescribed **any specific proof, document, or process** to confirm whether a person who is applying for Aadhaar has **resided in India for the period specified** by the Rules.
- Incidences of authentication errors:** The authentication transaction success rate has remained a **cause of dissatisfaction among the users** due to biometric authentication failures.
  - A 2019 survey found that **2.5 percent of respondents experienced exclusion from a welfare service** because of **problems with Aadhaar**.
- System vulnerability:** It lacks **standard security elements** seen in other photo IDs, including a microchip, hologram, or official seal, making it more vulnerable **being copied or falsified**.
- Data leaks and privacy concerns:** Security flaws in Aadhaar's operations have made it **vulnerable to data leaks**.
- Bal Aadhaar:** The issue of Aadhaar numbers being issued to minor children (below the age of five), based on the biometrics of their parents, goes against the basic tenet of the Aadhaar Act.
  - CAG report highlighted that** UIDAI has **incurred avoidable expenditure** of ₹310 Crore on issue of Bal Aadhaars till 31 March 2019.
- Updating biometrics:** Biometrics are **not stable over the lifespan** of an individual, so they are asked to **update/re-enrol** their biometrics.



## AADHAR



## KEY FEATURES OF AADHAAR

- UNIQUENESS**  
Aadhaar is a **12-digit unique number**, and **no resident can have a duplicate number** since it is linked to their individual biometrics.
- RANDOM NUMBER**  
The Aadhaar enrolment process **does not capture details like caste, religion, income, health, geography, etc.**
- SCALABLE TECHNOLOGY ARCHITECTURE**  
The UID architecture is open and scalable. Resident's **data is stored centrally and authentication can be done online from anywhere** in the country.
- TARGETED DELIVERY**  
**Aadhaar is mandatory for receiving subsidy or benefits under section 7** and filing income tax return. Individuals without Aadhaar shall be offered alternative means of identification for subsidy delivery.
- PROOF OF ADDRESS AND IDENTITY**  
It serves as **proof of identity and proof of address** for residents of India. Aadhaar is **not a proof of citizenship**.
- ELECTRONIC BENEFIT TRANSFERS**  
The UID-enabled-Bank-Account network will **offer a secure and low-cost platform to directly remit benefits to residents**.




## Initiatives taken to strengthen Aadhaar system

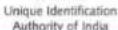
- **Roadmap drawn for Aadhaar 2.0:** Roadmap covers areas like continued focus on **Resident centricity**; enhancing the **use of Aadhaar**; further **strengthening the people's trust** on Aadhaar; technology up gradation; and increasing **international outreach**.
- **Biometrics based de-duplication:** Biometric Service Providers (BSPs) presently operational use **Facial image as additional biometric attribute** for de-duplication along with **10 fingerprints and two IRIS**.
- **Biometric fraud detection:** Biometric Service Providers (BSPs) can currently detect mixed biometrics, wrong fingers, non-human fingers, gummy fingers, inverted IRIS images, and closed eyes during enrolment.
  - UIDAI introduced two-factor authentication using AI/ML technology to verify fingerprint liveness and prevent spoofing attempts.
- **Inspection of operators:** UIDAI regularly carries out inspection to **find out deviant behavior among operators**.
- **Others**
  - The State governments have been roped in for **quality check of all new adult enrolments**.
  - An **updated and user-friendly list of supporting documents** required for Aadhaar enrolment/update has been notified.
  - To discourage misuse of system, **GPS fencing** has been embedded in the **Enrolment machines**.

## Road ahead


- **Authenticate the residence status:** UIDAI should prescribe a **procedure and required documentation** other than self-declaration, to **confirm and authenticate the residence status** of applicants.
- **Strengthening grievance system:** UIDAI may explore the possibility of **introducing a single centralized system** to capture grievances/complaints lodged to enhance the **quality of customer servicing**.
- **Strengthening digital framework:** It is crucial to establish **appropriate digital network** such as power, internet and mobile connectivity and ensure **correct Aadhaar linking**. Further, there is a need to invest in **households' digital literacy and skills** to use digital tools to maximise Aadhaar usage.



Unique Identification  
Authority of India (UIDAI)




Delhi




**Genesis:** It is a statutory authority established under the provisions of the **Aadhaar Act, 2016** in 2016 by the Government of India, under the **Ministry of Electronics and Information Technology (MeitY)**.

- Earlier, UIDAI was functioning as an attached office of the then Planning Commission (now NITI Aayog).




**Regional offices:** It has **8 regional offices** including **Data Center and Tech Centers** in different parts of the country.



**Function:** UIDAI has been created to **issue Unique Identification numbers (UID)**, named as **"Aadhaar"**, to all residents of India. Under the Aadhaar Act 2016, UIDAI is responsible for

- Aadhaar enrolment and authentication, including **operation and management** of all stages of Aadhaar life cycle,
- Developing the **policy, procedure, and system** for issuing Aadhaar numbers to individuals,
- Perform authentication and **the security** of identity information and authentication records of individuals.



### Constitutionality of Aadhaar Act (Justice K.S. Puttaswamy v Uoi)

- **Aadhaar Targeted Delivery of Financial and other Subsidies, Benefits and Services Act, 2016 (Aadhaar Act)** was **challenged before the apex court** on the grounds that it was **passed as a money bill**, thereby **circumventing the upper house of Parliament**.
- In its 2018 judgment, top court affirmed the **constitutionality of the Aadhaar act**.
- **Key Observations:**
  - Act was **competently passed** by Parliament, even though it was passed as a Money Bill.
  - Act **does not violate the fundamental rights** guaranteed under Articles 14, 15, 19 and 21.
  - Aadhaar would be **mandatory for accessing social welfare schemes**, but it cannot be forced on people for **opening bank accounts or for mobile and internet connection**.

- **Comprehensive data protection legislation:** In 2017, the Indian Supreme Court ruled that **privacy is a fundamental right** and asked the government to implement a **robust regime for data protection**. A **robust data protection framework** is essential to
  - Protect **citizens' privacy**,
  - Prevent companies and governments from **indiscriminately collecting data**,
  - Holding **companies and governments accountable** for data breaches to incentivize appropriate data handling.

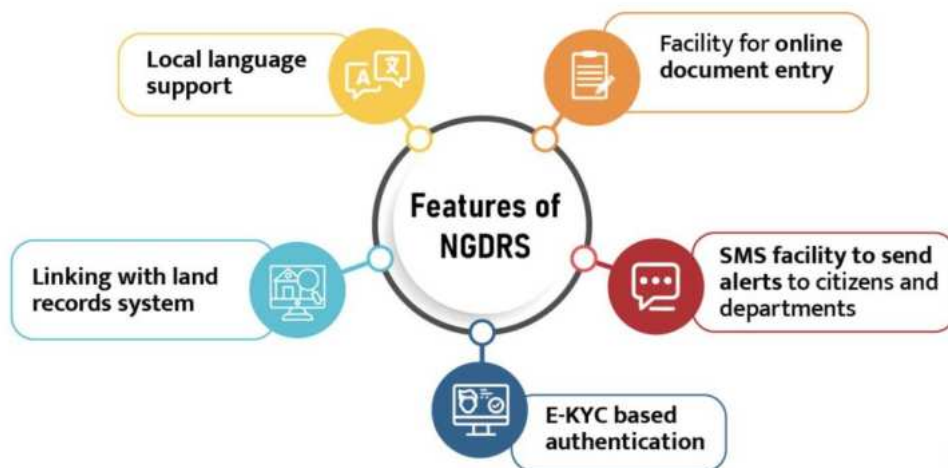
## 1.6. LAND RECORDS MODERNIZATION IN INDIA

### Why in News?

28 States/UTs have adopted the **National Generic Document Registration System (NGDRS)** for **Land Records** and 26 States/UTs have adopted the **Unique Land Parcel Identification Number (ULPIN)** or **Bhu-Aadhar**.

### About National Generic Document Registration System (NGDRS)

- **Application:** NGDRS is a common, generic, and configurable **application developed for document registration departments** across the country.
- **Initiated by:** **Department of Land Resources (DoLR), Ministry of Rural Development.**
- **State-specific:** NGDRS facilitates **states to create state-specific instances** and configure the software as per requirements.
- **Citizen services:** Offering a complete user interface for property and document registration, the application **enables citizens to proceed with land buying online.**
- **Objectives:**
  - Enabling the idea of **One Nation One Software**
  - **Citizen empowerment** by enabling property valuation (including auto calculation of duty) and online document submission
  - **Single platform** for all stakeholders in the registration process.



### Unique Land Parcel Identification Number (ULPIN) or Bhu-Aadhaar

- **ULPIN:** ULPIN is **part of the Digital India Land Records Modernization Programme (DILRMP)** and is a **14-digit identification number** accorded to a land parcel.
  - It was developed by **National Informatics Centre (NIC)**.
- **Identification basis:** The identification is based on the **longitude and latitude coordinates** of the land parcel and depends on detailed surveys and geo-referenced cadastral maps.
- **Significance:** It provides single window service to citizens, **standardization** across states, **easy sharing** of land records, **protects government land and ensures transparency.**

### Need for land record modernization in India

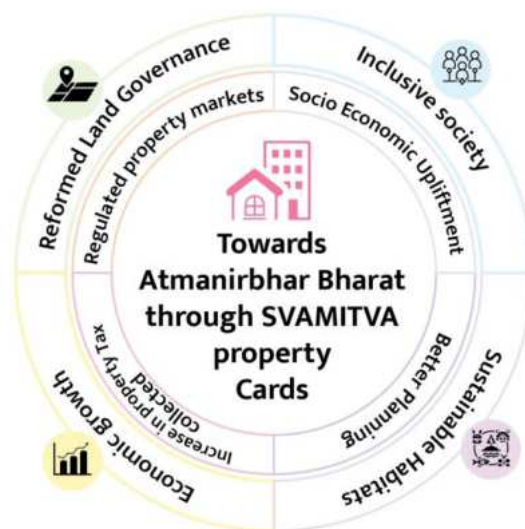
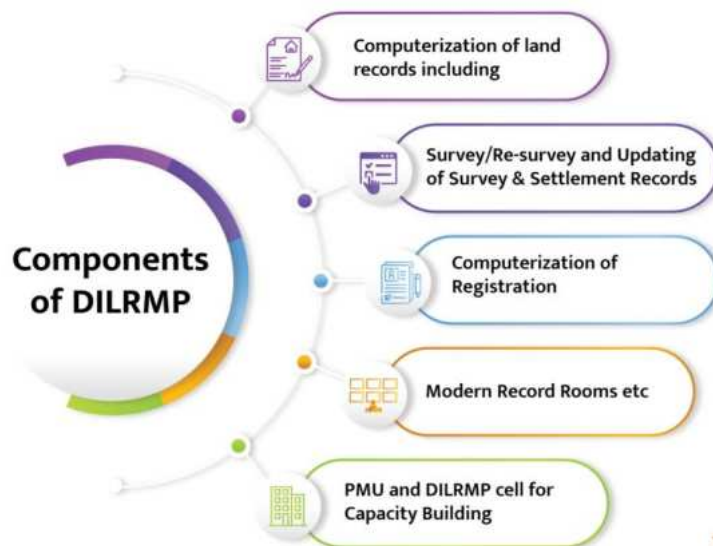
- **Move towards Conclusive Land Titling:** The land records modernization program aims at **adopting the system of Conclusive Titles instead of present Presumptive Titles.**
  - In India, currently, the ownership of a property is proved through **presumptive land titling (Record of Rights - RoR)** i.e., a chain of documents that provide evidence of the transfer of title from person to person over the years all the way to the current owners.
  - Also, according to Registration Act 1908, **presumptive titling implies that the State does not give a guarantee for such titles.**



- **Land Disputes:** The 2017 Access to Justice Survey by Daksh, **66% of all Civil suits in India are related to land or property disputes**, and the average pendency of a land acquisition dispute is 20 years.
- **Standardisation of land records:** The system of land records management **varies from state to state**. Standard templates throughout the country are needed for registration and record of rights.
  - Land and its management fall within the **legislative and administrative jurisdiction of the state governments** as provided under **Entry 18 and 45 of the State List** of the 7<sup>th</sup> Schedule to the Constitution.
- **Difficulties in the present system:** The manual system of record keeping has become **cumbersome, opaque, susceptible to manipulations and hard to administer** by the administration.
- **Other advantages of land record modernization-**
  - **Reduced process and time** of document registration.
  - **Automatic updation** of land ownership with new registrations
  - **Single window delivery of citizen services** for land records
  - **E-linkages to credit facilities** as clear land titling provides easy access to institutional credit.

#### Other efforts towards Land record modernization

- **Digital India Land Records Modernization Programme (DILRMP):** The DoLR is implementing the DILRMP since **2016 as a Central Sector Scheme** with 100% funding by the Government of India.
  - It is a **revamped version** of the earlier National Land Records Modernization Programme (NLRMP) initialized in 2008.
  - It attempts to develop an appropriate **Integrated Land Information Management System (ILIMS)** across the country, on which different States can also add State-specific needs as they may deem relevant and appropriate.
- **Survey of Villages Abadi and Mapping with Improved Technology in Village Areas (SVAMITVA) Scheme:** It is a central sector scheme of the **Ministry of Panchayati Raj** launched in **2021**.
  - It aims at establishing the **clear ownership of property** in rural inhabited (Abadi) areas, by mapping land parcels using drone technology and **providing a 'Record of Rights' to village household owners** with the issuance of legal ownership cards (Property cards/Title deeds) to the property owners.



## Conclusion

The present land record modernization process should culminate in the **adoption of the system of conclusive land titling** along with addressing legacy issues. Also, the digitization programme could **adopt next-generation** technologies like **Artificial Intelligence** and **Blockchain technology** to create a system of clear land titles and automatic records of mutations.

### Best practices under Land Records Modernization

- **BHOOMI – KAVERI** programme of Karnataka
- **Mee-Seva** of Andhra Pradesh
- **Dharaa app** of Rajasthan
- Proof of Concept of **use of blockchain for land record** management by NITI Aayog

## 1.7. REGULATION OF ONLINE GAMING

### Why in News?

The **Ministry of Electronics and Information Technology (MeiTY)** has amended the **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules (IT Rules) 2021**.

### More on News

- The aim of these amendments is to enforce greater due diligence by **online gaming and social media intermediaries** in respect of online games & fake or false misleading information related to Government business.
- The rules and amendments to IT Rules 2021 have been brought out under **Section 87 of the Information Technology Act, 2000**.
  - IT Rules 2021 were brought out for **regulating social media intermediaries**.

*To read more about the Regulation of Fake News, please refer to Article 1.6. Regulation of Fake News of March 2023 edition of Monthly Current Affairs Magazine*

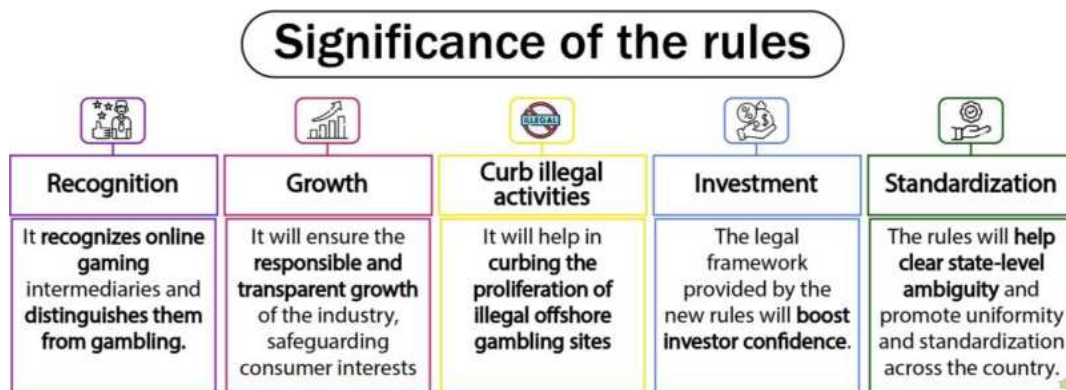
### Key Features of the Rules on Online Gaming

- **Clear definitions:**
  - **“Online games”** mean a game that is **offered on the Internet** and is accessible by a user through a computer resource or an intermediary.
  - **“Online gaming intermediary (OGI)”** means any intermediary that enables the users of its computer resource to access one or more online games.
- **Role of Intermediaries:** To make a reasonable effort to **not host, publish or share any online game** that can **cause the user harm**, or that has **not been verified as a permissible online game** by an **online gaming Self-Regulatory Body/Bodies (SRBs)** designated by the Central Government.
  - The intermediary will also have to ensure that **no advertisement or surrogate advertisement** or promotion of an online game that is not a permissible online game, **is hosted** on its platform.
- **Additional Obligations on OGI:** The amended rules cast additional obligations on OGI in relation to **online games involving real money**. These include:
  - The displaying of a **mark of verification** by the self-regulatory body on such games;
  - **Informing their users of the policy** for withdrawal or refund of the deposit;
  - Obtaining the **KYC details** of the users; and
  - **Not giving credit or enabling financing** by third parties to the users.
- **Multiple SRBs:** The MeiTY may notify **multiple SRBs**, for the purposes of verifying an Online game as a permissible one. An SRB should fulfil the following criteria:
  - **Company registered** under Section 8 (Not-for-Profit entity) of the Companies Act 2013.
  - **Representative of the online gaming industry**, promoting online games in a responsible manner.
  - Incorporates provisions related to **grievance redressal, arm’s length principle, disclosure and reporting** and clear criteria for membership.
- **Authority of SRBs:** The SRB may categorise any Game as a permissible game if it is satisfied that:
  - the online game **does not involve wagering** on any outcome,
  - the OGI and the game **comply with the rules** and the requirements under law for being competent to enter into a contract (currently at 18 years), and



- the OGI and the game **complies with the framework made by the SRB** regarding safeguards.

- Prohibition:** Online games that involve any kind of gambling (including ads) will be prohibited.



### Concerns with Regulating Online Gaming Activities

- Game of skill vs. Game of chance:** The Indian laws allow games of skill while prohibiting games of chance. However, there is no prescribed definition of either term. The Rules do **not** bring any **clarity on the definition of a game of skill and a game of chance**.
- Obstacles to foreign investment:** India does **not permit FDI in betting and gambling**, hence lack of clarity in defining games of skill may hinder foreign investment in this sector.
  - Also, ambiguity in this arena can act as a backdoor entry for foreign investment in betting and gambling.
- SRB discretion:** It is the **subjective discretion of SRBs** to ascertain if an online game does not involve wagering, i.e., element of chance.
- Different state laws:** **Gambling** (whether offline or online) and **betting** is a **state subject** (under Entry 34) as per the Constitution of India, which means that **each state can make laws** to regulate online gaming and those laws will supersede the Rules.
  - This enables **different legal frameworks in different states**. For instance, Tamil Nadu recently banned Online Real Money games in alignment with Telangana, Andhra Pradesh, Assam and Odisha.

### Way forward

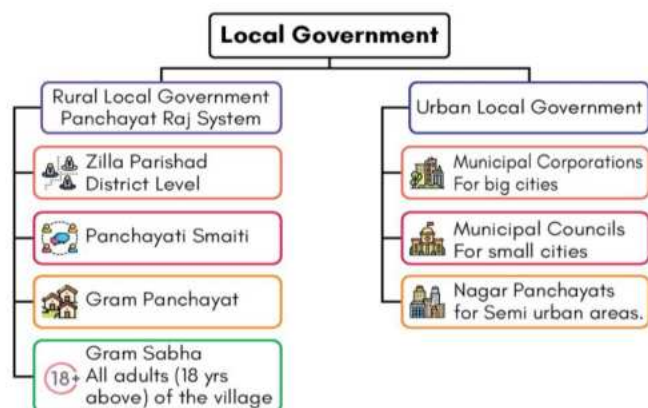
The amended IT rules provide **significant clarity to the Online Gaming Ecosystem**. For effective regulation of Online Gaming, these rules need to be accompanied by clear definitions, multi-stakeholder engagement (including State and Union Governments), and most importantly **acknowledgement of the size and importance of this industry**.

## 1.8. NEWS IN SHORTS

### 1.8.1. RURAL-URBAN AREAS

- Economic Advisory Council to the Prime Minister (EAC-PM)** suggested changing **definition of rural-urban areas in India**.
- EAC-PM member in a **working paper** titled '**What is Urban/Rural India**' suggested that **government needs a more dynamic approach to define rural-urban areas**.
- Current Definition of Rural and Urban settlements**
  - As of 2017, any **settlement that is not considered 'urban' is automatically considered 'rural'**.
  - There are **2 types of urban settlements**
    - ✓ **Administratively urban settlements** are those that are governed by an Urban Local Body (ULB).
    - ✓ **Census Urban Settlements** are those that have a **population greater than 5000, 75% of male population working in non-agriculture, and a density of 400 people per sq. Km**.
- Problems with current labelling of settlement**
  - Current classification often **inadequate in capturing speed and scale** of urbanization in India.
  - Panchayats in de facto urban areas** are **ill equipped in terms of human resources**.
  - Slow transition** from rural administrative panchayats to ULBs **results in incorrect standards** of services being applied; **unmet requirements** of local public goods, etc.
- Solutions provided by EAC-PM**
  - Establish **"trigger mechanisms"** which automate transition from rural to urban settlement after prescribed threshold is reached.
  - Ministries should **utilise census and other settlement wide indicators** to determine rural definition that best suits their particular programme's mandate.

## LOCAL GOVERNANCE STRUCTURES



### 1.8.2. NATIONAL PARTY STATUS

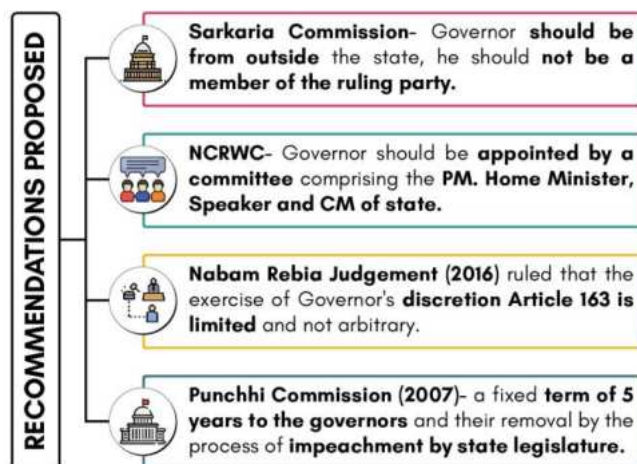
- **Citing Election Symbols (Reservation and Allotment) Order, 1968**, which stipulates criteria for recognition as a national or state party, **Election Commission of India (ECI) now recognises six national parties**:
  - Bharatiya Janata Party (BJP), Indian National Congress, Bahujan Samaj Party (BSP), Communist Party of India (CPI) (Marxist), National People's Party (NPP) and Aam Aadmi Party (AAP).
  - Trinamool Congress (TMC), Nationalist Congress Party (NCP) and CPI **lost their national party status**.
- ECI reviewed parties' performances in **2014 and 2019 Lok Sabha polls** and **21 state assembly polls since 2014**.

How is a Party's National status decided?	Benefits of National Party Status
<ul style="list-style-type: none"> <li>• <b>Votes in Lok Sabha (LS), state polls</b>: A party should secure at least <b>6% of votes</b> polled in <b>four or more states</b> in LS or assembly elections, and, in addition, have <b>at least four members in LS</b>.</li> <li>• <b>Seats in LS</b>: It should have at least <b>2% of total Lok Sabha seats</b>, and have candidates from <b>not less than three states</b>.</li> <li>• <b>Must be a state party</b>: in at least <b>four states</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Exclusive allotment</b> of its reserved symbol to candidates set up by it <b>throughout India</b>.</li> <li>• <b>Need only one person</b> to <b>propose a candidate's name</b> to enable them to file nominations.</li> <li>• <b>Get broadcast/telecast facilities</b> over Akashvani/Doordarshan <b>during general elections</b>.</li> <li>• <b>Can have up to 40-star campaigners</b> while other can have up to 20-star campaigners.</li> </ul>

### 1.8.3. GOVERNOR

- **Tamil Nadu Legislative Assembly** adopted a resolution urging Centre to set time limit for Governor for clearing Bills.

- Resolution has been passed in **backdrop of pending assent, to nearly 20 bills, by governor**.
- **When a bill is sent to governor** after it is passed by state legislature, **he can**:
  - **Give his assent** to the bill, or
  - **Withhold his assent**, or
  - **Return the bill** (if it is not a money bill) **for reconsideration of state legislature**. However, **if bill is passed again** with or without amendments, governor has to **give his assent**, or
  - **Reserve bill** for consideration of **President**.
- **Other issues w.r.t Governor and state governments in recent years include**:
  - **Lack of provisions** for the manner in which **Governor and state must engage publicly** when there is a difference of opinion.
    - ✓ Example – Recently **West Bengal, Tamil Nadu, and Kerala** saw bitter and acrimonious exchanges between state governments and Governors.
  - **Passing negative remarks** on state administration (law and order and political violence etc.).
  - **No clear distinction between constitutional and statutory roles**- Governors as a chancellor is a point of conflict.
  - **Misuse of discretionary power** (Time taken to decide over disqualification of members).
  - **Removal of Governor** - no written ground or procedure.




### 1.8.4. CENTRAL ADMINISTRATIVE TRIBUNAL


- Recently, Parliamentary Standing Committee on Personnel, Public Grievances, Law, and Justice noted mounting pendency of cases in Central Administrative Tribunal (CAT).
- As many as **80,545 cases are pending** in different Benches of the tribunal as on December 31, 2022. There are about **1350 cases pending for over ten years**.



- According to **CAT (Procedure) Rules, 1987**, every application should be heard and decided as far as possible, **within six months** from date of its registration.
- **Reasons for pending cases**
  - **Non-availability of sufficient** number of Members.
    - ✓ Some Benches of CAT are operating **with 50% of the sanctioned strength**.
  - CAT is contemplating to implement an **Advance Case Information system** which facilitates hearing of cases through **videoconferencing and complete digitization** of the functioning of the Tribunal.
- **Recommendations**
  - CAT should dispose of cases **related to pensions**, matters related to **senior citizens** and cases which are **more than 10 years** old on priority basis.
  - Steps should be taken to **ensure that vacancies** in the tribunal are **filled up at the earliest**.



**Central Administrative Tribunal (CAT)**  
New Delhi, India



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**Headquarter:** New Delhi

**Genesis:** Established (under **Administrative Tribunal Act, 1985**) in 1985 under **Article 323 A** of the Constitution.

**Objective:** To **adjudicate disputes and complaints** w.r.t recruitment and conditions of service of persons appointed to public services/posts in connection with **affairs of Union or other authorities**.

**Other Information:**

- It is guided by the **principles of natural justice** in deciding cases and is not bound by the procedure, prescribed by the **Civil Procedure Code**.
- Government has **notified 215 organizations** to bring them **within the jurisdiction of the CAT**.
- There are **19 Benches and 19 Circuit Benches** in the CAT all over India.
- Appeals against the orders of CAT lie **before concerned High Court (Chandra Kumar case)**.

### 1.8.5. TECHNOLOGY IN JUDICIARY

- In a step aimed at **bolstering technology adaptation in the judiciary** to enhance efficiency, equity, and ease, Supreme Court (SC) issued **directions to all the High Courts** for ensuring **digitalisation of lower court records**.
  - **SOP issued by E-committee of SC** requires all high courts to **establish a digitisation cell, judicial digital repositories, and a standardised system** for conversion of records.
- **Need for use of technology in judiciary**
  - **Overcoming pandemic like situation** to stay open and improve participation rates.

- **Speedy justice delivery** and cost effective.
- **Reducing pendency burden** on the Courts
- Enhanced **transparency and accountability**.
- **Bridging rural urban gap** in making justice **equally accessible**.
- **Challenges in using technology in Justice delivery:** Digital divide, lack of know-how, initially capital intensive, risk of cybersecurity, etc.
- **Other initiatives taken**
  - **e-Court mission:** a mission mode project for digitisation of judiciary.
  - **Inter-operable Criminal Justice System (ICJS)** to enable seamless transfer of data and information among stakeholders like courts, police, jails
  - **Fast and Secure Transmission of Electronic Records (FASTER)** by SC, a software to transmit Court Orders swiftly, securely through electronic mode.
  - **SUVAS (Supreme Court Vidhik Anuvaad Software)** to translate English judgments into regional language.

### 1.8.6. INDIA JUSTICE REPORT

- **The third edition of the report was released by Tata Trusts in collaboration with** representatives from a number of civil society organizations including the Centre for Social Justice, DAKSH, Vidhi Centre for Legal Policy, etc.
  - Report assesses and ranks each state's progress in **capacitating its major justice delivery mechanisms**—the judiciary, police, prisons, and legal aid.

#### ● Key Findings of the Report:

Judiciary	<ul style="list-style-type: none"> <li>● <b>No court works with a full capacity of judges in the country except the High Court of Sikkim and the district courts in Chandigarh.</b></li> <li>● At the district court level <b>no state/UT could fully meet all its SC, ST and OBC quotas.</b></li> <li>● Data on SC/ST/ OBC judges is not available for High Courts.</li> </ul>
Police	<ul style="list-style-type: none"> <li>● <b>Not a single state/UT meets their reserved quotas for women in police.</b></li> <li>● <b>Only Karnataka fulfilled the mandated quotas for SC, ST and OBCs in the police force.</b></li> <li>● In 19 states/UTs <b>urban police stations serve greater populations than their rural counterparts.</b></li> </ul>
Prisons	<ul style="list-style-type: none"> <li>● <b>Share of undertrials is more than 60% in 32 states.</b></li> <li>● <b>Only less than 5% inmates were educated in 24 states during 2020-21</b></li> </ul>

Legal aid	<ul style="list-style-type: none"> <li>The number of Legal services clinics dropped from 14,159 (2020) to 4,742 (2022).</li> <li>The Lok Adalats has settled cases to the value of 7,322 cr in 2021-2022.</li> </ul>
State Human Rights Commission (SHRC)	<ul style="list-style-type: none"> <li>33,312 cases are pending across all 25 SHRC as on March 2021.</li> <li>There is a 44% vacancy on average in all 25 SHRCs.</li> </ul>



### 1.8.7. DOCTRINE OF PROMISSORY ESTOPPEL

- In a hearing related to Agnipath scheme, plaintiff (party moving court in a civil action) cited doctrine of promissory estoppel.
- Promissory estoppel is a concept developed in contractual laws.
  - It essentially prevents a "promisor" from backing out of an agreement on the grounds that there is no "consideration."

- It is invoked by a plaintiff to ensure execution of a contract or seek compensation for failure to perform the contract.
- In Chhaganlal Keshavalal Mehta v. Patel Narandas Haribhai case (1981), Supreme Court listed out a checklist for when the doctrine can be applied.

### 1.8.8. CINEMATOGRAPH (AMENDMENT) BILL 2023

- Cabinet nod to Cinematograph (Amendment) Bill 2023.
- It has provisions to curb the transmission of pirated film content on internet.
  - It has provisions to classify films based on age group, instead of current practice of 'U', 'A', and 'UA'.
    - "U" is for unrestricted public exhibition, "A" is restricted to adult audience, and "UA" is for unrestricted public exhibition subject to parental guidance for children below age of 12, "S" is for special category audiences such as doctors and scientists.
  - It seeks to add new classification – "UA-7+", "UA-13+" and "UA-16+" in place for 12 years.

 <b>SMART QUIZ</b>	<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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# 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 करेंट 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
- करेंट अफेयर्स मैगजीन

**DELHI**  
 30 मई, 9 AM | 15 मार्च, 1 PM

**JAIPUR**  
 15 मई, 3 PM

**LUCKNOW**  
 7 जून, 9 AM

**BHOPAL**  
 5 जुलाई

लाइव / ऑनलाइन कक्षाएं भी उपलब्ध

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## 2. INTERNATIONAL RELATIONS

### 2.1. INDIA-BHUTAN

#### Why in News?

The King of Bhutan recently visited India to strengthen the bilateral relationship between the two countries.

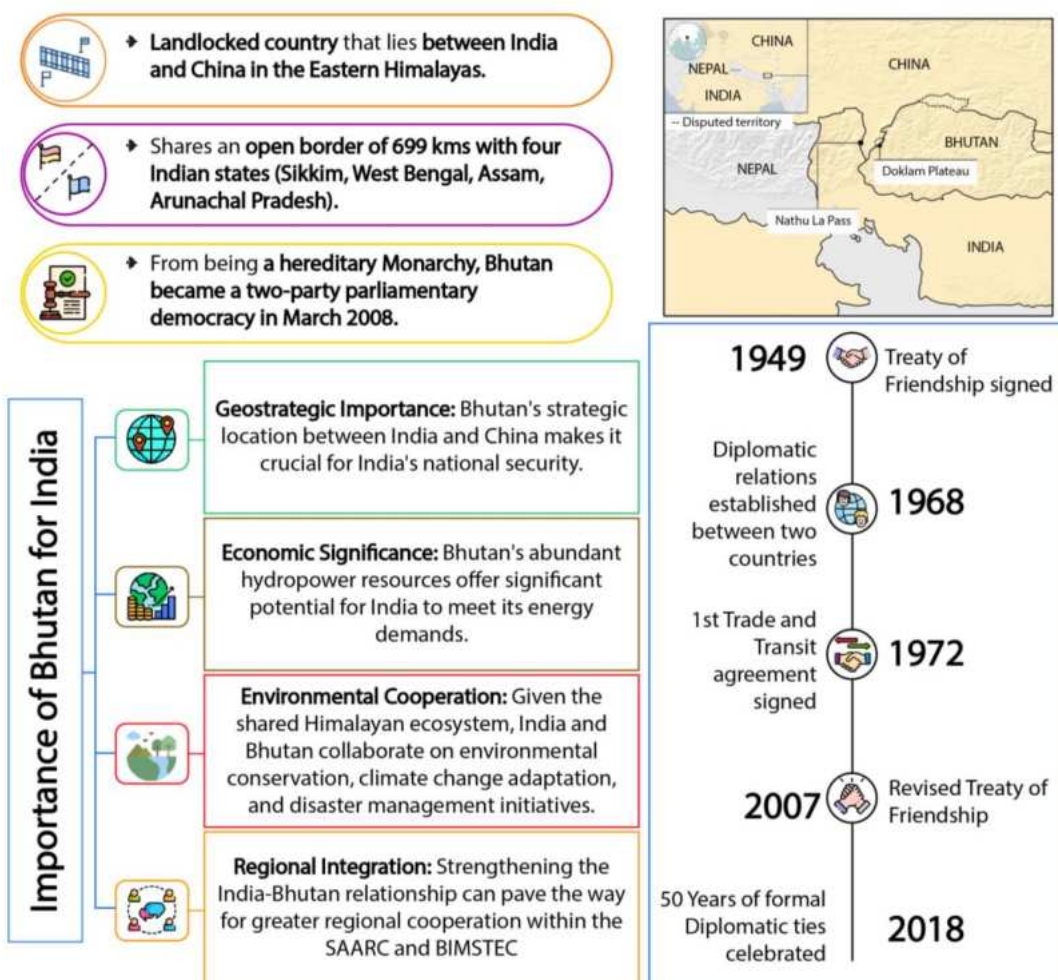
#### Outcomes of the Visit

- **Support to Bhutan:**
  - **Additional Standby Credit Facility (SCF)** for a period of five years.
    - ✓ **SCF provides financial assistance to low-income countries** with short-term balance of payments needs.
  - Assistance in digital infrastructure such as establishment of **Third International Internet Gateway** for Bhutan,
    - ✓ **International gateway** is any facility that provides an interface to send and receive electronic communications (i.e., voice, data and multimedia images/ video) traffic between one country's domestic network facilities and those in another country.
    - ✓ In India, there are **multiple International Internet Gateway** like in Mumbai, Chennai, Agartala etc.
  - **Integration of Bhutan's Druk Research & Education Network (DrukREN)** with India's **National Knowledge Network**, key co-operation in the domain of e-Learning e-Learning.
- **Hydropower:** Discussion on Hydroelectric Power Plants in Bhutan like Mangdechhu, Chhukha, Basochhu, Punatsangchhu-I, Sankosh project etc.
- **Security:** Established first integrated check post at Jaigaon (West Bengal, India) and Phuntsholing (Bhutan).
- **Connectivity:** Expedited Kokrajhar (Assam)-Gelephu rail link and supported Gelephu airport construction for investment attraction.

#### Areas of Cooperation

- **Hydropower:** Mutually beneficial hydro-power cooperation with Bhutan forms the core of bilateral economic cooperation.
- **Trade:** India is Bhutan's largest trading partner and it is around \$ 1422 Mn for 2020-21.
  - **Major exports from India to Bhutan:** mineral products, machinery and mechanical appliances, electrical equipments, base metals, vehicles, vegetable products, etc.

### India Bhutan Relation





- **Major items of export from Bhutan to India:** electricity, ferro-silicon, portland cement, dolomite, carbides of calcium carbides of silicon, cement clinkers, wood products, cardamom, fruit products etc.,
- **Cultural Relations:**
  - **Buddhism connects** both the countries on similar ideologies.
  - **The India-Bhutan Foundation**, established in 2003, aims to enhance people-to-people exchanges in the cultural field.
- **Security:** The Indian Military Training Team (IMTRAT) is permanently based in western Bhutan and assist and trains the Royal Bhutan Army.
  - **The Eastern Air command of Indian Air force provides Bhutan with Air security**, as the country does not have an air force.
  - India's Border Road Organisation, has built the majority of roads in Bhutan **under project 'DANTAK'**

#### Challenges in improving the relationship:

- **Chinese influence:** China disputes the following territories with Bhutan:
  - **in the north**, Pasamlung and Jakarlung valleys, both of which are culturally vital for Thimphu and
  - **in the west**, Doklam, Dramana, Shakhatoe, Yak Chu, Charithang Chu, Sinchulungpa and Langmarpo valleys.
    - ✓ India backs Bhutan's claim over Doklam as it is **strategically important for India's security**.
    - ✓ **Dominance of the region by China could threaten the Siliguri Corridor**, a narrow stretch that connects the Indian mainland with its north-eastern states.
- **Issues in hydropower trade:** India's past changes in power purchasing policy, refusal to admit Bhutan into the National Power Grid, etc has created a rift in the relationship.
- **Hideout for militants:** Militant outfits like United Liberation Front of Assam (ULFA), National Democratic Front of Bodos (NDFB), etc use the dense forests of Southern Bhutan as their hideouts and operate against India.
  - **Operation All Clear (2003-04)** was the first action against these militants by Bhutan.
- **BBIN initiative:** The Bangladesh-Bhutan-India-Nepal (BBIN) Motor Vehicle Agreement, proposed by India to improve connectivity in the region, is on hold by Bhutan due to environmental concerns.
- **Access to trade:** Bhutan is diversifying its market by reaching out to Bangladesh, with the two countries having signed a preferential trade agreement in 2021.

#### Way Forward

- **Initiating Trilogue:** Opening such communication channels can minimise uncertainties as questions of peace and conflict cannot be resolved by potential stand-offs (like Doklam) in the future.
- **Diversifying economic engagements:** For now, India's economic relations with Bhutan continue to be dominated by hydropower projects.
  - Strengthening collaboration in fields such as fintech, space tech, and biotech between the two countries can lead to a stronger partnership.
- **Improving people-to-people ties:** Soft power diplomacy can be induced through Buddhism and by encouraging more tourist exchanges between the two countries.
- **Security measures:**
  - **Establishment of contact points** between countries and mechanisms for real-time sharing of information in criminal matters,
  - **Capacity building and skill development of law enforcement** personnel manning border check-posts,
  - **Development of a Standard Operating Procedure (SOP)** on repatriation for the Indo-Bhutan border

## 2.2. INDIA-LATIN AMERICA

#### Why in news?

Indian External Affairs Minister paid visit to four of the Latin American countries- Panama, Guyana, Colombia and Dominican Republic.

## More on news

- He is the **first Indian foreign minister** to have made a bilateral visit to these countries.
- He also attended the **India-Central American Integration System (SICA)** Foreign Ministerial Meet.
- He also co-chaired the **fourth India-CARICOM (Caribbean Community and Common Market)** ministerial meeting.

## Significance of the Meet

<b>Guyana</b>	<ul style="list-style-type: none"> <li>• Guyana is home to <b>one of the world's largest oil reserves</b>. Important for India to diversify its oil sources.</li> <li>• Commissioned an <b>India-made ferry MV Ma Lisha</b> to improve connectivity and mobility within Guyana.</li> </ul>
<b>Panama</b>	<ul style="list-style-type: none"> <li>• India's <b>largest Central American trade partner</b>, with reportedly \$610 million in annual trade in 2022.</li> <li>• Has significant Indian Diaspora presence.</li> <li>• Positioned to <b>serve as India's gateway to the Latin American region</b>, offering unique <b>logistical capabilities as a maritime hub</b>.</li> </ul>
<b>Colombia</b>	<ul style="list-style-type: none"> <li>• Signed the <b>Cultural Exchange Program for 2023-26</b>.</li> <li>• Supplies <b>crude oil, coal</b> to India.</li> </ul>
<b>Dominican Republic</b>	<ul style="list-style-type: none"> <li>• <b>Inaugurated the Embassy of India</b> in the Dominican Republic.</li> <li>• <b>India's automobile dealers</b>, like Bajaj, Hero and Royal Enfield have established local dealerships in the Dominican Republic.</li> </ul>

## Significance of India Latin America relations

- **Trade relations:** Trade between India and LAC was at an **all-time high of US\$50 billion** in 2022. Overall, if Latin America were a country, it would be India's fifth largest trade partner in 2022-23.
  - With war in Ukraine, which has been the largest supplier of sunflower oil to India, India's imports of edible oil from Latin America have increased.
- **Investment opportunity for Indian businesses:** For Indian business, Latin America lies in the so-called 'goldilocks zone'—a sweet spot between the highly regulated, competitive markets of the US and Europe, and the less competitive markets of Africa that have lower purchasing power.
  - Indian IT companies employ more than **40,000 people in the region**, nearly all of whom are locals.
  - India's total investments in the region are **valued at US\$16 billion**.
- **Food and energy security:** India sources 15% of its crude oil from LAC countries and in order to sustain its growing energy needs, its demand will increase in the future.
  - The region can also contribute towards food security as Latin America region is **five times that of India and only has half as much population**.
  - India can import pulses and oil seeds from these countries.
- **Strategic significance:** Latin America accounts for 40% of global production of **copper**, supplies 35% of the world's **lithium**.
  - India is already working on **acquiring mines of strategic minerals** such as lithium and cobalt in countries like, Argentina, Bolivia and Chile.
- **Developmental cooperation:** LAC region was one of the **main recipient of the India-UN Development Partnership Fund** in 2021 (\$20 million, 26 projects).



### Central American Integration System (SICA)



Secretariat:  
San Salvador,  
El Salvador.

**Genesis:** Established on December 13, 1991, by the signing of the Protocol to the Charter of the Organization of Central American States (ODECA) or Tegucigalpa Protocol.

**Member:** Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Belize and Dominican Republic.

**Mandate:**

- Realize regional Peace, Liberty, Democracy and Development, based firmly on the respect and promotion of human rights.
- Integration of the region, formation of a Free Trade Area and later a Customs Union,
- Integration of infrastructure, common position on regional and global issues and common passport and visa policy.

**Presidency:** Rotates every six months.

**Relations with India:** Starting from 2004, four India- SICA ministerial meets were held.



Not Member



- **India can also learn from Latin America's experience with conditional cash transfers (CCTs).**
- This is because the region is a pioneer in CCTs globally and has more than three decades of experience implementing such programs.
- **South-South cooperation:** India held the first **Voice of Global South Summit** which had **29 Latin American and Caribbean countries**.
  - India is cooperating with Brazil at **platforms like BRICS, IBSA**, which has provided an alternative platform for developing countries.
- **People to people relations:** Indian philosophy, yoga and teachings of Gandhi have had an indelible imprint in the minds of many Latinos in the region.
  - Many Latin Americans are also well-versed with Rabindranath Tagore, who spent two months in Argentina in 1924.

### Challenges in relations

- **Lack of mechanism to engage region as whole:** India has yet to formulate a mechanism to deal with the Latin American region as a whole.
  - has good relations with countries like Brazil, Mexico, Chile but other countries lag behind.
- **Physical distance as a factor:** Distance between India and Latin America is perhaps most acutely felt in the social interactions between both sides, which have been few and far between.
- **Perception in foreign policy:** Latin America was always relegated to the far end of the **three concentric circles** that drive India's foreign policy.
  - The **first circle** refers to the **neighbourhood (thus India's 'Neighbourhood first' policy)**, the **second** includes the **extended neighbourhood, particularly Asia**, as well as strategic partners like the US and Russia, and the **third and final circle includes the rest of the world**, including Latin America.
  - For instance, till recently, the **Latin American region has been managed by India's Minister of State for External Affairs**.
  - Only recently, that the bilateral relationship with three Latin American countries, namely Argentina, Brazil, and Mexico, are managed directly by India's foreign minister.
- **Lack of FTAs:** Current preferential trade agreements (PTAs) that India has with Mercosur (trading bloc in South America region comprising of Argentina, Brazil, Paraguay and Uruguay) and Chile remain limited in scope.
- **Limited engagement as compared to China:** India's annual trade of US\$30 billion to US\$50 billion with Latin America is a mere shadow of China's US\$400 billion. Also, there is over 3 million Chinese diaspora in the Latin American region, while India has a scant 30,000 people living in the region.



## Caribbean Community and Common Market (CARICOM)

 **Genesis:** Established by the **Treaty of Chaguaramas**, which came into effect in **1973**.

 **Members (15):** Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

 **Mandate:**  
Rests on **four main pillars**: economic integration; foreign policy coordination; human and social development; and security.

 **Secretariat:** Georgetown, Guyana

 **Relations with India:**

- India's engagement started in 2003, with signing of **agreement for establishing a Standing Joint Commission on Consultation, Cooperation and Coordination**.
- In 2019, PM announced **Grant for Community Development Projects (CDP)** in the CARICOM and a **Line of Credit** for projects related to Solar, Renewable Energy and Climate Change.

### Way Forward

- **Frame a Latin America policy** for comprehensive engagement across sectors
- Upgrade the current PTAs with Chile and Mercosur to FTAs, and also sign new, comprehensive trade agreements with other countries in the region
- Enhance cultural linkages, through academic institutions, media, tourism etc
- Leverage civilisational strengths, democratic governance which Latin America identifies more closely with India than with China.



## 2.3. INDIA, IRAN, ARMENIA TRILATERAL

### Why in news?

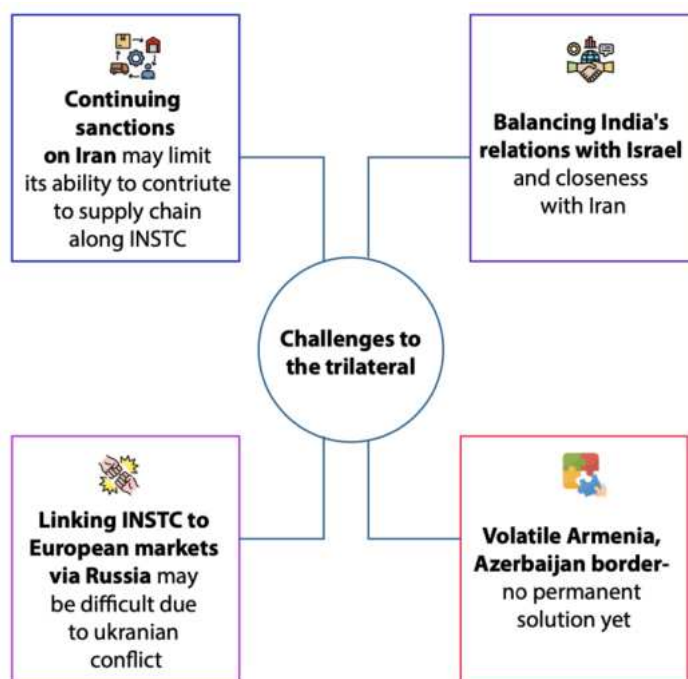
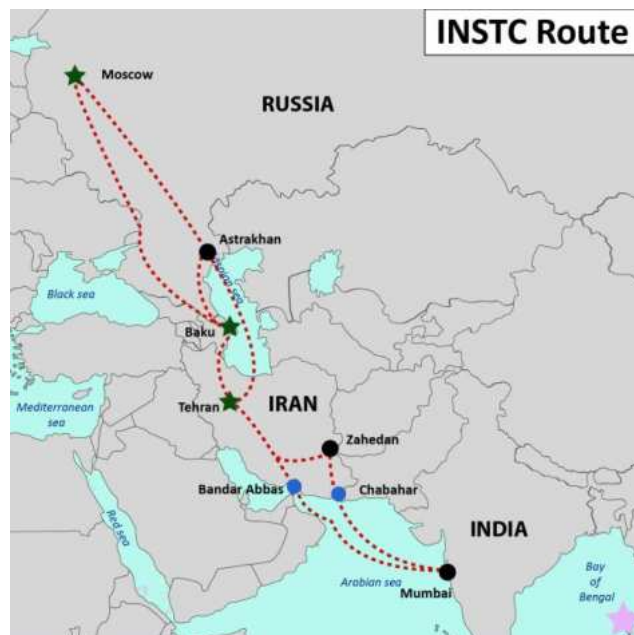
India, Iran and Armenia held a round of political consultations in Yerevan and agreed to hold future meetings in a trilateral format.

### Key highlights of the meet

- This is the **first** such meet.
- Three sides discussed economic issues, regional communication channels and the prospects of deepening **cultural and people-to-people contacts**.

### Significance of the trilateral

- **Revitalise the INSTC:** Following the Ukrainian conflict, the changing geopolitical landscape presented an opportunity to revitalise the INSTC.
  - Also, India intends to **extend the INSTC through Armenia** to connect the Chabahar port in Iran and the Indian Ocean to Eurasia and Finland.
- **Seen as counter to the Pakistan-Azerbaijan-Turkey trilateral:** In **2021 Baku Declaration**, **Pakistan-Azerbaijan-Turkey** agreed to support each other's territorial integrity, while underlining their respective priorities. The declaration is seen as an expression of overt support for
  - Azerbaijan's campaign in Karabakh,
  - **Pakistan's claims in Jammu and Kashmir**, and
  - Turkey's standpoint vis-à-vis the Cyprus, Aegean and East Mediterranean disputes.
  - In September 2021, these three also held the '**Three Brothers**' joint military exercises.
- **Nagorno-Karabakh:** This disputed territory between Armenia and Azerbaijan, is also a key factor in these two different trilaterals.
  - Nagorno-Karabakh is **internationally recognised as part of Azerbaijan**, but most of the region is controlled by Armenian separatists.
  - Separatist Armenians have declared it as "**Nagorno-Karabakh Autonomous Oblast**".
  - However, efforts to produce a permanent solution to the conflict, primarily led by the **Minsk Group of the Organization for Security and Cooperation in Europe (OSCE)**, have failed.
  - The Minsk Group was created in 1994 to **address the dispute** and is co-chaired by the **United States, France, and Russia**.
    - ✓ Turkey and Pakistan have traditionally supported Azerbaijan in the conflict, Iran and India have supported Armenia.



## Points of Convergences

India and Armenia	<ul style="list-style-type: none"> <li>• Celebrated 30 years of bilateral diplomatic relations in 2022.</li> <li>• Enjoy active political ties and effective <b>cooperation within international bodies</b>.</li> <li>• Under a <b>newly inked export agreement</b>, India would send <b>military weapons</b> such as missiles, rockets, and ammunition to Armenia.</li> <li>• India's <b>External Affairs Minister</b> visited Armenia in 2021. It was the first visit by an Indian Foreign Minister since establishment of diplomatic relations in 1992.</li> <li>• <b>Free trade agreement (FTA) between India and the Eurasian Economic Union (EAEU)</b> is currently being negotiated. <ul style="list-style-type: none"> <li>◦ <b>Since Armenia is an EAEU member</b>, the conclusion of this FTA would contribute to boosting bilateral trade.</li> </ul> </li> </ul>
India and Iran	<ul style="list-style-type: none"> <li>• <b>Relations span millennia</b> with both countries having historic ties and sharing a common cultural heritage.</li> <li>• The <b>Chabahar port in Iran</b> has been key to connectivity between the two nations.</li> <li>• Both are <b>signatories to INSTC agreement</b>.</li> </ul>
Iran and Armenia	<ul style="list-style-type: none"> <li>• <b>Share a border and enjoy robust ties</b>.</li> <li>• Two countries have been <b>focusing on deepening their trade and economic cooperation</b>.</li> <li>• Armenia serves as a <b>transit route for Iran to access the EAEU</b>.</li> </ul>

## Conclusion

In trilateral terms, the Iran-India-Armenia would-be axis is focused on trade, in particular a Persian Gulf-Black Sea trade route that would allow Indian goods to be shipped West. Also, this regional cooperation is going to strengthen the Asian and Eurasian regions of the world.

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

### Why in news?

Recently, the **United Kingdom** agreed to join **CPTPP**. It will become the first new member and the first country in Europe to join the CPTPP.

### Significance of CPTPP

- **Trade in goods:** Elimination of tariffs and reduction in non-tariff barriers in CPTPP export markets.
- **Equal treatment in Government procurement:** Foreign companies will receive the same treatment as domestic suppliers when bidding on government procurement opportunities.

### Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)



**Origin**

It was signed in **March 2018** and came into force in **December 2018**.

- It succeeded the **Trans-Pacific Partnership (TPP)** after the United States withdrew from the TPP in 2017.



**About**

It is a **Free Trade Agreement (FTA)** between **11 nations**.



**Member Countries**

**Member countries:** Australia, Brunei, Canada, Chile, Japan, Malaysia, Singapore, Vietnam, Peru, Mexico, and New Zealand.



**Not a Member**






### Related Information

#### Agreement on Government Procurement (GPA)

- **About:** The GPA is a **plurilateral agreement within the framework of the WTO**. (The agreement is binding on its members)
- **Aim:** To **mutually open government procurement markets among its parties**.
- **Administration:** The GPA is administered by the **Committee on Government Procurement** which is composed of representatives of all its parties.
- **Members:** It has **21 parties** (covering **48 WTO members**, counting the European Union and its 27 member states as one party).
  - Another 36 WTO members/observers and several international organizations participate in the **Committee on Government Procurement as observers**.
  - **India is not a member of GPAs** (It is one of the observers).

- **Predictability and transparency:** Common and transparent trade and investment rules between 11 Asia-Pacific countries, assisting in the reduction of administration costs.
- **Labour and the environment:** CPTPP includes clear commitments to uphold CPTPP members' respective standards on labour and environment.
- **Addressing governance and emerging issues:** It includes rules against corruption, reducing unfair competition by state-owned enterprises, and ensuring a liberalized environment for electronic commerce.

How CPTPP is different from Regional Comprehensive Economic Partnership (RCEP)?		
	RCEP	CPTPP
 Members	FTA in 15 countries (largely Asia-Pacific region).	FTA in 11 countries (has countries on either side of the Pacific Ocean).
 Size	Accounts for 31% of global GDP.	Accounts for 13.5% of the global GDP.
 Domain	The requirements in CPTPP are more comprehensive than under the RCEP. For instance, RCEP does not include disciplines on support for state-owned enterprises (SOEs) or provisions on labour and environmental issues. ★	

## India and CPTPP

Why India did not join the CPTPP?	What is India missing by not joining CPTPP?
<ul style="list-style-type: none"> <li>• <b>Stringent standards on intellectual property rights:</b> It can extend pharmaceutical company monopolies and drastically affect India's pharmacy ecosystem.</li> <li>• <b>CPTPP Investor-State Dispute Settlement (ISDS) mechanism:</b> It hinders regulation of the investment ecosystem and by passes economic sovereignty of India. <ul style="list-style-type: none"> <li>○ ISDS is a mechanism in an FTA or investment treaty that <b>provides foreign investors, with the right to access an international tribunal to resolve investment disputes.</b></li> </ul> </li> <li>• <b>Required economic concessions:</b> India has recognized that the <b>sweeping economic concessions</b> required to join CPTPP are too drastic to take from an Indian perspective.</li> <li>• <b>Possibility of deindustrialisation:</b> CPTPP template of rules on market access to goods, could pose severe challenges to India's manufacturing sector. This may harm the industrial sector in the long term.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Competitiveness:</b> Reduced tariffs would have made Indian exports less expensive in partner countries.</li> <li>• <b>Access to new clients:</b> New preferential access to key markets in Indo-Pacific regions including Japan, Malaysia, and Chile.</li> <li>• <b>Market transparency and stability:</b> CPTPP would have offered Indian services suppliers improved protection, predictability, and transparency for conducting business in partner markets.</li> <li>• <b>Exclusion from the Global Value Chain (GVCs):</b> The Rules of Origin (RoO) under the CPTPP coupled with the tariff reduction will encourage creation of new GVCs. Not joining CPTPP decreases this opportunity for India.</li> </ul>

## Conclusion

Given the trade-offs, India can negotiate with FTA groups such as CPTPP and RCEP. But at the same time, it has to maintain a sound balance between sovereign commitments in the international economic arena and maintaining crucial domestic policy space.

## 2.5. NEWS IN SHORTS

### 2.5.1. INTERNATIONAL FUND OF AGRICULTURAL DEVELOPMENT (IFAD)

- IFAD and Japan announced the launch of the **Enhanced Linkages between Private Sector and Small-scale Producers initiative (ELPS).**
- **Aim:** To make small-scale producers and local food systems around the world more resilient and sustainable together with the enhanced **engagement of private sector companies.**
- **Objectives:** ELPS investments will be geared towards improving **agricultural productivity, raising incomes, and enhancing the livelihoods of small-scale producers** in developing countries.
  - By working with small-scale food producers, private sector partners such as food companies can contribute to **sustainable agriculture and resilient food systems.**
- **Finance:** Japan will support IFAD with approximately **US\$2 million** for the initiative.
- **Significance:** Small-scale farmers are the cornerstone of global food security, producing **one third of the world's food.**



# **About IFAD**

**Genesis:** Established in 1977, as an international financial institution and a specialized agency of the United Nations.

**Aim:** Transform rural economies and food systems by making them more inclusive, productive, resilient and sustainable.

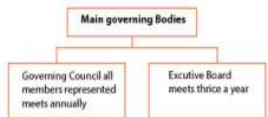
**Members:** 177. Membership is open to any State that is a member of the United Nations, any of its specialized agencies or the International Atomic Energy Agency.

**Funding:** Nearly 100 members voluntarily support the Fund through financial contributions.

**Organisational structure:** IFAD is headed by a President elected for a four-year term.

**Partnering agencies:** IFAD systemically partners with UN agencies Food and Agriculture Organization (FAO) and World Food Programme (WFP). They provide financial and technical support to the Committee on World Food Security (CFS). CFS, established in 1974 to ensure food security and nutrition for all.

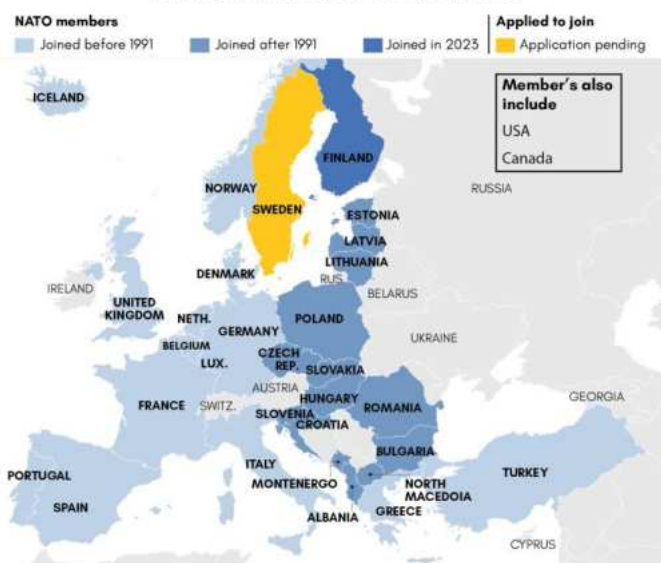
**India and IFAD:** India has received funding from IFAD for projects in rural development, tribal development, women's empowerment and micro-finance. Since 1979, it has financed more than 27 projects. India has also contributed to IFAD resources.



## 2.5.2. NORTH ATLANTIC TREATY ORGANIZATION (NATO)

- Finland became the **31st country to join NATO**.
  - Finland, once neutral under a "friendship agreement" with the Soviet Union, moved closer to **NATO after the collapse** of the Soviet Union.
- As a member of the Alliance, **Finland is part of NATO's collective defence** and is covered by the security guarantees enshrined in Article 5 of the North Atlantic Treaty.
  - Collective defence means that an attack against one Ally is considered as an attack against all Allies.

### NATO Member Countries



- About NATO**
  - NATO was established in **1949 by the Washington Treaty**.

- It was established as a **military alliance, against the then USSR in the European region**.
- It derives its authority from **article 51 of the UN charter**.
- Significance of NATO:**
  - It **promotes democratic values and encourages cooperation** between member countries.
  - It has played a crucial role in **crisis management in the region**.
  - It has helped to **maintain peace and stability in the region** among member countries.
- Major Non-NATO Ally (MNNA) status** is a designation under U.S. law that provides foreign partners with certain benefits in the areas of defence trade and security cooperation.

## 2.5.3. G7 MEETING

- G7 Climate and Environment Ministers' meeting concluded** in Sapporo, Japan
- Key highlights**
  - G7 countries set the urgent need to **reduce global GHG emissions by around 43 percent by 2030 and 60 percent by 2035**.
  - They **targeted 2040 for reducing additional plastic pollution to zero**, bringing the target forward by a decade.
  - G7 members pledged to **collectively increase offshore wind capacity by 150 gigawatts by 2030** and solar capacity to more than 1 terawatts.
  - G7 will **accelerate the phase-out of unabated fossil fuels** so as to **achieve net zero in energy systems by 2050**.

### Group of Seven (G7)

**Genesis:** The origins of the group date back to the early 1970s.

**About:** It is an **informal forum of leading industrialized nations**.

**Purpose:** It meets annually to discuss issues such as **global economic governance, international security and energy policy**, besides a host of other issues topical to prevailing situation.

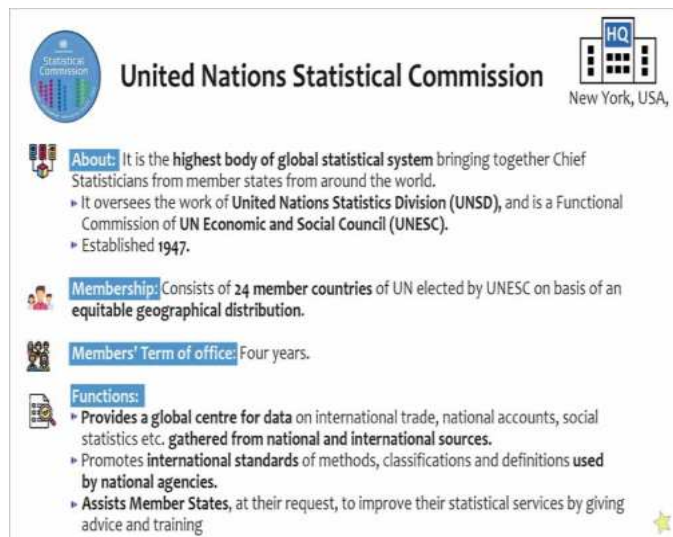
**Membership:** **United States, Britain, Canada, France, Germany, Italy, and Japan**.  
 • EU is not a member of G7 but attends annual summit.

**Key Information:**

- Represent **46% of global GDP** and **10% of the world's population**.
- Launched **Build Back Better World (B3W)** in 2021 to provide an alternative to China's **Belt and Road Initiative (BRI)**.
- In 2021, they agreed to set a **global minimum tax rate of 15%** for multinational companies
- From 1998-2014, **Russia** was also a member of this group, it was then known as **G8**.

### 2.5.4. UNITED NATIONS STATISTICAL COMMISSION

- India has been elected to **United Nations Statistical Commission** for a four-year term **beginning January 1, 2024**.



### 2.5.5. NORTH SEA SUMMIT

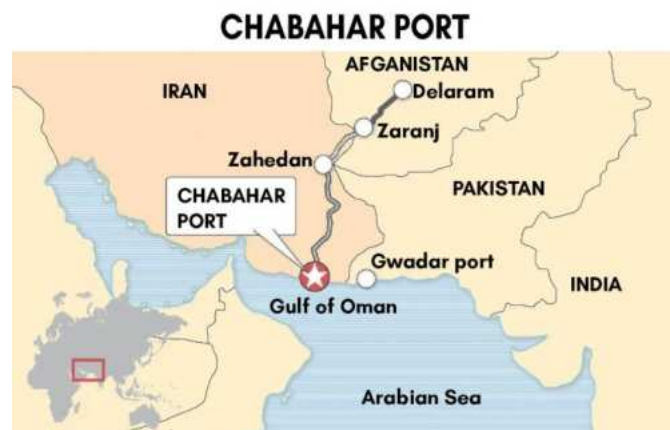
- European nations **participated in Second North Sea Summit** in Ostend, Belgium.
- North Sea Summit aims at making the **North Sea the largest powerhouse of Europe by 2050** by taking its offshore wind capacity to **120 GW by 2030 and 300 GW by 2050**.
  - 7 European Union (EU) countries** (Belgium, Denmark, France, Germany, Ireland, Luxembourg, Netherlands), and **2 Non-EU countries Norway and United Kingdom** participated in this second summit.
- At the end of first summit in Denmark in 2022, **Belgium, Denmark, Germany and Netherlands** signed the **Esbjerg Declaration**.
  - Esbjerg Declaration aimed at making the North Sea into the **“Green Power Plant of Europe”, an offshore renewable energy system**.
  - Declaration set the targets for **offshore wind energy capacity of 150 GW by 2030 and 20 GW green hydrogen production capacity by 2030**.
- Wind energy in India**
  - India stands **4th globally in wind power capacity** as per REN21 Renewables 2022 Global Status Report.
  - As of February 2023, **India's total installed wind power capacity is approximately 42 GW**.
  - National Wind Solar Hybrid Policy, 2018** provides for promoting large grid-connected wind-solar energy projects.

- North Sea, **part of Atlantic Ocean**, is located **between Norway and Denmark** (east), Scotland and England (west), and Germany, Netherlands, Belgium and France (south).
  - It is **connected to Atlantic by Strait of Dover and English Channel**.



### 2.5.6. CHABAHAR PORT

- First meeting of India-Central Asia Joint Working Group** on Chabahar port took place in Mumbai.
- Chabahar Port is **located in Sistan-Baluchestan province** in South-eastern Iran, on **Gulf of Oman**.
  - In 2016, **India signed a tripartite agreement with Iran and Afghanistan** to develop the **Shahid Beheshti Terminal at Chabahar**.
- It is considered a **crucial gateway** that would **enable India to bypass Pakistan and access Afghanistan**, and ultimately Central Asia.
- With its **strategic location near Strait of Hormuz and Indian Ocean**, port offers significant potential.





### 2.5.7. GOOD FRIDAY AGREEMENT

- US President is visiting Northern Ireland to mark **25th anniversary of Good Friday Agreement (GFA)**.
- GFA was signed in **1998**, between **factions of Northern Ireland, and governments of Britain and Ireland**, to end **30 years of violence** known as **'The Troubles'**.
  - **Northern Ireland**, created in 1921 by partitioning Ireland, **remained with United Kingdom** after Ireland's independence from UK.

- This resulted in violence between those who wished to remain with UK and those who wanted to join Ireland.

### 2.5.8. OPERATION KAVERI

- **India has launched 'Operation Kaveri' to bring back its citizens stranded in war-torn Sudan.**



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## MAINS

- **General Studies** (हिन्दी माध्यम में भी उपलब्ध)
- **Essay** (हिन्दी माध्यम में भी उपलब्ध)
- **Philosophy • Sociology • Political Science & IR**
- **Anthropology • Essay**

for **GS 2023: 4 June**

सामान्य अध्ययन 2023: 4 जून

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सामान्य अध्ययन 2024: 14 मई

**4 JUNE**

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## 3. ECONOMY

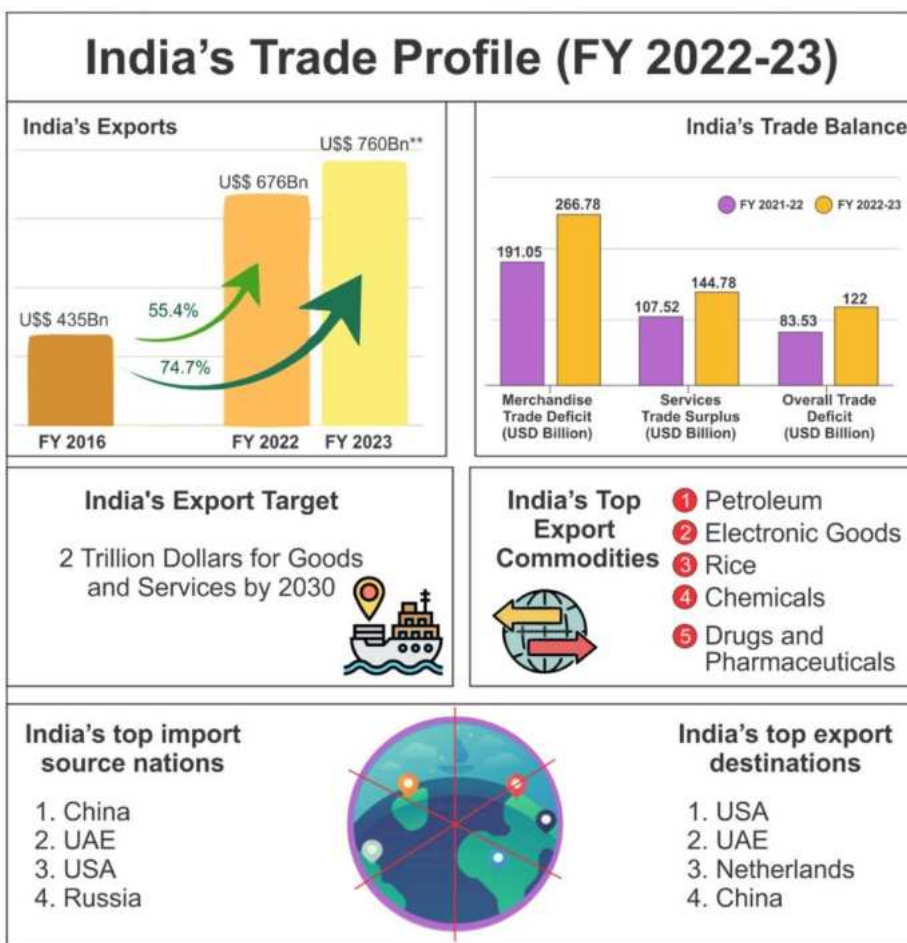
### 3.1. FOREIGN TRADE POLICY 2023

#### Why in News?

The Union Ministry of Commerce and Industry notified the Foreign Trade Policy 2023.

#### About FTP 2023

- **Notification:** FTP 2023 is notified by Central Government, in the exercise of powers conferred under **Section 5 of the Foreign Trade (Development & Regulation) Act, 1992**.
- **Principles:** It is based on the **continuity of time-tested schemes**, adopting principles such as **responsiveness to the requirements of trade** and **'trust' and 'partnership' with exporters**.
- **FTP 2015-20:** It was **extended** due to the COVID-19 pandemic and volatile geo-political scenario **till March 2023**.
  - India has reached **record high Export Performance** and India's Merchandise and Services exports are expected to **cross record USD 760 Billion in FY 2022-23**.
- **Need for the policy:** A clearly demarcated FTP is required for **promoting exports** through collaboration, ease of doing business, identifying potential areas of trade relations and **beneficial integration into the global economy**.
  - The Policy lays out **clear roles for different stakeholders** and lays out a vision for India's foreign trade.



#### Four Pillars of New FTP Approach

From Incentives to Tax Remission



Greater Trade facilitation through technology, automation, and continuous process re-engineering



Export promotion through collaboration: Exporters, States, Districts



Focus on Emerging Areas – E-Commerce Exports, Developing Districts as Export Hubs, Streamlining SCOMET policy



#### 3.1.1. TRADE FACILITATION AND EASE OF DOING BUSINESS (EODB)

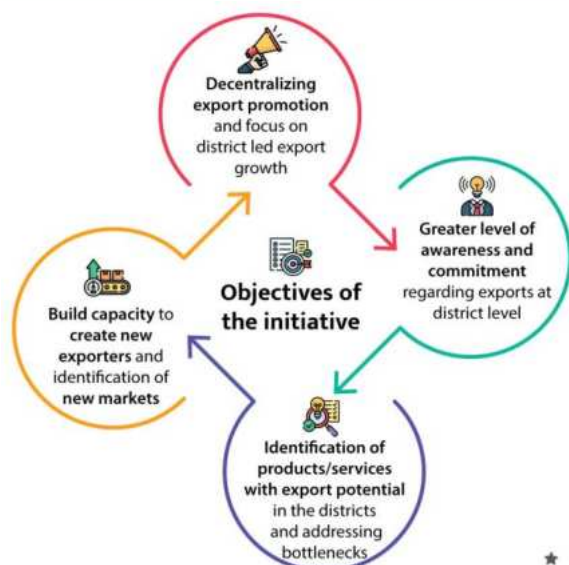
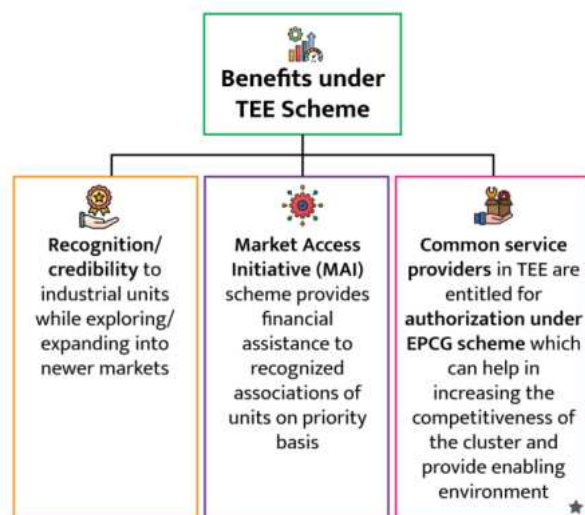
##### About Trade facilitation and EoDB

**Trade facilitation** is the simplification, modernization and harmonization of export and import processes. **Ease of Doing Business** acts as a yardstick to measure this simplification and harmonization.

##### Initiatives taken

- **National Committee on Trade Facilitation (NCTF):** To facilitate coordination and implementation of WTO's Trade Facilitation Agreement (TFA).

- **WTO's TFA** came into force in **2017** to **address the issue of "red tape" across borders** and streamline the movement of goods.
- **Initiatives by Directorate General of Foreign Trade (DGFT):** Facilitator of exports and imports. It also consults various Export Promotion Councils and Trade and Industry Bodies.
  - **Niryat Bandhu:** Being implemented for mentoring new and potential exporters.
  - **Issuance of e-IEC (Electronic-Importer Exporter Code):** IEC is a 10-character alpha-numeric number allotted to an entity and is **mandatory for undertaking any export/import activity**.
  - **e-Certificate of Origin (e-CoO):** Online facility for CoO. e-CoO has a unique number i.e., **UDIN (Unique Document Identification Number)** and a **QR code** for validation.
  - **Online facility to file Quality Control and Trade Disputes (QCTD).**
- **Initiatives for Trade facilitation at customs:**
  - **24x7 Customs clearance** in 20 seaports and 17 Airports
  - **Single window** in customs
  - **E-Sanchit** – enabling paperless clearance environment
  - Pan-India Implementation of **Faceless e-Assessment** in Imports
  - **TURANT Customs** and **TURANT Suvridha Kendras** for contactless Customs clearance processes
- **Towns of Export Excellence (TEE):** For development and growth of export production centres.
  - Selected towns **producing goods of Rs. 750 Crore or more** may be notified as TEE based on the potential for growth in exports (TEE in Handloom, Handicraft, Agriculture and Fisheries sector, **threshold limit would be Rs.150 Crore**).
- **Rationalization of the criteria of Status Holder Certification:** "Status Holder" certificate is to recognize exporter firms as **business leaders** who have excelled in international trade and have contributed to the country's foreign trade.
  - **Privileges** to status holders include clearances on a self-declaration basis, exemption from various documents, preferential treatment in consignment handling etc.



### 3.1.2. EXPORT PROMOTION INITIATIVES BY FTP 2023

#### About Export Promotion

**Export Promotion** refers to initiatives which enhance the potential of export activities at the company, industry, state or national level. The following initiatives have been taken to fulfil this objective-

#### Districts as Export Hubs Initiative

- **Institutional Mechanism:** At the State and District level to strategize exports (**State Export Promotion Committee & District Export Promotion Committee (DEPC)**).
  - Preparation of **District Export Action Plans (DEAPs)** by DEPCs and their online monitoring.

- **Export promotion outreach programs** in districts to focus on branding, packaging, design and marketing of identified products & services.
- Districts to focus on the **development of logistics, testing facilities, connectivity for exports** and other export-oriented ecosystems.
- **Convergence of ongoing schemes** to support these initiatives.

### Export Promotion of Capital Goods (EPCG) Scheme

- **Objective:** To facilitate the import of capital goods for producing quality goods and services and enhance India's manufacturing competitiveness.
  - It allows the **import of capital goods at zero customs duty**.
- **Eligibility:** It covers **manufacturer exporters, merchant exporters, and service providers** who are certified as Common Service Providers (CSP) by the DGFT.
- **Export Obligation:** Imports under EPCG are subject to Average Export Obligation (AEO). However, some sectors have been **exempted from AEO requirements**.

### Export Promotion Units

- **Eligible units:** Units which **export their entire production of goods and services**, may be set up under the **Export Oriented Unit (EOU) Scheme, Electronics Hardware Technology Park (EHTP) Scheme, Software Technology Park (STP) Scheme or Bio-Technology Park (BTP) Scheme** for the manufacture of goods.
  - **Trading units are not covered** under these schemes.
- **Objective:** To **promote exports, enhance foreign exchange earnings, and attract investment** for export production and employment generation.

### Deemed Exports

- **Definition:** Deemed Exports refer to those transactions in which **goods supplied do not leave the country, and payment for such supplies is received either in Indian rupees or in free foreign exchange**.
  - In simpler terms, under deemed export, the goods can be sold within India to anybody who holds a licence for the import of these very goods. The seller selling the said goods against an import licence is the deemed exporter and the buyer is the deemed importer.
- **Objective:** To provide a **level-playing field to domestic manufacturers** and to promote Make in India.



## 3.1.3. OTHER INITIATIVES BY FTP 2023

### Quality Complaints and Trade Disputes

- **Committee on Quality Complaints and Trade Disputes (CQCTD):** CQCTD will be constituted in the Regional Authorities (RAs) of DGFT.
  - CQCTD will be responsible for **enquiring and investigating all Quality related complaints and other trade-related complaints** falling under the jurisdiction of the respective RAs.
  - It will take effective steps to **resolve the grievances** of the importers/exporters and overseas buyers/ sellers preferably **within three months**.
- **Coverage:** Under this mechanism, **complaints/disputes between two or more Indian entities are not covered**. Similarly, complaints/disputes between two or more foreign entities are also not covered.
- **Nature:** CQCTD proceedings are **conciliatory in nature** and the aggrieved party is free to pursue any legal recourse against the other erring party.



## Promoting Cross Border Trade in Digital Economy

- **Promotion of e-commerce exports: Niryat Bandhu Scheme (NBS)** shall have a component for the **promotion of e-Commerce** and other emerging channels of exports.
  - DGFT shall organise **outreach activities/workshops** in partnership with Customs Authorities, the Department of Post, 'Industry Partners' and 'Knowledge Partners' for the promotion of e-Commerce exports.
- **E-Commerce Export Hubs (ECEHs):** To establish designated areas as ECEHs, which would act as a **centre for favourable business infrastructure and facilities** for Cross Border E-Commerce activities.
  - **Creation:** ECEH may be set up through private initiative and in Public-Private Partnership (PPP) mode.
  - **Nature of ECEH operations:** ECEH will function to achieve **agglomeration benefits** for e-commerce exporters. ECEH shall provide for:
    - ✓ **Storage, packaging, labelling, certification & testing** and other common facilities for the purposes of export.
    - ✓ **Dedicated logistics infrastructure** for connecting to and leveraging the services of the nearest Logistics hub(s).
  - **Entitlements:** ECEH may be provided **financial assistance under the Market Access Initiative (MAI) scheme**.
- **Promotion of e-commerce exports through postal route: Dak Ghar Niryat Kendras** shall be operationalised throughout the country to work in a **hub-and-spoke model** with Foreign Post Offices (FPOs) to facilitate cross-border e-Commerce.

## Duty Exemption / Remission Schemes

- **Advance Authorisation (AA):** Imports under AA are exempted from payment of Basic Customs Duty, Additional Customs Duty, Education Cess, Anti-dumping Duty, Countervailing Duty, Safeguard Duty, Transition Product Specific Safeguard Duty, wherever applicable.
- **Duty-Free Import Authorization (DFIA):** Duty-Free Import Authorisation shall be **exempted only from payment of Basic Customs Duty (BCD)**.
- **Schemes for Remission of Duties and Taxes on Exported Products (RoDTEP):** Its objective is to **refund, currently unrefunded duties/taxes/levies**, at the Central, State and local level, **borne on the exported product**.
  - It was **notified by the Department of Commerce, Ministry of Commerce and Industry** and is **administered by the Department of Revenue, Ministry of Finance**.

## SCOMET: Special Chemicals, Organisms, Materials, Equipment and Technologies

- **Regulation of dual use items:** In consonance with the guidelines and control lists of international conventions and obligations as well as Multilateral Export Control Regimes (MECRs), India has **regulated the exports of dual-use items**, nuclear-related items, including software and technology viz. SCOMET.
  - It is **either prohibited or permitted under an authorization** unless specifically exempted.
- **SCOMET list:** It is **India's National Export Control List** and is aligned to the control lists of all the MECRs and conventions.
  - SCOMET items are regulated under the **Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005**.
  - Imported goods covered under the SCOMET list are **not permitted for export**.

SCOMET Category	SCOMET items	Jurisdictional Licensing Authority
0	 Nuclear materials, nuclear-related other materials, equipment and technology	Department of Atomic Energy (DAE)
1	 Toxic chemical agents and other chemicals	Directorate General of Foreign Trade (DGFT)
2	 Micro-organisms, Toxins	DGFT General
3	 Materials, Materials Processing Equipment and related Technologies	DGFT
4	 Nuclear-related other equipment and technology, not controlled under Category '0'	DGFT
5	 Aerospace systems, equipment, including production and test equipment, and related Technology and specially designed components and accessories thereof.	DGFT
6	 Munitions List	Department of Defence Production (DDP)/ Ministry of Defence
7	 'Reserved'	DGFT
8	 Special Materials and Related Equipment, Material Processing, Electronics, Computers, Telecommunications, Information Security, Sensors and Lasers, Navigation and Avionics, Marine, Aerospace and Propulsion.	DGFT ★

- **Outreach Programmes on SCOMET:** Will be organized by DGFT in association with Administrative Ministries/Departments and Trade Associations for effective awareness among the exporters/importers dealing with trade and manufacture, in particular, of SCOMET items.

## Conclusion

The Foreign Trade Policy 2023 paves the way for an unencumbered trade regime. To support this externally, efforts can be made to acknowledge the trends of the emerging era and take forward the internationalization of Rupee.

## 3.2. DE-DOLLARIZATION

### Why in News?

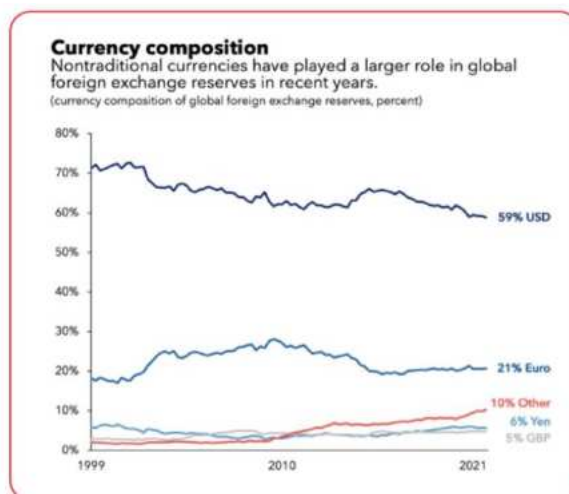
**BRICS (Brazil, Russia, India, China and South Africa)** nations are in the process of **creating a new currency** for payments.

### More on News

- **BRICS currency** will be used for **cross-border trade**.
- In recent times, BRICS has emerged as an Institution which is **challenging the dominance of the Western world in the economic sphere**.
- Also, India and Malaysia have agreed to **settle trade in Indian rupees in addition to current modes of settlement in other currencies**.
- These are seen as a major step towards **de-dollarization**.

### What is De-dollarization?

- It refers to the process wherein **countries tend to reduce** their reliance on the **US dollar (USD)** as a reserve currency, medium of exchange, and also a unit of account.
- It has also gained momentum to **undermine the dominance of the US**.
  - The status of the dollar was enhanced by the **Bretton Woods system** (IMF and World Bank), which essentially eliminated other developed market currencies from competing with the USD.
- Russia, China, Brazil, and India are significant economies that are emphasizing on **de-dollarization**.



**Open Economy.**



**Capital Account Convertibility.**



**Politico-Economic Stability.**



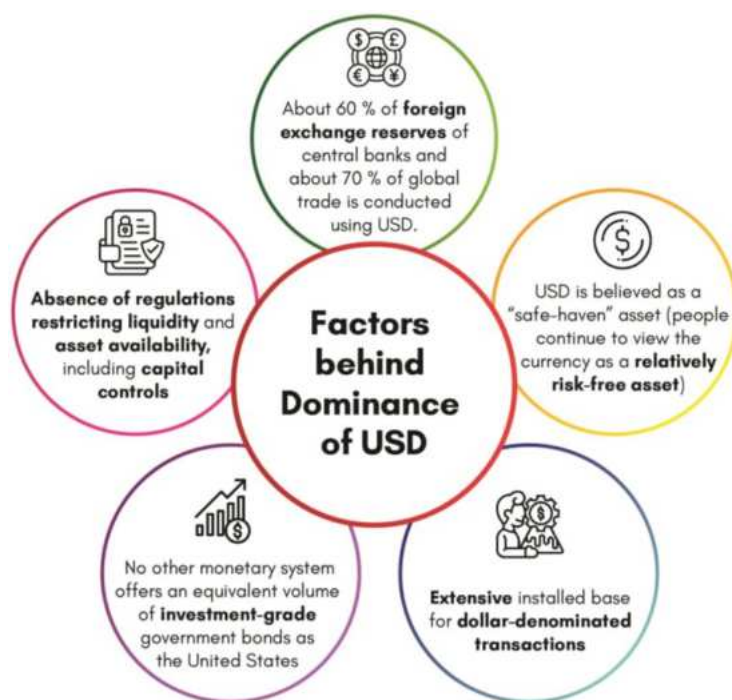
**Acceptability and Trust.**

## Determinants of a Global Currency

### Need/Reasons for the De-dollarization

- **Weaponization of Trade:** Imposition of **sanctions** and the exclusion from **SWIFT (Society for Worldwide Interbank Financial Telecommunication)** creates impediments for countries to carry out trade. For instance, **sanctions were imposed on Russia after the Ukraine war, Iran (after the US withdrew from the Joint Comprehensive Plan of Action).**

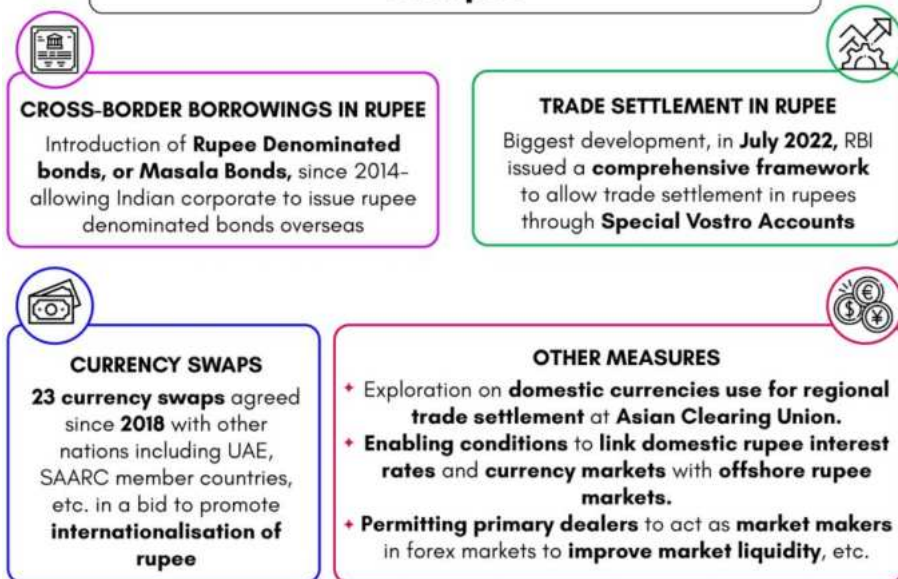
- US uses sanctions as a cost-free way to fight with other countries without risking troops.
- Ability to **blacklist** an **individual**, an **institution**, or an **entire nation** from the usage of the dollar has powerful and immediate consequences.
- It will insulate them from **geopolitical risks**, where the status of the USD as a reserve currency can be used as an **offensive weapon**.
- **New Emerging Economies: Rise of Asia** as an **economic powerhouse** has raised the importance of currencies like the **Indian rupee** and the **Yuan**.
- **Diversification**: Multi-currency foreign currency reserves reduce the pressure on external sectors.
- **Promoting Local Currencies**: Trading in local currencies **allow exporters and importers to balance risks**, have more options to invest, to have more certainty about the revenues and sales.
- **Macro-Economy Effect**: Dominance of the USD allows the U.S. to **manipulate the global financial system** to its **own benefit**, often at the expense of others, especially in terms of **interest rates**.



#### Initiatives for De-dollarization

- **Bilateral Efforts**:
  - Russia has signed an executive order in March 2022 that **forbade "unfriendly" countries** from settling natural gas contracts in **any currency other than the ruble**.
  - China has established **RMB (Renminbi) trading centres** in Hong Kong, Singapore and Europe.
  - **Russia-China payment system** was set up that bypass SWIFT and combines the Russian **SPFS (System for Transfer of Financial Messages)** with the Chinese **CIPS (Cross-Border Interbank Payment System)**.
- **Multilateral Efforts**:
  - In 2021, the **People's Bank of China** submitted a "**Global Sovereign Digital Currency Governance**" proposal at the **Bank for International Settlements** to influence global financial rules via its digital currency, the e-Yuan.
  - **African Continental Free Trade Area (AfCFTA)** is promoting **intra-African trade** using **local currencies**.

#### Initiatives taken for the Internationalisation of Rupee



#### KNOW THE TERM

**SDR**: It refers to an **international type of monetary reserve** currency created by the IMF in 1969 that operates as a supplement to the existing money reserves of member countries.

- It includes the U.S. dollar, the euro, Japanese yen, Chinese yuan, and the British pound.

**Vostro account**: It is an account that **domestic banks hold for foreign banks in former's domestic currency** (in this case, rupee).



- **European Central Bank's TARGET2 System** (2007) enables EU member countries to conduct trade and financial transactions in euros.
- **India's Efforts:** The **demand for the rupee is rising as a result of the booming commerce and investment** in the domestic market. (refer infographics for steps taken by India)

### Challenges in De-dollarization

- **Availability of Alternative Currency:** Currently, no single currency fully meets criteria such as degree of stability, liquidity, and acceptability.
- **Credibility of Other Currencies:** For instance, RMB in China is pegged to the dollar and tightly managed by the government.
  - Also, the **Chinese economy is not as open and has trust deficit** due to tactics like debt trap diplomacy.
- **Implementation Challenges:** Will create **financial instability in emerging markets** and countries with **substantial dollar-denominated debt**.
  - Increased **volatility in currency exchange rates**, particularly during the initial phases of transition.
  - **Adjustments** in the **composition of global reserve assets** may lead to shifts in **capital flows** and changes in **asset prices**.
  - Also, local currencies may also be **prone to wider fluctuations** and **depreciation** as the **overseas investor sentiment** will not be as certain.
- **Resistance:** US and Bretton Woods system are aggressively promoting USD. The other currencies are not able to create a niche in front of the dollar.
- **Fear of Financial Crises:** Issuance of foreign debt in the domestic market may pose risk especially when the debtor defaults. For instance, the financial crises of the 1980s, 1990s, and 2008.
- **Limit over Monetary Policy:** It will limit the country's ability to anchor monetary policy to its domestic economic landscapes.

### Conclusion

In light of these considerations, developing countries like India should adopt a prudent and measured approach towards dedollarisation. Policymakers must strike a delicate balance between the potential benefits of reducing reliance on the US dollar and the risks and costs associated with such a transition.

## 3.3. GIG ECONOMY

### Why in news?

Recently, **Blinkit delivery agents went on strike** as a reaction to changes in their pay structure.

### More about news

- The protests are primarily happening at **dark stores**.
  - A dark store is a **brick-and-mortar location that has been shut down** and turned into a centre for fulfilment operations.
- These protests show **the rising conflict between workers and firms in the gig economy**.

### What is Gig Economy and Gig Worker?

- **A Gig economy** is a free market system in which temporary positions are common and organizations contract **with independent workers for short-term engagements**.
- **Gig Workers** are those engaged in livelihood outside the traditional employer-employee arrangement. **They can be broadly classified into-**
  - **Platform Gig Workers:** Those whose work is based on online software, apps, or digital platforms such as food aggregator platforms- Zomato, Swiggy, Ola, and others.
  - **Non-Platform Gig Workers:** They are generally casual waged and own-account workers in the conventional sector, engaged part-time or full-time.

# Gig Economy in India

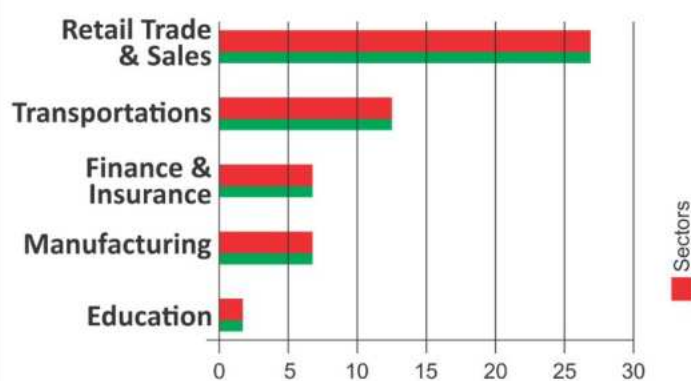
## Status

**77 lakh gig workers** in India in 2020-21

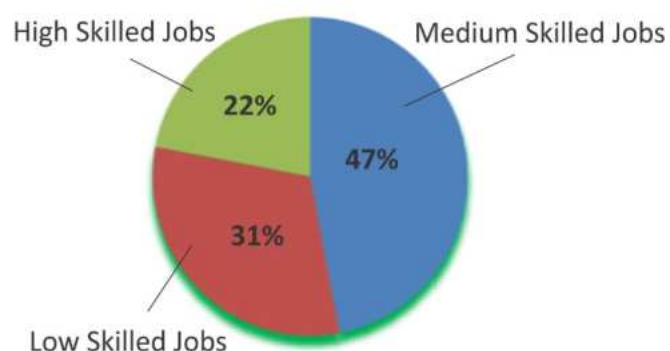
**56% of new employment** in India is being generated it

Can serve up to **90 million jobs** in the non-farm sectors in India

### Gig work Force in India



### Gig work Force Jobs in India



(As of 2019-20, Following Sectors Employed) in %

### Reasons for increase in gig economy

Widespread access to the internet

Rapid increase in the start-up ecosystem

Interoperability of the platforms

Changing Work Approach

Rising demand for Contractual Employees

## Major Challenges with Gig Economy

- Unavailability of reliable data:** There is no official data that can authoritatively estimate the extent of gig work in India, thereby rendering the gig workforce invisible.
- Poor service conditions for platform workers:** Low wages, bait-and-switch incentives, opaque pay calculations, commission deductions, and constant monitoring on aggregator platforms.
  - Bait-and-Switch refers to a situation when you apply for one role and interview for it, then get offered a lesser role for less money.

## Benefits of Gig Economy



### For Consumers

- Personalised service
- Transaction costs are low
- Products of all kinds are delivered almost anywhere, anytime



### For Workers

- Flexibility
- Independence
- Access to Opportunity
- Work-life balance



### For Companies

- Low cost
- A diverse pool of flexible workers
- Low administrative and compliance costs

- **Bound by the Terms of Contract:** Working conditions on digital platforms are largely regulated by the terms of service agreements. As a result, platform workers cannot access many of the workplace protections and entitlements such as Health Insurance etc.
- **Nascent regulatory framework:** It can be seen as an extension of India's informal or unorganized labour sector. This hinders effective regulation as the nature of the gig economy is independent of the informal sector.
- **Other challenges:**
  - **Limited opportunities for skill upgradation** as career progression in these areas is very slow due to a lack of skill upgradation, especially in Blue-collared jobs.
  - **The income earned by the gig workers is unpredictable** and they are at a particularly high risk of having unclear employment status.
  - **Potential exploitation of workers** due to the individualistic nature of gig work. Unlike traditional employees, gig workers cannot form unions and bargain collectively.

#### Regulatory Framework of Gig Economy in India

- **The Code on Wages, 2019:** It provides for universal minimum wage and floor wage across organized and unorganized sectors, including gig workers.
- **Code on Social Security 2020:** It seeks to protect gig workers' rights by giving them social security protections.
  - It attempts to **define gig, platform, and unorganized workers** while spelling out entitlements.
  - It also proposed to establish a **Social Security Fund and a National Social Security Board** to supervise and formulate schemes for the well-being of gig and platform workers.

#### Way Forward - Recommendations of India's Booming Gig and Platform Economy Report (NITI Aayog)

- **Proper estimation of Gig Workers:** Enumeration exercises to estimate the size of the gig economy and the characteristic features of gig workers.
  - **Data collected by the E-Shram portal** can be used.
- **Catalyse Platformization:** A Platform India initiative, built on the pillars of Simplification and Handholding, Funding Support and Incentives, Skill Development, and Social Financial Inclusion, may be introduced. On similar lines to Stand-up India.
- **Accelerate Financial Inclusion:** Access to institutional credit should be enhanced to bolster the Government's existing efforts to promote financial inclusion.
  - **FinTech and platform businesses** can be leveraged.
  - Giving **Priority Sector Lending** Status to associated activities.
- **Skill Development:** Platforms should pursue ends or outcome-based models of skilling and job creation to further increase the employability of workers.
  - Platforms can collaborate with the **Ministry of Skill Development and Entrepreneurship, and the National Skill Development Corporation (NSDC).**
  - Platforms can enable the **creation of potential "Skill Certificates"**
  - **Integration of Employment and Skill Development portals** such as National Career Services portals of the Ministry of Labour and Employment.
- **Enhancing Social Inclusion:** Incentivise inclusive businesses – women led-platforms or platforms that encourage recruitment of women employees and those with disabilities.
  - **Special emphasis on access to formal credit** for women, Persons with Disabilities (PwDs), or platform businesses started in small cities, towns, and villages in India.
- **Social Security:** The Central and State governments could adopt the **five-pronged RAISE approach to ensure** the realization of full access to social security for all gig and platform workers.
  - **Recognize the varied nature** of platform work to design equitable schemes.
  - **Allow augmentation of social security** through innovative financing mechanisms.

### e-Shram Portal

#### National Database of Unorganized Workers

##### Category of Unorganized Workers covered





- **Incorporate, while designing schemes**, the specific interests of platforms, factoring in the impact on job creation, platform businesses, and workers.
- **Support workers to subscribe to government schemes** and welfare programs through widespread awareness campaigns.
- **Ensure benefits are readily accessible** to workers.

### 3.4. STAND-UP INDIA

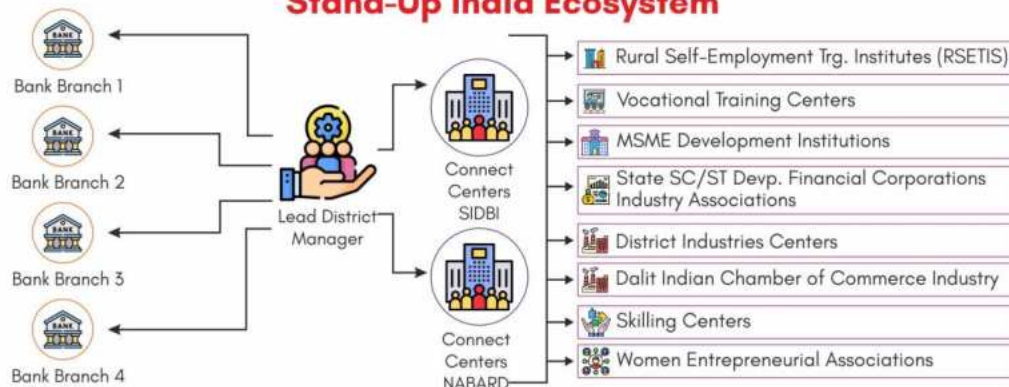
#### Why in news?

Recently, **Prime Minister acknowledged Stand-Up India's** role in empowering the SC/ST communities, women, and job creation at the completion of 7 years of the Scheme.

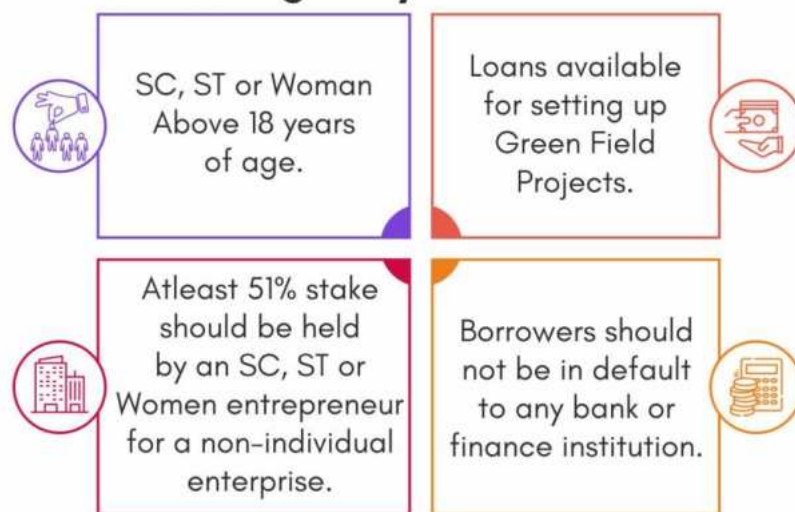
#### About the scheme

- **Ministry:** It was launched in **2016** under the **Ministry of Finance, Government of India**.
  - This scheme has been **extended up to 2025**.
- **Objective:** To **promote entrepreneurship** among **Scheduled Castes (SCs)/Schedule Tribes (STs) and Women**.
- **Features:**
  - It covers all branches of **Scheduled Commercial Banks** (bank loans of **₹10-100 lakh** to at least one **SC/ST and one-woman borrower** per branch).
  - Applicants can draw up to **₹10 lakhs as working capital by an Overdraft**.
  - **The government does not allocate funds** for loans under the Stand-Up India Scheme. **It can be accessed in three potential ways:**
    - ✓ Directly at the branch
    - ✓ Through Stand-Up India Portal
    - ✓ Through the **Lead District Manager (LDM)**

#### Stand-Up India Ecosystem



#### Eligibility Criteria



#### Significance of the scheme

- **Identification of prospective entrepreneurs:** Linking prospective borrowers to banks for loans. E.g., linking through an online portal developed by the **Small Industries Development Bank of India (SIDBI)**.
- **Collateral-free loans:** To extend collateral-free coverage, the Government has set up the **Credit Guarantee Fund for Stand-Up India (CGFSI)**.
- **Financial inclusion:** It is based on "Funding the unfunded" and has ensured the availability of credit to SC/ST and women entrepreneurs.
  - Easy repayment schedule as entrepreneurs can repay the loan in seven years. Only a certain amount has to be repaid each year according to the borrower's preference.

Achievement of the scheme (till March, 2023)	
Over ₹40,000 crore sanctioned	Over 0.13 million bank branches connected
Over 0.18 million borrowers	Over 75% of the borrowers are women

- **Guidance:** The scheme also provides post-set-up assistance to consultants.
- **Socio-economic empowerment:** It can act as a positive boost for job creation, improving social standing, and resulting in the socio-economic empowerment of women, Dalits, and tribals.

#### Challenges to the scheme

- **Limited credit availability:** The maximum loan limit is Rs 1 Crore which is sometimes small in the case of enterprises established in the manufacturing or trading sector.
- **Lack of parallel skill development:** The applicants of the scheme may need additional handholding along with financial help in the form of training, and network support among others.
- **Bank-related issues:** The scheme offers **interest rates below the market rate**, which indirectly affects the viability of the system, especially the Public Sector Banks (PSBs).
  - Also, several studies have found that the **bank staff has limited awareness** regarding the scheme in the hinterland.

### Government Schemes for Startup in India

 Startup Leadership Program (SLP)	 Credit Guarantee Trust Fund
 The Standup India Scheme	 Venture Capital Assistance Scheme
 Startup India Initiative	 Single Point Registration Scheme
 Atal Innovation Mission	 ASPIRE
 Startup India Seed Fund Scheme	 Raw Material Assistance Scheme
 Pradhan Mantri Mudra Yojana	 Design Clinic Scheme

#### Way forwards

- **Holistic empowerment:** The SC & ST population needs to be educated and empowered further (socio-politically) to reap the benefits of the Stand-Up India scheme.
- **Awareness generation:** It is important to invest in (Information, Education, and Communication) IEC activities and create a general sense of awareness that reaches the target beneficiary and the banking ecosystem.
- **Convergence with other schemes:** More synergy in implementation among schemes such as Startup India, MUDRA, Jan Dhan Yojana, etc.
- **Strengthening the banking system:** Overall strengthening of the Banking system will lead to optimal allocation of credit, better monitoring of the credit risk and ultimately better performance of entrepreneurs.

## 3.5. TRANSFER PRICING

#### Why in news?

Supreme court altered the approach to resolving transfer pricing disputes in India.

#### More in news

- **Supreme Court set aside an earlier Karnataka High Court ruling** which held that in transfer pricing matters, the determination of the arm's length price (ALP) by the Income Tax Appellate Tribunal (ITAT) is final and cannot be subject to judicial scrutiny.
- The apex court **now held that any ALP determined outside the purview of relevant transfer pricing (TP) provisions** in the Income Tax Act **can be considered as 'perverse (unjust)' and in such cases** decision of the tribunal is not final.
  - In such cases, both, the Indian Revenue Authorities (IRA) as well as taxpayers, can approach a HC after a decision by the ITAT.
- The SC ruling has **restored TP issues to the same pedestal as other tax issues in India**.

#### About ITAT

- ITAT is a **quasi-judicial institution** set up in 1941.
- It **specializes in dealing with appeals under the Direct Taxes Acts**.
- The **orders passed by the ITAT are final**, an appeal lies to the High Court only if a substantial question of law arises for determination.
- **Starting with three Benches** at Delhi, Kolkata and Mumbai, the numbers of Benches have progressively increased and **presently ITAT has 63 Benches** in 27 different stations.

### About Transfer Pricing

- Transfer pricing is an **accounting practice that allows for the establishment of prices for the goods and services exchanged between , divisions, subsidiaries or affiliates** that are part of the larger enterprise.
- **Usually, Companies use transfer pricing to reduce the overall tax burden** of the parent company.
  - This is done by charging a higher price to subsidiaries in high-tax countries (reducing profit) while charging a lower price (increasing profits) for subsidiaries in low-tax countries.

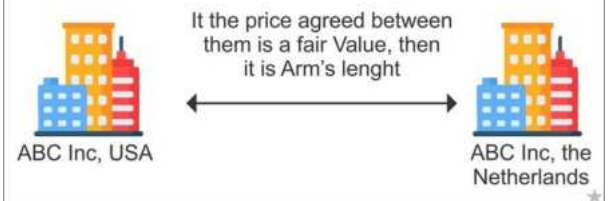
### About Arm's Length Principle (ALP)

- ALP was **agreed upon by all OECD member countries** and adopted as an **objective guideline for use by multinational companies and tax administrations** in international taxation.
- It means that **the price the a company pays to purchase goods or services from a related company entity should be the same as if the two entities were unrelated** (known as arm's length price).
  - **There should be no price adjustment or special conditions for the transaction** simply because the parties are related legal entities.
- Its **objective is to avoid the erosion of the tax base or the transfer of profits** to low tax jurisdictions.
- In India, Transfer Pricing and ALP provisions are contained in Chapter X of Income-tax Act, 1961 and arm's length price is determined by the Assessing Officer.

#### Understanding TP to reduce tax burden through an example-

- Let's say that an automobile manufacturer has two divisions: Division A, which manufactures software, and Division B, which manufactures cars.
- **Division A is in a higher tax country than Division B.**
- Division A decides to charge a lower price to Division B instead of using the market price. As a result, Division A's sales or revenues are lower because of the lower pricing resulting in lower taxes.
- On the other hand, Division B's costs of goods sold are lower, increasing the division's profits, resulting in higher taxes. But, Division B will be taxed at a lower rate than division A.
- Therefore, the **overall company can save on taxes by making Division A less profitable and Division B more profitable.**

### Arm's Length Transaction



## 3.6. MARKETS IN CRYPTO ASSETS (MiCA)

### Why in News?

The European Parliament has recently passed the **Markets in Crypto Assets (MiCA) legislation**, which is expected to regulate the Crypto industry.

### About Markets in Crypto Assets (MiCA)

- It is considered as the **first set of regulations in the world** establishing a legal framework for **crypto-asset services providers** as well as **consumer protection**.
- MiCA will apply **directly across the European Union (EU)** without any need for national implementation laws.
- MiCA regulation focuses on certain categories of crypto-assets which are currently out of scope of existing regulations - i.e. **it does not apply to non-fungible tokens (NFTs), DeFi (Decentralized Finance) & Central bank digital currencies (CBDCs)**.
- **MiCA distinguishes between different types of cryptoassets** and provides regulatory requirements specific to each category. **Sub-Categorisation of Crypto assets:**
  - **Electronic Money Tokens (EMTs),**
  - **Asset Referenced Tokens (ARTs)**
  - **Utility Tokens (UTs).**

### OBJECTIVES OF MiCA





- MiCA is part of the **European Commission's digital finance strategy**, which also includes the DLT Pilot Regime and the Digital Operational Resilience Act (DORA).

### Need for Crypto Asset Regulation

- **Enforce accountability:** The Crypto firms are to be held accountable in one form or the other, as they deal with consumers money and there are very few laws to hold them accountable in most countries.
- **Protect the Consumers:** Regulations will help to **establish a legal framework for crypto-asset services providers** as well as protect the interests of the consumer.
- **Ensures financial stability:** Regulation ensures to safeguards potential risks to financial stability.
- **Supports innovation and fair competition:** The regulations help to promote the development of crypto-assets by instituting a safe and proportionate framework between the different players.
- **To address the environmental concerns:** Crypto-assets can require considerable amounts of electricity usage, which can result in greenhouse gas emissions.
  - The regulation would consider **addressing these concerns to promote sustainable practices.**

### Cues for India

As India is **currently in the process of developing its own regulatory framework for cryptocurrencies**, MiCA can serve as an example of how a comprehensive framework could be developed.

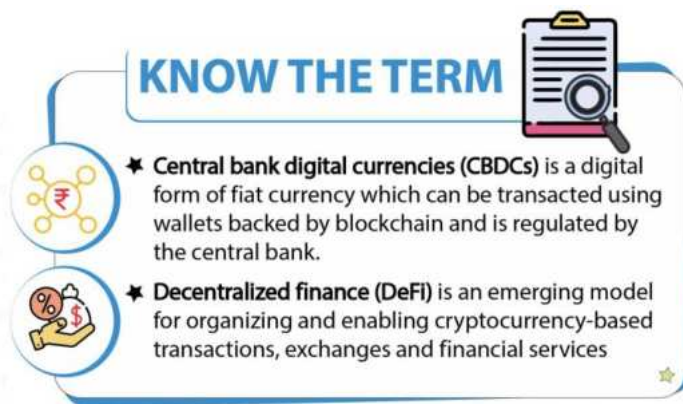
- **Boost investor confidence:** The MiCA's landmark move will likely boost investor confidence in the crypto industry in Europe and other parts of the world.
  - This could potentially **lead to increased investment in the crypto industry in India**, with India planning its own version of MiCA.
- **To regulate the unregulated sector:** The Crypto sector is highly unorganised in the country and the successful implementation of **MiCA will persuade India to regulate the sector on similar lines.**
  - Recently, India and UK also discussed the **need for "robust global approaches" for dealing with crypto-assets.**
- **To protect the Indian investors:** By making the CASPs accountable and bringing them under the framework of the Central Bank a **possible liquidity crisis like that of FTX Collapse, can be averted in India.**
- **To prevent Money Laundering:** Crypto assets are extensively used to stack the black money and use them in abroad, **by bringing the CASPs under the purview of regulations money laundering can be avoided to great extent**

### Crypto-assets

**Crypto-assets** can be defined as a digital representation of value or rights which may be transferred and stored electronically, using distributed ledger technology or similar technology.

### Different types of Tokens under Crypto Assets

- **Stablecoin (also known as electronic money tokens):** These are tokens whose values are fixed; often they are pegged to a currency such as the US dollar.
- **Security tokens :** These are tokens that indicate that the owner possesses a stake in some real world asset or enterprise.
- **Asset tokens:** These are tokens that represent real-world assets such as gold or real estate.
- **Utility tokens:** These tokens provide users with special access to a product, service, or offer, and are often issued as part of a project or company's initial coin offering (ICO).
- **Non-fungible tokens (NFT):** It is a unique token that corresponds to a specific and unique digital item (or a digital representation of a physical item).



### Implications of the MiCA regulation

- **Harmonises the industry:** The Comprehensive framework harmonises the existing crypto industry and categorises them under different levels pertaining to their risk levels.
- **Blueprint for other economies:** This being a pilot initiative provides a blueprint for the other world countries to regulate the Crypto industry in near future.
- **Educates the investors:** The necessity to provide a white paper on the products and services provided by the companies educates the investor about the real risks involved.
- **Avoids liquidity crisis:** The framework calls for maintaining a certain reserve in the form of cash, according to the company's size in order to avoid liquidity crisis at any moment.
- **Central Bank Supervision:** The Crypto Asset Service Providers (CASP) will be under the supervision of the Central banks for the first time and also be provided license for their functions.

- In 2022, the **OECD also approved the Crypto-Asset Reporting Framework (CARF)** which provides for the reporting of tax information on transactions in Crypto-Assets in a standardised manner, with a view to automatically exchanging such information.
- **To encourage healthy competition:** While the sector is being dominated by few big players, a **regulation will safeguard the new start-ups in the sector and sets a level playing field.**

#### Way Ahead for India

- **To alter the definition of Currency:** The term **Currency** is currently defined under the **Section 2(h) of the Foreign Exchange Management Act, 1999 (FEMA)** and Crypto currency should be included in the definition through an amendment.
- **To set up a regulatory body:** An **independent regulatory body should be made in charge** of overseeing the Crypto sector in the country.
- **To create penal provisions:** A **separate set of penal provisions are to be created for the theft, fraud and cheating cases with respect to Crypto assets**, to inhibit such actions.
- **To set norms for CASPs:** A **minimal set of standards and requirements are to be set for a company to be licensed as CASP** in the country and should be regulated under the supervisory function of a Government regulatory body.

#### Attempts to regulate Crypto Assets in India

- **2017:** RBI issued caution on holding Virtual Currencies/Crypto Currencies in India and are considered to illegal.
- **2019:** RBI held that **trading/holding/ mining of Crypto coins in India as illegal** and imposed a fine of 10 Lakhs.
- **2020:** The **Supreme Court nullifies the ban by RBI** and advocated the Government to take a decision over the same.
- **2022:** A **30% tax was levied on the income earned from the transfer of Virtual Asset**, by the Finance Ministry.
- **2022:** Government has set up a panel to explore the possibility of issuing a **Central Bank Digital Currency (CBDC)** and was successfully issued as a pilot run in retail banking segment.
- **2023:** All transactions involving **Virtual Digital Assets** are brought under the purview of **Prevention of Money Laundering Act.**

### 3.6.1. DIGITAL SERVICES ACT

#### Why in news?

The European Union (EU) has confirmed the names of 19 platforms that will be subject to its online content rules under Digital Services Act (DSA).

#### More on news

- The content rules under DSA aim at **tightly regulating the way big technology platforms moderate user content.**
- The entities identified by the EU for the strictest level of regulation under the DSA include Alibaba, Amazon, Apple, Facebook, Google, Instagram among others.

#### About Digital Services Act (DSA)

- DSA is a **first-of-a-kind regulatory toolbox** globally and sets a benchmark for a regulatory approach to online intermediaries.
- In 2020, DSA together with Digital Markets Act (DMA) proposed a **comprehensive framework to ensure a safer, more fair digital space** (will be applicable from 2024).
  - **DMA** affects gatekeeper platforms like Google, Amazon and Meta, and **covers the need for user consent before processing personal data** for targeted advertising.

#### How does the EU's DSA compare with India's laws for digital content regulation?

- India's Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, also known as the IT Rules, 2021 are **similar to EU's DSA in terms of Due Diligence Requirements on social media platforms, Content Regulation and a Co-Regulatory approach** for monitoring compliance and for grievance redressal.
- However, there are also **some differences** in their approach and scope:

Key Provisions	India's IT Rules (Information Technology Rules, 2021)	EU's DSA
Scope	Apply to <b>social media intermediaries, digital news publishers, and OTT platforms</b> operating in India, irrespective of their country.	DSA applies to a <b>wider range of online platforms</b> , including social media, online marketplaces, and cloud computing services operating in EU, irrespective of their country.
Content Moderation	Rules require <b>social media intermediaries to appoint a grievance officer, a nodal officer, and a chief compliance officer</b> , and establish a mechanism for receiving and resolving complaints from users.	DSA <b>proposes a range of compliance requirements</b> for online platforms, including content moderation measures, transparency obligations, and data protection requirements.

## Conclusion

Overall, the DSA is a more comprehensive regulatory framework, taking a more nuanced approach to governing digital content and online platforms. However, the effectiveness of each will depend on how they are implemented and enforced.

Scan the QR code to know more about **Cryptocurrency**.

**Weekly Focus #43:** Cryptocurrency: A Tool of Economic Empowerment or a Regulatory Nightmare?



## 3.7. NATIONAL GAS GRID

### Why in News?

The Bihar portion of the **Barauni - Guwahati pipeline** which connects Bihar to National Gas Grid was completed recently.

### About the National Gas Grid

- It is a **33,764 Kms long, Natural Gas pipeline network** that the Centre has started to connect all major supply and demand centres in the country **under the purview of Petroleum and Natural Gas Regulatory Board (PNGRB)**.
- The Grid when fully established **will ensure easy availability of Natural Gas across all regions of the country** and reduce our reliance on Crude oil.
- Out of this, around **21,500 km Natural Gas Pipelines are operational** and a total of around 13,500 km length of pipelines is under various stages of construction.

### Need for a National Gas Grid

- To meet the rising demand:** While the Automobile companies are gradually moving away from diesel vehicles to meet the BS VI norms, the next in line alternatives for automobile fuel are LNG and CNG.
- To adhere to the climate goal commitments:** By shifting to natural gas as fuel in various sectors, the country moves towards meeting its Paris Agreement commitments to reduce its carbon footprint in a phased manner.

### About Petroleum and Natural Gas Regulatory Board (PNGRB)

- It was established under **The Petroleum and Natural Gas Regulatory Board Act, 2006**.
- It aims to **protect the interests of consumers and entities engaged in specified activities relating to petroleum, petroleum products and natural gas** and to promote competitive markets.
- It also oversees **Petroleum Products Pipelines construction and also a Gas Exchange for the trading of Natural Gas in India**.
- It is the authority to **grant authorization to the entities for the development of City Gas Distribution (CGD) network in Geographical Areas (GAs)**.
- It is under **Ministry of Petroleum & Natural Gas**.

### Other Measures to develop National Gas Grid

- Pradhan Mantri Urja Ganga project (2016):** It is a gas pipeline project that aims to provide **uninterrupted cooking gas to households in U.P, Bihar, Jharkhand, West Bengal and Odisha**.
  - It is also known as **Jagdishpur- Haldia & Bokaro-Dhamra pipeline project**.
  - The 2,655 km long pipeline project **connects the eastern states to the National Gas Grid**.
- North East Gas Grid (2020):** It is a 1,656 km long pipeline, which aims to connect the **eight north eastern states to the National Gas Grid**.
- City Gas Distribution Network:** The Network Currently covers more than 400 districts in 27 States/UTs.
  - It consists of four distinct segments namely **delivery of CNG for automobile usage in cities, delivery of PNG for domestic, commercial and industrial usage**.



- **Positive trade balance:** Shifting towards a Gas based economy will reduce our Crude oil bills, which strengthens Indian Rupee and makes the balance of trade favourable for India.
- **Encourage Private players:** Establishment of a uniform grid will **enable a conducive environment for businesses** to invest in the sector.
- **Economical & Uninterrupted delivery of fuel:** Establishment of a pipeline ensures safe, economical and uninterrupted supply of Natural gas, CNG and PNG to various end users.

### Challenges with National Gas Grid

- **Capacity utilisation of pipelines:** The existing natural gas pipelines are currently operating only at 10% to 20% level of utilisation. Further, pipelines operating for over 10 years have been constrained by limited availability of domestic gas.
- **Functioning of PNGRB:** The regulatory body is marred with several key position vacancies, even the position of Chairperson stands vacant thereby reducing the body's efficiency.
- **Delays in project execution:** There are various delays in laying the pipelines due to land acquisition, issue of right of use and multiplicity of agencies.
- **Skewed coverage of PNG:** The PNG connections are not able to reach every household even when that particular area has been marked as covered as penetration level is not marked as a criterion.
- **Reduced role of States:** The subjects of Petroleum & Natural Gas fall under the Union list, which limits the role of states in aiding the development of pipeline infrastructure.

#### Natural gas

- Natural gas is a **mixture of gases which are rich in hydrocarbons** consisting of methane, nitrogen, carbon dioxide etc.
- Natural gas reserves are **deep inside the earth near other solid & liquid hydrocarbons beds** like coal and crude oil.
- It is not used in its pure form; it is **processed and converted into cleaner fuel for consumption**.
- It could be used in **feedstock in the manufacture of fertilizers, Fuel for electricity generation**, Cooking in domestic households, Transportation fuel for vehicles etc.
- India has targeted to increase the share of natural gas in primary energy mix in India **from current 6.5% to 15% by 2030**.

### Way Forward

- **Enhancing Exploration:** The PSUs and companies should be provided with enhanced number of blocks for exploration of new gas reserves.
- **Dedicated Diplomatic push:** Diplomatic efforts are necessary in enhancing the trans-national pipelines from neighbouring areas to the country.
- **Improving the criteria for coverage:** A certain level of penetration in each district should be earmarked as a major criterion of declaring districts covered under PNG, as current system doesn't focus on increasing the number of household usage.
- **A better coordination mechanism:** Issues like multiplicity of agencies for receiving clearances and permissions should be streamlined along with improving coordination with states.
- **Ensuring availability:** The number of CNG pumps in highways needs to be improved at a dedicated phase, as the lack of sufficient number of highway pumps inhibits the usage of CNG as a preferred fuel.

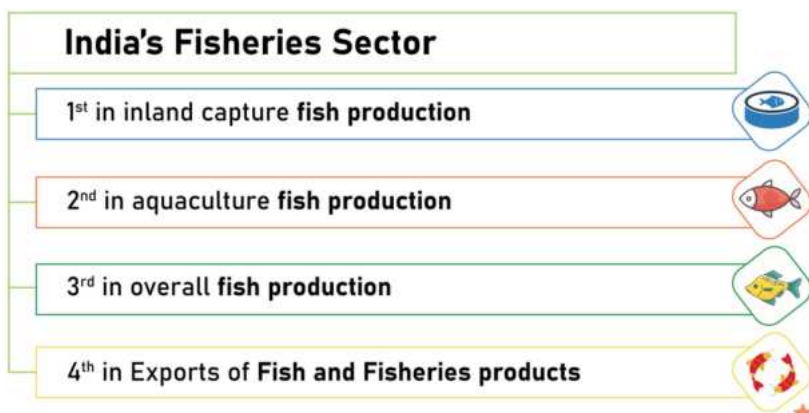
## 3.8. AQUACULTURE SECTOR

### Why in News?

The Ministry of Fisheries, Animal Husbandry and Dairying introduced the **Coastal Aquaculture Authority (Amendment) Bill, 2023**.

### More on News

- The bill seeks to **amend** certain provisions of the **Coastal Aquaculture Authority (CAA) Act, 2005** and **decriminalise offences** under it.



- This 2005 act **established the Coastal Aquaculture Authority** for regulating coastal aquaculture.
- It aims at promoting **ease of doing business** and **fine-tuning the operational procedures** of the Coastal Aquaculture Authority.

### Features of the Bill


#### Definitions:

- **Aquaculture:** It basically refers to the **breeding, rearing,** and **harvesting** of fish, shellfish, algae, and other organisms in all types of water environments.
- **Coastal Aquaculture:** The Amended Bill defines “Coastal Aquaculture” as the **rearing and cultivation of any life stages of fish**, including crustaceans, molluscs, finfish, seaweed or any other **aquatic life under controlled conditions**, either indoor or outdoor, in saline or brackish water in coastal areas.
  - It also includes activities such as the production of broodstock, seed, and grow-out, but does **not include freshwater aquaculture**.


- **Scope:** It expands the scope of the CAA Act **beyond coastal aquaculture ‘farms’ to cover all the verticals and activities of coastal aquaculture** for its sustainable development.
- **Regulation of allied coastal aquaculture activities:** The Bill prohibits **coastal aquaculture activities** in Ecologically sensitive areas, No-Development Zones (NDZs) and within Coastal Regulation Zones (CRZs).
  - Although **some allied activities** like Seaweed culture, nucleus breeding centres etc. have **exemptions from these regulations**.
- **Changes to Coastal Aquaculture Authority:**
  - **Composition of CAA:** The Bill adds a representative from the Ministry of Fisheries, Animal Husbandry and Dairying as a member.
  - **Increased scope:** The Bill enhances the scope of regulation by requiring **any facility that is engaged in coastal aquaculture or any allied activity to be regulated** as a coastal aquaculture unit.
  - **Expanded Functions:** The bill adds that the Authority shall regulate coastal aquaculture inputs, monitor aquaculture units and fix environmental standards.
- **Decriminalization:** The Bill removes the imprisonment provisions of the Act for its contravention and replaces them with suitable monetary and other penalties.
- **Adjudication and Appeals:** Under the Bill, the central government may **authorise an officer of at least Under Secretary level** to adjudicate penalties.

### Significance of aquaculture

- **Food and Nutrition Security:** Aquaculture has great potential to feed and nourish the world’s growing population



## Coastal Aquaculture Authority (CAA)

  
**Chennai,**  
**Tamil Nadu**

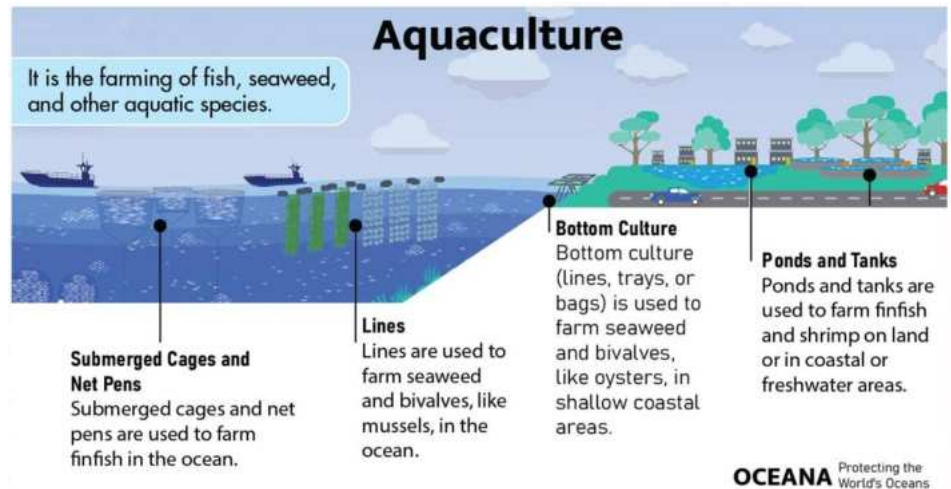
**Genesis:** It is a **statutory body**, established under the **Coastal Aquaculture Authority Act, 2005**. It functions under the **Ministry for Fisheries, Animal Husbandry and Dairying**.

**Objective:** To **regulate coastal aquaculture activities** in coastal areas in order to **endure sustainable development** without causing damage to the coastal environment.

**Functions:**

- Regulating the **construction and operation** of **aquaculture farms** in coastal areas,
- **Inspection** of farms to ascertain their environmental impact,
- **Registration** of aquaculture farms,
- **Fixing standards** for inputs and effluents,
- **Removal or demolition** of coastal aquaculture farms, which **cause pollution** etc.

**Composition:** It comprises of **11 members** including the Chairperson, who is, or has been, a Judge of a High Court.



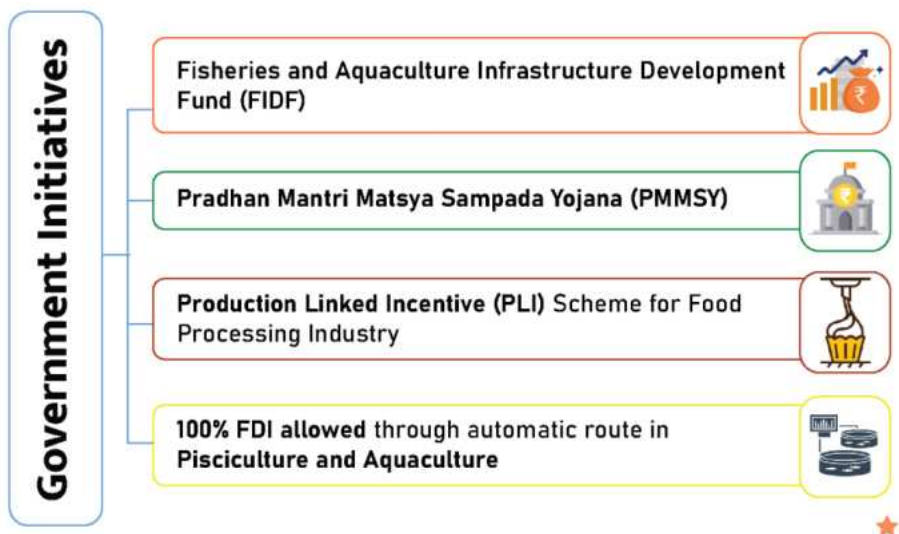
- **Delivery of ecosystem services:** Responsibly managed aquaculture supports healthy ecosystems by filtering water and sequestering carbon.

- For instance, Seaweed farming can mitigate the acidification caused by the ocean's absorption of carbon dioxide.

- **Livelihood Support:** Millions of lives and livelihoods are supported by aquatic food systems.

- **58.5 million people** were employed in the primary fisheries and aquaculture sector in 2020.

- **Source of foreign exchange:** It is an important sector for developing countries to earn foreign exchange by exporting high-value products.



### Issues with Aquaculture

- **Habitat loss:** Fish farms can destroy or degrade local habitats through direct destruction, via effluent runoff, siltation of nearby areas, or other knock-on effects.
  - Aquaculture farms create a risk of entanglement for marine wildlife and can pose a barrier to migrations.
- **Water Pollution:** Chemicals and waste products in aquaculture effluent can cause toxic algal blooms, eutrophication, and oxygen-free dead zones in the water.
- **Introduction of non-native species:** Farmed fish can enter nearby ecosystems and transmit disease to wild populations, compete with or displace native species, or interbreed with wild populations, affecting those populations' survival.
- **Unsustainable practices:** Fishery resources continue to decline due to overfishing, pollution, poor management and other factors.

### Way Forward

A responsible aquaculture policy will include:

- **Blue Transformation:** It proposes a series of actions designed to **support resilience in aquatic food systems and ensure fisheries and aquaculture grow sustainably.**
- **Protecting small-scale farmers:** Does not displace small-scale fishers by privatizing coastal zones or creating other inequities.
- **Global Fisheries Management:** Improving global fisheries management remains crucial to restore ecosystems to a healthy and productive state and protecting the long-term supply of aquatic foods.
- **Technical Innovations:** Focus priority areas for innovative aquaculture practices are aquafeeds and feeding, digitalization, and the promotion of efficient and pro-environment practices.
  - For instance, Integrated Multitrophic Aquaculture (IMTA) provides a process where seaweed and molluscs counteract nutrient and organic enrichment processes to keep balance.

## 3.9. AGRI TECH

### Why in News?

Recently, **Atal Innovation Mission (AIM)**, **NITI Aayog**, and the **United Nations Capital Development Fund (UNCDF)** have jointly launched a whitepaper aimed at making India a global leader in Agri-Tech innovation.



# India's Agritech Sector



Agritech is the **use of innovation and technology** for farming that is developed to enhance profitability and efficiency.



Agritech can be used in **agriculture, horticulture, aquaculture, forestry and viticulture.**

**1%**

Agritech penetration in India

**40%**

Contribution of farm mechanization compared to US (95 %), Brazil (75%) and China (57%)

## Steps taken for Agritech in India



**National Agriculture Market (eNAM)** is a digital platform integrating Agricultural Produce & Livestock Market Committee (APMC) mandis.



**'Sub-Mission on Agricultural Mechanization' (SMAM)** increasing the reach of farm mechanization to small and marginal.



**Promoting 'Custom Hiring Centres'**



**Direct Benefit Transfer (DBT) Central Agri Portal**

## Application of Technologies involved in Agriculture



**Farm mechanisation** like Drones, Robotics etc



Digital technologies such as AI, remote sensing, big data, block chain and IoT



Climate smart agriculture



Biofortification



Biotechnology and genetic modification

## Need of Agritech in India

- **Streamlining the agriculture sector:** The Indian agriculture sector, predominantly unorganized and fragmented, involves numerous intermediaries and middlemen across the value chain.
  - However, the burgeoning tech ecosystem in India presents an opportunity to transform and organize the sector more efficiently, ultimately benefiting farmers and consumers alike.
- **Address Food Security and climate change:** As per **Global Multidimensional Poverty Index(2022)**, India have around **228 million** poor population. Agri tech companies can revolutionize agriculture sector improve food security of country.
- **Increase agricultural productivity:** Farmers lack access to high-quality agricultural inputs, farm machinery and other allied equipment, which leads to low agricultural productivity or low-quality crops.
  - **New technologies such as Biotech, Nano tech** can improve crop yield and production.
- **Address changing Consumer behaviour:** Tech companies can play a pivotal role in adopting cutting-edge technology to ensure that their products are clean, fresh, and sustainably sourced, thereby meeting consumer preferences and expectations.
- **Enhanced quality management and traceability:** Agritech solutions can improve post-harvest produce handling, quality assessment, and analysis, while also enabling monitoring and traceability during storage and transportation.
- **Streamlined supply chain and output market linkage:** Agritech can provide both digital platforms and physical infrastructure to manage post-harvest supply chains and connect farm outputs directly with customers.
- **Accessible financial services:** Agritech can facilitate credit facilities for input procurement and equipment acquisition, as well as offer insurance or reinsurance for crops.

## Challenges of Agritech utilization in India

- **Affordability:** Agricultural machinery is often unaffordable for smallholder farmers because of their small landholdings.
  - For example, providing insurance services for horticulture crops requires costly high-resolution satellite imagery.
- **Low or no access to Farm related data:** Inadequate farm and farmer-level datasets hinder technology penetration in agriculture, as most agritech companies require up-to-date data to enhance their software and serve end-users effectively.
- **Poor digital literacy:** Farmers are not aware about new technology which affects farm mechanization and hence resulting in low adoption of Agritech solutions. Factors include a **lack of awareness, inadequate incentives, and insufficient technical support.**
  - In addition, the recent increase in **digital fraud cases** using mobile devices has affected the trust in digital mode.
- **High cost of customer acquisition for Agritech companies:** The combination of fragmented landholding and diverse geographies presents a significant challenge for agritech companies in connecting with smallholder farmers, leading to high customer acquisition costs.
- **Inefficient supply chain:** The supply chain is inefficient due to numerous intermediaries, which raises procurement costs for retailers and increases wastage because of inadequate infrastructure, such as cold storage facilities.

## Way forward

- **Improving last-mile connectivity:** Collaborating with local institutions like Non-Government Organisations (NGOs) or FPOs or corporates having a significant farmer base to roll out agritech solutions.
- **Access to public data:** Utilize the government's extensive data on farmers, land records, financial health, weather reports, meteorological data, market prices, and mandi data, which is crucial for agritech companies to provide valuable services.
- **Digitize licensing regimes:** Increase transparency in the licensing process by digitizing it entirely, which will help startups access information more efficiently and serve smallholder farmers better.
- **State-specific AgriTech policies:** Implement distinct agritech startup policies that can promote and facilitate growth in the sector on a regional level.
- **Establishment of facilitation centre for agritech at local as well as global level:** A state-level facilitation centre should ensure that the tech companies can conveniently access public resources or leverage the government's infrastructure.

## 3.10. NEWS IN SHORTS

### 3.10.1. DIRECT TAX STATISTICS

- **Key statistics released by Central Board of Direct Taxes (CBDT):**
  - **Net Direct Tax Collections** have increased by **121.18%** in FY 2021-22 from FY 2013-14.
  - **Direct tax to GDP ratio** rose from 5.62% in FY 2013-14 to **5.97%** in FY 2021-22
  - **Direct tax buoyancy** at 2.52 was **highest in the last 15 years.**
    - ✓ Tax buoyancy refers to **responsiveness of tax revenue receipts to changes in national income.**
    - ✓ A tax buoyancy **greater than 1** signifies that **tax revenues grow at a faster rate** than growth in national income.

### 3.10.2. DABBA (BOX) TRADING

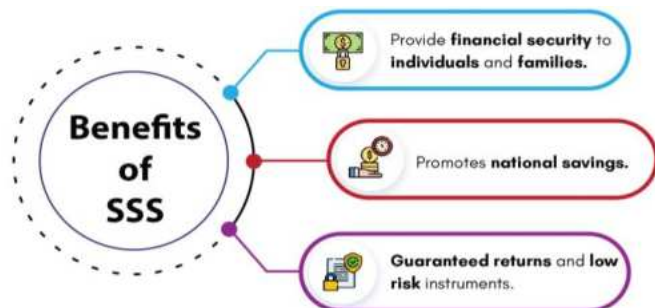
- National Stock Exchange (NSE) issued notices naming **entities involved in dabba trading.**

- Dabba trading is **informal trading** that takes place **outside the purview of stock exchanges.**
  - **Traders bet** on stock price movements **without incurring a real transaction** to take physical ownership of a particular stock as is done in an exchange.
- Since **there are no proper records** of income or gain, it **helps dabba traders escape taxation.**
- It is **recognised as an offence** under **Securities Contracts (Regulation) Act (SCRA), 1956.**

### 3.10.3. MAHILA SAMMAN SAVINGS CERTIFICATES (MSSC)

- **Ministry of Finance** has released an **official notification for MSSC, 2023** and it has been made available in **1.59 lakh post offices** with immediate effect.
  - Scheme was **announced in 2023-24 Union Budget** with the objective of promoting **financial inclusion and empowering women, including girls.**

- **Key features of scheme**
  - **Two-year tenure** (valid upto 2025) and provides **fixed interest rate of 7.5% compounded quarterly**.
  - MSSC accountholder can **withdraw a maximum up to 40% of eligible balance once** after expiry of one year from date of opening of account but before maturity of account.
  - **Minimum amount** to be invested is **Rs.1,000 and any sum in multiples of Rs.100**. **Maximum investment limit is Rs.2 lakh**.
- Small savings schemes (SSS) are **savings instruments managed by government** to encourage citizens to save regularly.
  - **SSS includes** Post Office Savings Account, Kisan Vikas Patra, Public Provident Fund, Sukanya Samriddhi Account etc.
  - Money raised through these schemes goes to **National Small Savings Fund (NSSF)**.
  - Formula to arrive at interest rates for a SSS was given by **Shyamala Gopinath Committee**.



#### 3.10.4. GREEN DEPOSITS

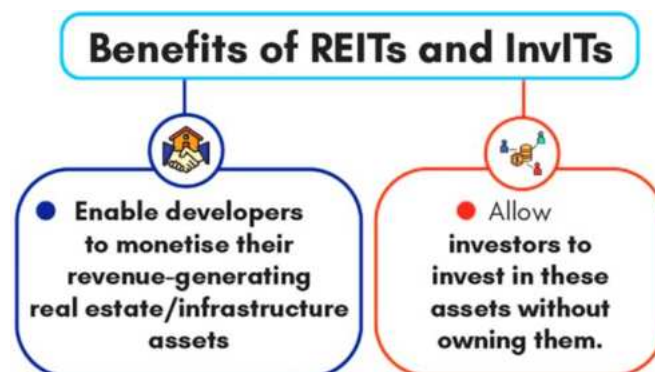
- Reserve Bank of India (RBI) issued **framework for acceptance of 'green deposits'**.
- Green deposit means an **interest-bearing deposit**, received by regulated entities (REs) for a fixed period and **proceeds of which are earmarked for being allocated** towards green finance.
- **Key highlights of framework for acceptance of green deposits**
  - **Applicability:** Scheduled Commercial Banks including **Small Finance Banks (excluding Regional Rural Banks, Local Area Banks and Payments Banks)**, and
    - ✓ All **Deposit taking Non-Banking Financial Companies (NBFCs)** registered with RBI including **Housing Finance Companies (HFCs)**.
  - Green deposits shall be **denominated in Indian Rupees** only.
  - **Sectors/projects included** for allocation of proceeds raised through green deposits includes **Renewable Energy, Energy Efficiency, Clean Transportation, Climate Change Adaptation, Sustainable Water and Waste management, Green Buildings** etc.

- **Excluded projects** include Projects involving **new or existing extraction, production and distribution of fossil fuels; Nuclear power generation; Direct waste incineration; Landfill projects; Hydropower plants larger than 25 MW** etc.
- Funds raised through green deposits shall be subject to an **independent Third-Party Verification/Assurance** on an annual basis.
- Greenwashing means the **practice of marketing products/services as green**, when in fact they do not meet requirements to be defined as green activities/projects.



#### 3.10.5. REAL ESTATE INVESTMENT TRUSTS (REITs) AND INFRASTRUCTURE INVESTMENT TRUSTS (INVITs)

- NSE Indices Ltd, subsidiary of National Stock Exchange (NSE), has launched India's first **ever REITs and INVITs Index** to track performance of REITs and INVITs that are publicly listed and traded on NSE.
- **REITs** are listed entities which own, operate and manage **buildings/properties** for generating income.
- **INVITs** are investment scheme like mutual funds that allow investment from individuals and institutional investors in infrastructure projects.





### 3.10.6. BUSINESS ENVIRONMENT RANKINGS

- Business Environment Rankings (BER), by **Economist Intelligence Unit (EIU)**, measures the **attractiveness of the business environment in 82 countries** on a quarterly basis across 91 indicators.
  - **Singapore topped** the latest rankings.
- **India improved its ranking by six spots** due to its improved score in parameters like **technological readiness, political environment, and foreign investment** among others.

### 3.10.7. OPEN NETWORK FOR DIGITAL COMMERCE (ONDC) MAY DRIVE INDIA DIGITAL CONSUMPTION TO USD 320-340 BILLION BY 2030: REPORT

- Report titled '**Democratising Digital Commerce in India**' was launched by ONDC with McKinsey & Company as knowledge partners.
- **Key highlights**
  - ONDC will **facilitate India to record 500 million digitally transacting consumers by 2030**, increasing 3-4 times from 165 - 190 million in FY22.
  - **Lack of comfort** with online shopping, **low penetration of business-to-business sellers** (1-1.5 percent), and **high supply chain costs** are key challenges in India's digital commerce ecosystem.
- ONDC was launched by **Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry** to control digital monopolies.
  - It **promotes open networks for all aspects of exchange of goods and services** over digital or electronic networks.
  - Task to **integrate e-commerce platforms on ONDC** has been assigned to **Quality Council of India**.
  - ONDC does **not require the use of same platform/application** by buyer and seller to do a business transaction.
- **Significance of ONDC**
  - Promotion of **local languages, products and cultural heritage**.
  - Creation of **opportunities for small businesses and artisans**.
  - **Equitable and fair treatment for all stakeholders** due to absence of any preferred sellers.
  - **Growth of digital commerce ecosystem** in India.

#### Related news

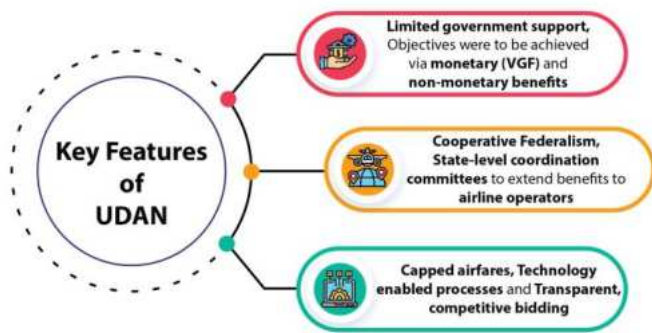
- NPCI Bharat BillPay Ltd (NBBL) has launched **NOCS platform will provide reconciliation and settlement services for transactions** undertaken on ONDC network.

- **NOCS, developed under guidance of RBI**, will enable **smooth, secure and timely transfer of funds** to network participants.
- It is **integrated with banks, fintechs and e-commerce players** and will soon go live.



### 3.10.8. UDAN (UDE DESH KA AAM NAGRIK) 5.0

- **Ministry of Civil Aviation launched** Regional Connectivity Scheme (RCS)- UDAN (Ude Desh ka Aam Nagrik) 5.0
- RCS-UDAN, a **market-driven scheme**, aims to **enhance regional air connectivity** from unserved and underserved airports and **making air travel affordable**.
  - It was formulated **based on the review of National Civil Aviation Policy (NCAP)-2016**.
- **Key features of UDAN 5.0**
  - Focuses on **Category-2 (20-80 seats) and Category-3 (>80 seats)**.
  - Length cap of 600 km is **waived off**.
  - **No predetermined routes** would be offered.
  - **Viability gap funding (VGF)** increased to 600 km from 500 km earlier.
- Over the years, **depending upon priorities of government** as well as **market response**, there have been **several additions / modifications in UDAN scheme**.
  - **Under UDAN 2**, enhanced focus on **hilly areas, and North Eastern Region (NER) and island states**.
  - **Under UDAN 3**, seaplanes operations and **concept of tourism routes** were introduced.
  - **Under UDAN 4**, enhancement of **VGF support** for smaller aircraft, **inclusion of State routes and focus on shorter routes** for development of regional hubs.
  - **Lifeline UDAN** for transportation of **medical cargo during pandemic**.
  - **Krishi UDAN** for **value realization of agriculture products** especially in NER and tribal districts.
  - **International UDAN** routes for NER to explore International Connectivity from / to Guwahati and Imphal



### 3.10.9. KOCHI WATER METRO

- **Recently**, India's first water-based metro, Kochi Water Metro (KWM), was formally inaugurated by Prime Minister.
- The Kochi Water Metro is an **innovative and sustainable mode of transportation** that connects various parts of the city through its intricate network of waterways.
- The project aims to **reduce traffic congestion** and improve the connectivity of the city while **promoting eco-friendly means of transportation**.
- The project received funding from the **Kerala government and a loan from KfW- a German state-owned investment and development bank**.
- KWM's boats are being **built by Cochin Shipyard**.
- **Innovative Boat Technology**: The boats use Lithium Titanate Oxide (LTO) batteries that can be charged in 15 minutes using a specially built charging system.
  - LTO batteries are not only the safest commercially accessible batteries in the world, but they are also the longest-lasting, with a life cycle of 7-10 years.
- Last year Kochi Water Metro **won the prestigious Gussies Award (France)** for the best commercial passenger electric boat in the world.

#### Other such Inland Water Transport (IWT) services in India

- **Ro-Ro (roll-on, roll-off) ferry service** for the movement of vehicles and passengers across waterways. The services are available in various locations such as Mumbai, Goa, Kerala, and the Brahmaputra River in Assam.
- **Ro-Pax (Roll on-roll off cum passenger) ferry service** between Mumbai and Mandwa (Maharashtra) developed under Eastern Waterfront Development.
- **River Cruise Service**: World's longest river cruise 'Ganga Vilas' was recently flagged off to promote river cruise tourism in India. It will cover a distance of more than 3,200 kms across 27 river systems in 5 states in India and Bangladesh.

### 3.10.10. LOGISTIC PERFORMANCE INDEX 2023

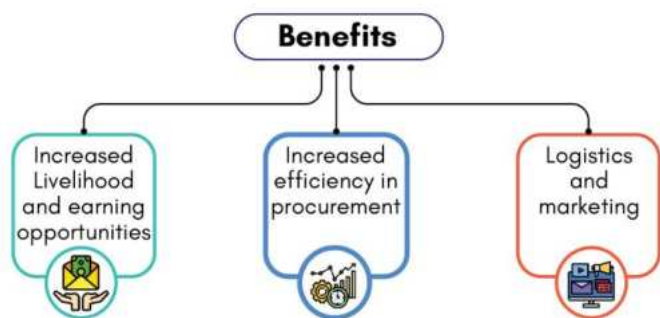
- India improved its rank to **38** (from 44 in 2018) in **World Bank's Logistic Performance Index (LPI) 2023**.
  - Significant investments in both soft and hard infrastructure as well as technology has led to an improvement in India's port performance.
  - Singapore topped the index.
- LPI is a **benchmarking tool** created to help countries identify challenges and opportunities they face in their performance on trade logistics.
- **LPI 2023 ranks countries on six dimensions of trade** -- including customs performance, infrastructure quality, and timeliness of shipments.

### 3.10.11. NATIONAL LOGISTICS PORTAL MARINE

- The **Ministry of Ports, Shipping and Waterways** launched the **Sagar Setu Mobile App** of National Logistics Portal Marine (NLPM).
- NLPM is a **national maritime single window platform** encompassing complete **end-to-end logistics solutions**.
  - It helps exporters, importers, and service providers exchange documents seamlessly and transact business.
  - The overarching NLP Marine Vision is to cater to various stakeholders in the G2G, G2B and B2B model.
- It has the capability to **integrate with various Port Operating Systems/ Terminal Operating Systems and other stakeholder(s) systems** in the ecosystem.

### 3.10.12. MARKETING AND LOGISTICS DEVELOPMENT FOR PROMOTION OF TRIBAL PRODUCTS FROM NORTH EASTERN REGION (PTP-NER)

- The **Ministry of Tribal Affairs** has launched the PTP-NER scheme, a **Central Sector Scheme** for the benefit of **Scheduled Tribes** of the **North-eastern Region**.
- It will assist tribal craftsmen through **backward and forward linkages** via. incubation support, aggregation, skill and entrepreneurial development, marketing, transportation, etc.
- The empanelment of tribal artisans will be done directly or through **Tribal Artisan Melas (TAMs)**.
- **Partners**: North Eastern Handicrafts and Handlooms Development Corporation (NEHDC), India Post and North Eastern State Government Departments/ Agencies.



### 3.10.13. DAKAR DECLARATION

- Dakar Declaration has been **adopted in principle by 21 African countries** after the first African sub-regional conference on **implementing Global Plan for Road Safety**.
- It is a guiding document to support the **implementation of Decade of Action for road safety 2021–2030**.
  - It sets the ambitious target of **preventing at least 50% of road traffic deaths and injuries by 2030**.

### 3.10.14. NATIONAL DEVICES POLICY, 2023

- Cabinet approved **National Medical Devices Policy, 2023**.
- Policy aims to
  - Make India global leader in manufacturing and innovation of medical devices** over next 25 years.
  - Help medical devices sector grow** from present \$11 Bn to \$50 Bn by 2030.
  - Facilitate an orderly growth** of medical device sector to **meet public health objectives** of access, affordability, quality and innovation.
- Significance of the Policy**
  - To prepare against **future pandemics**
  - To promote **innovation and entrepreneurship**
  - To strengthen the **health care sector and reduce cost of treatment**.
  - Promote **employment generation**
- Salient features of Policy**
  - Medical devices sector**, a sunrise sector, will be cover **by six broad areas of policy interventions**:

Regulatory Streamlining	<ul style="list-style-type: none"> <li>By creation of a <b>Single Window Clearance System</b> for Licensing, enhancing <b>Role of Indian Standards</b> like BIS and <b>designing a coherent pricing regulation</b>.</li> </ul>
Enabling Infrastructure	<ul style="list-style-type: none"> <li><b>Establishment and strengthening of large medical device parks, clusters</b> equipped with world class</li> </ul>

	common infrastructure facilities in <b>proximity to economic zones</b> .
<b>Facilitating R&amp;D and Innovation</b>	<ul style="list-style-type: none"> <li>Establishing <b>Centres of Excellence in academic and research institutions</b>, innovation hubs, <b>‘plug and play’ infrastructures</b> and <b>support to start-ups</b>.</li> </ul>
<b>Attracting Investments in the Sector</b>	<ul style="list-style-type: none"> <li><b>Encouraging private investments</b>, series of <b>funding from Venture Capitalists</b>, and also <b>Public-Private Partnership (PPP)</b>.</li> </ul>
<b>Human Resources Development</b>	<ul style="list-style-type: none"> <li><b>Leveraging available resources</b> in Ministry of Skill Development and Entrepreneurship for <b>skilling, reskilling and upskilling</b> of professionals.</li> <li><b>Develop partnerships with foreign academic/industry organizations</b>.</li> <li><b>Multidisciplinary courses</b> for medical devices in existing institutions.</li> </ul>
<b>Brand Positioning and Awareness Creation</b>	<ul style="list-style-type: none"> <li>Creation of a <b>dedicated Export Promotion Council</b> for the sector.</li> <li><b>Learning from best global practices</b> of manufacturing and skilling system.</li> </ul>

### 3.10.15. SATHI (SEED TRACEABILITY, AUTHENTICATION AND HOLISTIC INVENTORY) PORTAL

- Ministry of Agriculture & Farmers Welfare (MoA&FW)** launched **SATHI Portal and mobile app**.
- SATHI (Seed Traceability, Authentication and Holistic Inventory) Portal and Mobile App** is a Centralized Online System for **seed traceability, authentication and inventory** designed to **deal with challenges of seed production, quality seed identification and seed certification**.
  - Seeds authenticity** can be traced through a **QR code system**.
  - Portal has been **developed by National Informatics Centre** in collaboration with **MoA&FW** on theme of **‘Uttam Beej – Samridh Kisan**.
  - It’ll consist of integrated 7 verticals of seed chain** - Research Organisation, Seed Certification, Seed Licensing, Seed Catalogue, Dealer to Farmer Sales, Farmer Registration and Seed DBT.
- Seed certification** is a process designed to **maintain and make available to the general public continuous supply of high quality seeds**.
  - Seeds with valid certification can **only be sold by valid licensed dealers to centrally registered farmers** who will receive subsidy through DBT directly into their pre-validated bank accounts.



- In India, **legal status to seed certification** was given by **Enactment of Seeds Act, 1966**. Seed certification is **voluntary but labelling is compulsory in India**.
  - India established **Protection of Plant Varieties and Farmers Rights (PPV&FR) Authority**, under PPV&FR Act, 2001 to ensure **availability of quality seeds and planting material to farmer**.



### 3.10.16. MILLETS AND OTHER ANCIENT GRAINS INTERNATIONAL RESEARCH INITIATIVE (MAHARISHI)

- Participants of **G20 Meeting of Agriculture Chief Scientists on “Sustainable Agriculture and Food System for Healthy People and Planet”** unanimously supported launch of MAHARISHI.
  - Its **secretariat** will be housed at **Indian Institute of Millets Research (IIMR), Hyderabad** with technical support from ICRISAT, One CGIAR Centres and other International organisations.
  - It will **focus on Research and Awareness about agro-biodiversity, food security, and nutrition** aligning with International Year of Millets 2023.
- Milletts are known as **nutri-cereals or superfoods**, mainly grown on marginal land in **dry areas of temperate, sub-tropical and tropical regions**.

### 3.10.17. MID-DAY MEAL PULSES

- Recently, the **Ministry of Education** urged states to procure pulses for the **Prime Minister’s Overarching Scheme for Holistic Nutrition (PM-POSHAN)** from NAFED.
  - The Government of India maintains buffer stocks of pulses through NAFED.
  - Centre asked this for ensuring **benefit from economy of scale and assured subsidised rates in the interest of students**.
- However, earlier detailed guidelines issued to states and UTs in 2022, were **silent on the purchase of pulses from NAFED**. As per 2022 guidelines:
  - Only **packed dals, salt, spices, condiments and oil** with **AGMARK quality symbol** should be purchased.
  - No loose ingredient should be bought** and the packaging and expiry date of the ingredients should be checked.
- Also, as per **2019 rules**, the **states and UTs may procure pulses as per their local taste for the Mid-Day Meal** from the central buffer stock created by the Government of India.
- NAFED, i.e. **National Agricultural Cooperative Marketing Federation of India Ltd.** is a national level farmers Cooperative Marketing organization which:
  - Promotes Cooperative marketing** of Agricultural Produce, and
  - Stabilizes price** of essential commodities like pulses.

#### About PM-POSHAN

- Pradhan Mantri Poshan Shakti Nirman (PM POSHAN) is a **Centrally Sponsored Scheme**, earlier known as **National Scheme for Mid-Day meal in Schools** or simply **Mid-Day Meal Scheme**.
  - Mid-Day Meal Scheme** was launched in **1995** to meet twin objectives of:
    - ✓ **Enhancing the enrollment, retention and attendance of students**, and
    - ✓ **Improve nutritional levels** among school going children.
- It will provide **one hot cooked meal** in **Government and Government-aided schools** from **2021-22 to 2025-26**.



**SMART QUIZ**

You can scan this QR code to practice the Smart Quiz of Economics at our open test online platform for testing your understanding and recalling of the concepts.



## 4. SECURITY

### 4.1. WEAPONISATION OF SPACE

#### Why in News?

Recently, the **Chief of Defence Staff (CDS) of India** spoke about the **weaponization of space** at the Indian DefSpace Symposium (IDSS).

#### More about News

- **Indian DefSpace Symposium (IDSS)** was organised by the **Indian Space Association (ISpA)** in association with the Defence Research and Development Organisation (DRDO).
  - IDSS event is part of deliberations under 'Mission Def-Space'.
- 'Mission Def-Space' is an initiative by the Indian government to develop **innovative solutions** for defense requirements in the space domain.
  - It involves **opening 75 challenges for startups**, innovators, and the private sector to provide solutions for both offensive and defensive capabilities.
  - These challenges have been categorized into existing **Department of Defense Production (DDP)** initiatives, including the Innovations for Defense Excellence (iDEX) scheme, Make-I, and Make-2.

#### About Weaponisation of Space

- It entails **putting weapons in space or on celestial bodies, along with developing weaponry** that can travel across space as well as from Earth to destroy targets in the outer spectrum
  - It may include the **deployment of a full range of space weapons** like satellite-based systems for Ballistic Missile Defence (BMD), space-based Anti-Satellite (ASAT) weapons and a variety of Space to Earth Weapons (STEWs).
  - **Two subsets of weaponisation of space** are space control and Space force application.
- **Weaponisation of Space and Militarisation of the space** are interchangeably used.
  - **Militarisation of the space** refers to the use of the space to support the **ground, sea and air based military operations**.
  - Herein, the assets such as **early warning communication system, navigation, command and control**, etc are being **placed in space** in order to **assist the ground infrastructure of military**.

#### Factors behind Weaponization of Space

- **Protecting Space assets:** To safeguard **satellites** in space against other countries **Anti-Satellite (ASAT) missile** or from space based weapons. For this countries taking path of weaponization of space.



#### Indian Space Association (ISpA)



**About:** An apex **non-profit industry body** exclusively working towards the successful exploration, collaboration, and development of the private and public Space Industry in India.

##### Objectives:



- Ease of Doing Business and Policy Stability.
- Encourage and Facilitate all Space Domain Activities such as Communication, Design, Manufacture, Launch, Operate and R&D, etc.
- Promote and Collaborate
- International Partnerships



**Initiatives:** Indian Space Conclave, Indian DefSpace Symposium.



#### Defence Research and Development Organisation



**About:** R&D wing of **Ministry of Defence** with a vision to **empower the nation with state-of-the-art indigenous Defence technologies and systems**.

##### Mission:



- To **provide technological solutions to the Services** to optimise combat effectiveness.
- To **equip armed forces with state-of-the-art weapon systems and equipment**.



##### Major products/systems developed:

- Agni and Prithvi series of missiles; BrahMos; light combat aircraft, Tejas; multi-barrel rocket launcher, Pinaka; air defence system, Akash; a wide range of radars and electronic warfare systems, Main Battle Tank 'Arjun Mk-I etc.
- **Very Short Range Air Defence System (VSHORADS)** missile.

- **Enhanced Combat Capabilities:** Space-based assets, such as satellite surveillance, communication systems, and navigation technologies, greatly improve capabilities in land, sea, and air operations, making space a crucial component in modern warfare and strategic planning.
- **Outer space geopolitics:** Many countries like China, Russia, USA etc are focusing on dominating the 4th dimension of warfare.
  - The rivalry between the USA and China for superpower status led **China to successfully conduct an ASAT test in 2007**, raising security concerns in India.
  - In 2019, **India joined the United States, Russia, and China** as the fourth country to conduct an Anti-Satellite missile test, known as Mission Shakti.
- **Insufficient Existing Treaties:** While the Outer Space Treaty (OST) explicitly prohibits the deployment of weapons of mass destruction in space, it does not address non-WMD weapons, such as counter-space capabilities.
  - This **oversight leaves a potential gap in international regulation** concerning the weaponization of space.

#### Implications of Space Weaponization

- **Rise of Space debris:** Space weapons that shatter missiles in outer space, poses enormous dangers because it would create a massive amount of debris and can trigger the **Kessler Syndrome**.
  - This may also pose a risk to astronauts aboard the **International Space Station (ISS)**.
    - ✓ ISS is a **co-operative programme** between **Europe, the United States, Russia, Canada, and Japan** for the joint development, operation and utilisation of a permanently inhabited Space Station in **low Earth orbit**.
- **Narrowing already scarce radio frequencies and orbital slots:** The monopolization of orbital slots or non-disclosure of military satellite orbital slots and radio frequencies for security purposes can further reduce the availability of radio frequencies and orbital slots.
  - This constriction **limits the scope of activities for commercial space enterprises**.
- **Trigger the space arm race:** The ongoing weaponization of space creates an environment of uncertainty, suspicion, miscalculations, competition, and aggressive deployment among nations, potentially leading to an arms race in space.
  - **US created U.S. Space Force** in 2019 as a separate branch of the U.S. military focused on space operations and defense.
  - **Russia** has been working on ground-based ASAT weapons like the **Nudol system**, designed to destroy satellites in low Earth orbit.

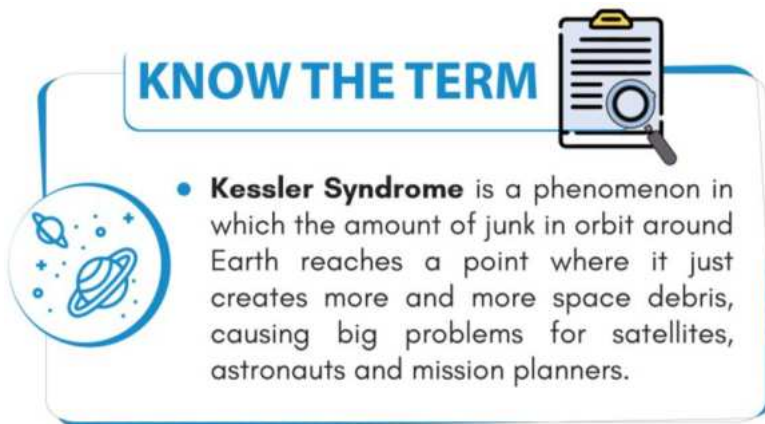
#### INDIA'S STEPS TOWARDS PROTECTING ITS SPACE



#### Global Effort to Control Weaponization

- **Outer Space Treaty (1967):** Bans the stationing of weapons of mass destruction (WMD) in outer space, prohibits military activities on celestial bodies, and details legally binding rules governing the peaceful exploration and use of space.
- **Partial Test Ban Treaty (1963):** Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water.
- **Prevention of an Outer Space Arms Race (PAROS):** For using space for peaceful purposes, avoiding an arms race, etc.
- **Others:** Sino-Russian proposal of **Prevention of Placement of Weapons in Outer Space and Threat (PPWT)**, the European Space Agency's '**Code**', as well US' **Artemis Accords** focusing on preventing space arm race.

#### KNOW THE TERM





- **Affecting Critical Infrastructure:** Satellites play a crucial role in supporting various aspects of Earth's critical infrastructure, such as communication networks, weather forecasting, navigation systems, and disaster management.
- **Peaceful exploration of outer space will be impacted:** Placing weapons in outer space would increase the risk of that domain turning into a battlefield hence impacting exploration of outer space and research activities.

#### Way forward to prevent Weaponization of Space

- **Treating space as Global Common like Antarctica:** Emphasizing the importance of using space as a global common, similar to Antarctica, promotes the idea that space should be utilized for peaceful purposes and in the interest of all countries.
  - This approach **encourages international collaboration and responsible use of space resources**, while discouraging the weaponization and militarization of space..
- **Need of binding international legal framework:** There is a need for a binding international legal framework to address space weaponization through regulation and monitoring.
- **Collaboration among like-minded states:** Encourage collaboration among like-minded states to establish a less formal "code of conduct" for space security, promoting responsible behavior even if not all governments participate..
- **Developing dual-use platforms for deterrence purpose:** Focus on developing platforms that serve both civilian and military purposes, with an emphasis on incorporating cutting-edge technology for deterrence purposes.
- **Secure satellite-assisted communications:** Enhance the security of satellite-assisted communications by utilizing Quantum Key Distribution (QKD) technology, which harnesses the laws of quantum physics to ensure secure communication at the atomic and subatomic levels..
- **Space-based Intelligence, Surveillance and Reconnaissance (ISR):** Strengthen space-based ISR capabilities by establishing dedicated teams and deploying specialized equipment for effective intelligence gathering and analysis.

## 4.2. LEFT WING EXTREMISM (LWE)

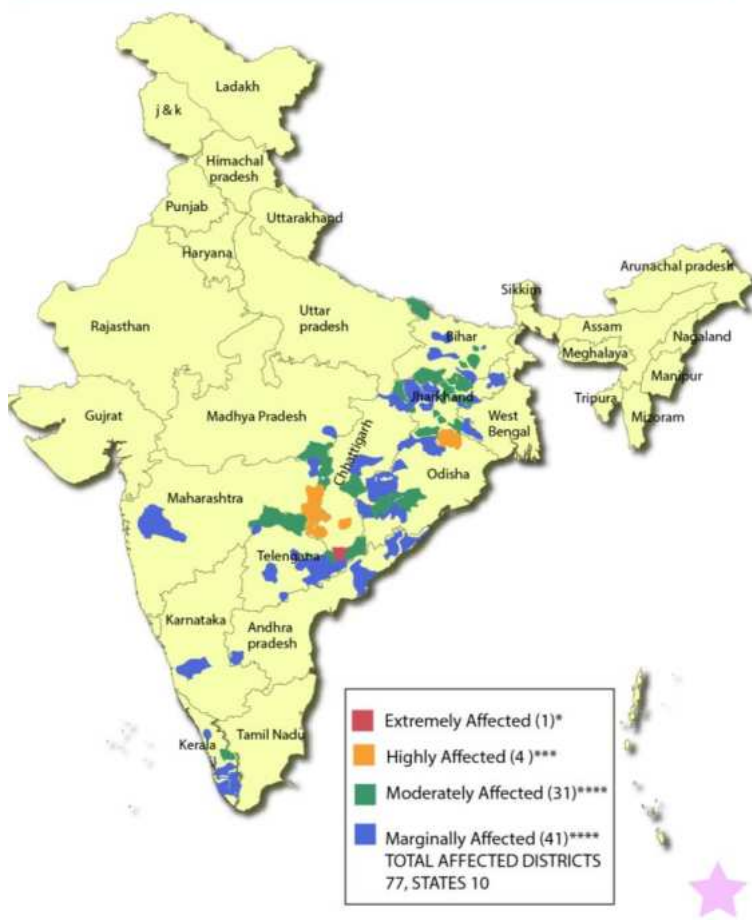
### Why in news?

Recently, few District Reserve Guards (DRG) died in an explosion of **improvised explosive device (IED)** triggered by **left wing extremists** in Dantewada district of Chhattisgarh.

### Left Wing Extremism (LWE)

- Left-wing extremists, commonly referred to as Maoists globally and as Naxalites within India.
  - LWEs are individuals or groups who **espouse radical leftist ideologies and seek to overthrow established systems of power** through violent means.
- In India, **Birth of Naxalism** is pinpointed to the **Naxalbari uprising of 1967**.
- During the 1970s, the movement was fragmented into disputing factions.
- Maoist factions, to this day, continue operating in **India's "Red Corridor"** which includes **central and eastern states (Chhattisgarh, Jharkhand, Odisha, Bihar, West Bengal, Andhra Pradesh, Telangana, Maharashtra, Madhya Pradesh, and Kerala)** in varying degrees.

## LWE: Conflict Map 2020



## Factors that led to the Emergence of Left-Wing Extremism in India

- **Governance Related Factors**
  - **The failure to implement welfare schemes** effectively and efficiently.
  - **Malfunctioning of government machinery** in terms of inefficiency, corruption and exploitation.
  - **Weak governance** allowed Maoists to gain legitimacy in deprived areas.
- **Socio-Economic and Cultural Factors**
  - Poverty, inequality fuel **LWE support, especially in rural areas.**
  - **Land acquisition** displaces farmers/tribes, fuels LWE violence in tribes.
  - **The cultural alienation of tribal communities**, who feel marginalized and excluded from mainstream society.
  - **The lack of basic infrastructure**, such as roads, schools, etc. has contributed to the sense of neglect among people living in remote and underdeveloped regions
- **Political Marginalisation of the Downtrodden**
  - **Slow pace of political reforms** and participatory democracy.
  - **The lack of political representation** of marginalized communities, particularly tribal populations

## Important initiatives for LWE affected states

- **Creation of LWE division:** LWE division was created in 2006 in the Ministry of Home Affairs, to effectively address the LWE insurgency in a holistic manner.
  - The LWE Division implements **security related schemes** aimed at capacity building in the LWE affected States.
- **National Policy and Action Plan to address LWE (2015):** This policy envisages a **multi-pronged strategy** involving security related measures, development interventions, ensuring rights and entitlements of local communities, etc.
- **Various sub-scheme of the Umbrella Scheme 'Modernization of Police Forces':** Sub-scheme includes:
  - **Security Related Expenditure scheme** under which Centre reimburses to the affected states expenditure relating to **training and operational** needs, ex-gratia payment to the family of civilians/security forces killed/injured etc.
  - **Special Central Assistance (SCA)** to fill the **critical gaps in public infrastructure** and Services, which are of emergent nature.
  - **Special Infrastructure Scheme (SIS)** under which funds are provided to States for strengthening the infrastructure related to Security.
  - **Civic Action Programme (CAP)** to **bridge the gaps between Security Forces and local people** through personal interaction and bring the human face of SFs before the local population.
- **Improving road connectivity:** **Road Requirement Plan-I (RRP-I)** and **Road Connectivity Project** are being implemented by Ministry of Road Transport & Highways and Ministry of Rural Development respectively.
- **LWE Mobile Tower Project:** To improve **mobile connectivity** in the LWE areas, the Government on approved installation of mobile towers in LWE affected States.
- **Aspirational District:** The Ministry of Home Affairs has been tasked with the **monitoring of Aspirational districts programme** in 35 LWE affected districts.

### LWE in India



LWE related violence **declined by 77%** from 2009 to 2021.



**Deaths (Civilians and Security Forces)** **declined by 85%** from 2010 to 2021.



In 2020 and 2021 incidents of **LWE violence and the resultant deaths** have **declined by 24% and 27%, respectively.**



## Road Ahead

- **Policy measures:** Policy measures require the state to provide security, uphold the law, and ensure efficient and accountable development in affected areas.
  - Appropriate **security strategies** are needed in areas where the Naxalites are said to run a **parallel government**. In areas where there is only a **thin presence of Naxalites**, developmental initiatives could be undertaken alongside.

- **Adopting Andhra Pradesh Model:** “Andhra Model”, achieved commendable success in **pacifying the affected areas of Andhra Pradesh**. The basic course of action was guided by **vision, mission orient self-belief**, duly backed up with **quality training**, and **capacity and capabilities development**.
- **Clamp down on Maoist finances:** To restrict the flow of money some measures that can be considered are:
  - **Closely monitor** known sources of finance.
  - **Register criminal cases** against sources of finance, irrespective of their social/economic standing.
  - Ruthlessly crack-down on **illegal mining and timber felling**.
  - **Penalize government servants** paying extortion money etc.
- **Inclusivity:** Government needs to seriously **undertake land and electoral reforms** and ensure that the deprived sections are brought into the **mainstream of development**.
- **Strengthening coordination:** Coordination and cooperation among the states and the Centre and among the security forces is needed. Formation of the **coordination centre**, the task force on **inter-state coordination** and an **inter-ministerial group** can be undertaken to **continuously monitor** and ensure such coordination.
- **Enhancing capabilities of the state police forces:** Setting up **counterinsurgency and jungle warfare training centres** which would strengthen the **pro prowess, morale and operational efficiency** of the state police forces.
  - The forces must also be equipped with the **latest technological equipment and devices**.
- **Connecting common people:** A **sound strategic communication campaign** is a prerequisite for the success of anti-Naxal operations. The **common people in remote areas** must be reached through pamphlets, regional radio and television programmes, drama, and theatre groups etc.

**Operational strategy ‘SAMADHAN’ to fight LWE**  
Brought by **Ministry of Home Affairs** in 2017, Key elements are:



## 4.3. NEWS IN SHORTS

### 4.3.1. TRENDS IN WORLD MILITARY EXPENDITURE, 2022 REPORT

- Stockholm International Peace Research Institute (SIPRI) released Trends in World Military Expenditure, 2022 Report.
- SIPRI is a **Sweden-based independent international institute** dedicated to **research into conflict, armaments, arms control, and disarmament**.
- **Key highlights of report**
  - **Five biggest** spenders in 2022 were **United States, China, Russia, India and Saudi Arabia**, which together accounted for **63% of world military spending**.
    - ✓ With military expenditure of **\$81.4 billion**, India was **fourth largest spender** in 2022.
  - **World military expenditure rose by 3.7%** in real terms in 2022, to reach a record high of **\$2240 billion (2.2% of global GDP)**.
    - ✓ **Russia's invasion of Ukraine** was a major driver of growth in spending in 2022.
  - **Personnel expenses** (salaries and pensions) remained the **largest expenditure category** (around 50%) in Indian military budget.
  - India's expenditure on **capital outlays amounted to 23%** of total military spending in 2022.
- **India's defence exports** have reached an **all-time high** of **Rs 16,000 crore** in FY 2022-23.
  - India aims at achieving **annual defence export target of ₹35,000 crore** by 2025.
  - India's **major platforms being exported** include Dornier-228, 155 mm Advanced Towed Artillery Guns (ATAGs), Brahmos Missiles, Akash Missile System etc.
- **Government efforts to push defence export**
  - **IDEX** (Innovation for Defence Excellence); **Make in India**; **Notified three Open General Export Licenses (OGEL)** for export of Parts and Components/Transfer of Technology/Major Platforms and Equipment; etc.

### 4.3.2. COMMAND CYBER OPERATIONS AND SUPPORT WINGS (CCOSW)



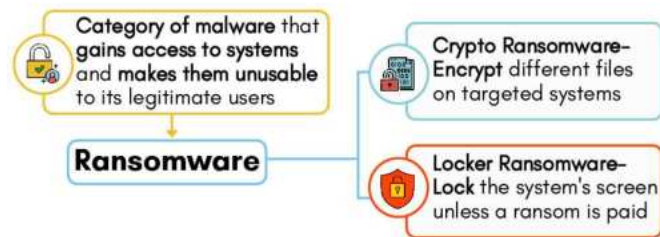
- **Army to raise CCOSW for handling cyberspace challenges.**
- **CCOSWs will assist its formations in taking up cyberspace security challenges** posed by the growing warfare capabilities of adversaries.
  - CCOSWs will safeguard the networks and increase preparedness levels in this niche domain.
  - Army will also nominate 'Lead Directorates' and 'Test Bed' formations for absorption of niche technologies and enhancing fighting potential.
- **Cybersecurity is linked to national security as**
  - Cyberspace has emerged as an essential competence of military domain both in grey zone warfare (activities that occur between peace and war) and conventional operations.
  - Many countries have created their own cyber warfare related strategies that can alter outcome in battlefield.
  - Adversaries can attack critical infrastructure like dams, power & energy, Banking and financial services etc.
  - Rising number of digitally vulnerable targets because of technology use, government's digital push etc.
- **Challenges faced:** Import dependency for electronic devices, lack of coordination among agencies, lack of adequate infrastructure and trained staff, widespread digital illiteracy etc.
- **Initiatives taken**
  - National Cyber Security policy (2013),
  - Framework for enhancing Cyber Security (2013),
  - Setting up of Indian Computer Emergency Response Team (CERT-In) and National Critical Information Infrastructure Protection Centre (NCIIPC).

#### 4.3.3. FIRST ANTI-SPYWARE DECLARATION

- The USA and 10 other nations issued the **first-ever significant anti-spyware declaration.**
- It recognized the threat posed by the misuse of commercial spyware
- It seeks to realize the importance of stringent domestic and international controls on the proliferation and use of this technology.
- **About Spyware**
  - Spyware is a type of malicious software or malware that is installed on a computing device without the end user's knowledge.
  - It invades the device, steals sensitive information and internet usage data, and relays it to advertisers, data firms, or external users.

#### 4.3.4. RANSOMWARE REPORT-2022

- **Ransomware Report-2022** released by Indian Computer Emergency Response Team (CERT-In).
- CERT-In, under Ministry of Electronics and Information Technology, is the national nodal agency for responding to computer security incidents.
- **Key highlights of the report**
  - Ransomware incidents have gone up by 53% in 2022 over 2021.
  - Not only money, but Geo political conflicts also influenced ransomware attacks this year.
  - Broadened Ransomware attacks across critical sectors with increased frequency and complexity of the attacks.
  - Lockbit was the most prevalent ransomware variant in India, followed by Makop and DJVU/Stop ransomware.
    - ✓ New variants such as Vice Society and BlueSky were noticed in 2022.
  - IT and IT-enabled services sector was the most impacted sector, followed by finance and manufacturing sectors.
  - Ransomware-as-a-service (RaaS) ecosystem becoming prominent.
  - Makop and Phobos Ransomware families mainly targeted medium and small organizations, while Djvu/Stop variants used for attacks on individuals.



##### Related News

##### LockBit ransomware

- LockBit ransomware was found to be targeting Mac devices, making this first major ransomware operation to specifically target Apple computers.
- LockBit ransomware is designed to infiltrate victims' systems and encrypt important files.
  - It was dubbed the "abcd" virus, due to file extension used when encrypting victim's files.
  - It is categorised as a "crypto virus" due to its requests for payment in cryptocurrency to decrypt files.
  - It operates on ransomware-as-a-service (Raas) model.

#### 4.3.5. CENTRAL BUREAU OF NARCOTICS (CBN)

- **Unified Portal of Central Bureau of Narcotics (CBN)** was launched to facilitate a balance between narcotics

**substance availability** for medical/scientific/industrial use and law compliance.

- It'll instill **efficiency and transparency** and **reduce time taken by pharma industry** to get a trade licence.
- CBN is a **subordinate office under Department of Revenue** of Ministry of Finance.
  - It deals with **international trade of narcotic drugs**, under ambit of various United Nations Conventions and provisions of Narcotics Drugs & Psychotropic Substances (NDPS) Act, 1985.
  - **Composition:** Narcotics Commissioner is assisted by three Deputy Narcotics Commissioners.

#### 4.3.6. PRALAY BALLISTIC MISSILE

- **Indian Armed Forces plans to acquire** around 250 more units of **Pralay ballistic missiles**.
- Pralay Ballistic Missile is a **Surface-to-Surface missile**, developed by the **Defence Research and Development Organisation (DRDO)**.
- It has a **range of 150 to 500 kilometres** and is propelled by a **solid-propellant rocket motor**.

- Its **missile guidance system** includes **state-of-the-art navigation** and **integrated avionics**.

#### 4.3.7. EXERCISES IN NEWS

- **SLINEX-23:** It is a Bilateral Maritime Exercise **between India and Sri Lanka**.
- **Exercise Kavach:** Conducted by Andaman and Nicobar Command (ANC), it is **joint military exercise** involving the assets of **Army, Navy, Air Force and Coast Guard**.
- **Exercise Cope India 23:** It is a **bilateral Air Exercise** between the **Indian Air Force and United States Air Force**.
- **Exercise Orion:** It is a **multilateral exercise**. Besides **Indian Airforce and French Air and Space Force (FAF)**, Air Forces from **Germany, Greece, Italy, Netherlands, United Kingdom, Spain and United States of America** would also be flying in this exercise.
- **INIOCHOS-23:** **Indian Air Force will participate** in Exercise INIOCHOS-23, a **multi-national air exercise** hosted by the **Greece Air Force**.

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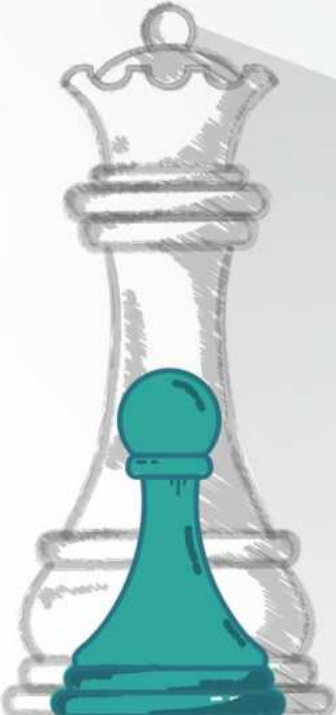
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# 5. ENVIRONMENT

## 5.1. PROJECT TIGER

### Why in News?

PM recently inaugurated the programme 'Commemoration of 50 years of **Project Tiger**' in Mysuru, Karnataka.

### More on News

- The **International Big Cats Alliance (IBCA)** was also launched by India during the event.
- The '**Amrit Kaal Ka Vision For Tiger Conservation**', a summary report of the 5th cycle of **Management Effectiveness Evaluation (MEE)** of Tiger Reserves and the summary report of **All India Tiger Estimation (5th cycle)** was also released.
- MEE is a global framework, is an evaluation of management effectiveness of protected areas based on **six main categories**- Context, Planning, Output, Input, Process and Outcomes.

### About Project Tiger

- A **Centrally Sponsored Scheme** of the Ministry of Environment, Forests and Climate Change (MoEFCC), launched in **1973**.
  - Initially launched in 9 Tiger reserves (TRs) in different states of India.
  - Provides central assistance to tiger range States for **in-situ conservation** of tigers in designated tiger reserves.
- **Objective:** To ensure the maintenance of a **viable population of tigers** in India for scientific, economic, aesthetic, cultural and ecological values.
- **Implementing Agency:** Statutory body, **National Tiger Conservation Authority (NTCA)**.
  - Overarching supervisory/coordination role and approves the Tiger Conservation Plan prepared by the State Governments.
- **Funding pattern:** Centre provides financial assistance to States of 60% and 50% for expenditure on all non-recurring items and recurring items respectively.
  - North-eastern and Himalayan States are provided 90% central assistance in both cases.
- **Activities undertaken under Project Tiger**
  - **Establishment and development of new TRs:** 53 tiger reserves account for 2.3% of India's land area.
  - **Core-buffer strategy for TRs:** Core areas are kept free of all human activities, a co-existence agenda adopted in buffer and fringe areas with landscape approach.
  - NTCA banned new construction in tiger reserves' core areas.
  - NTCA conducts assessment using application **M-STriPES (Monitoring System for Tigers Intensive-Protection & Ecological Status)**: Uses GPS to geotag photo-evidence.

### International Big Cats Alliance (IBCA)

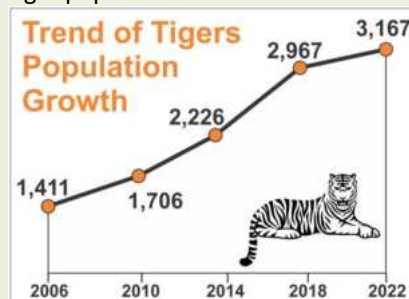
- **Genesis:** It was first proposed by India at an **international group against poaching and illegal wildlife trade in 2019**.
- **Aim:** IBCA has been launched for the conservation of seven **big cats** namely **Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar and Puma**.
  - It aims to reach out to **97 range countries** covering the natural habitats of the aforementioned species.
- **Timeline:** It will provide assured support over **five years** with guaranteed funding of over Rs. 800 crores.

### Key Finding of Management Effectiveness Evaluation (MEE) Framework, 2022

- It has reported an **overall increase** of 8% in mean MEE Score (77.92%) in comparison to fourth cycle of MEE TR assessment 2018 (70%).
- **Periyar Tiger Reserve (PTR)** topped the list with a MEE score of 94.38% among the 51 reserves that were evaluated.
- **Satpura** and **Bandipur** came second (93.18%), while Nagarhole was ranked third (92.42%).
- No TRs in the poor category.

### Key Finding of All India Tiger Estimation (5th cycle) Report

- Number of tigers in India is 3,167.
- Population **grew by 200 from 2018 to 2022 (6.7 % growth rate)**.
- Highest number (1,161) of tigers were noted in the **Central Indian Highlands and Eastern Ghats**.
- **Nilgiri cluster** (Nagarhole to Biligiriranga Hills) of the Western Ghat has the largest tiger population in the world.





- **Independent monitoring** and the evaluation of tiger reserve by developing **Management Effectiveness Evaluation (MEE)** Framework.
- **Special Tiger Protection Force (STPF)** deployed in several TRs for focused anti-poaching operations.
- **Technological advancements:** E-Bird project uses Unmanned Aerial Vehicles (UAV) for Surveillance and Monitoring.

- **Factors that Led to Rise of Tiger Population in India**

- **Conservation efforts:** Project Tiger, Wildlife Protection Act, 1972 and other initiatives.
- **Curbed poaching:** Increased vigilance by the Forest Department.
- **Human-Animal Conflict:** Rehabilitating villages outside core areas has led to more inviolate space for tigers.
- **Habitat Restoration:** In Sariska Tiger Reserve, where tigers were once completely wiped out, efforts have been made to restore the habitat and reintroduce tigers.

- **International Efforts**

- **Global Tiger Forum, 1993** exclusively set up for the conservation of tigers in the wild in the range countries.
- **Global Tiger Initiative (GTI), 2008** is a global alliance of governments, international organizations, civil society and the private sector.
- **St. Petersburg declaration, 2010** adopted to double tiger numbers by 2022 (India has achieved this).
- **Global Tiger Day** (July 29 every year) to raise awareness.
- **Conservation Assured | Tiger Standards (CATS) framework, 2013** to check if their management will lead to successful tiger conservation.



**National Tiger Conservation Authority (NTCA)**  
 New Delhi



**Genesis:** It was constituted under provisions of the Wildlife (Protection) Act, 1972, as amended in 2006.

**Ministry:** Ministry of Environment, Forests and Climate Change MoEFCC.

**Objectives:**

- Providing statutory authority to Project Tiger.
- Fostering accountability of Center-State in management of TR, by providing a basis for MoU with States within our federal structure.
- Providing for an oversight by Parliament.
- Addressing livelihood interests of local people in areas surrounding TR.

**Other Key Information:**

- It creates Annual Plan of Operations of TR.
- All India Tiger Estimation is conducted by it.
- It has a Guinness book record for the largest camera-trap wildlife survey in 2019.

### TIGER PROTECTION STATUS



#### About Indian Tiger or Royal Bengal Tiger (*Panthera Tigris*)

- A flagship species of India, declared as the National Animal of India.
- **Habitat:** Largest population is in India, smaller groups in Bangladesh, Nepal, Bhutan, China and Myanmar.
  - India home to more than 75% of global tiger population.
- **Distribution of Tiger population in India:** Habitats ranging from the high mountains, mangrove swamps, tall grasslands, to dry and moist deciduous forests, as well as evergreen and shola forest systems.
- **Significance of tiger conservation:**
  - **Ecological:** Both an **Umbrella species** and a **Keystone species**.
    - **Keystone Species-** A keystone species helps define an entire ecosystem. Without its keystone species, the ecosystem would be dramatically different or cease to exist altogether.
    - **Umbrella Species-** Umbrella species are often conflated with keystone species. The key distinction between umbrella species and keystone species is that the value of an umbrella species is tied to its geographic species range.
  - **Economic:** Ecotourism and related industries.
  - **Cultural and spiritual:** Symbols of power, strength, and beauty.
- **Characteristics:**
  - **Solitary and territorial** animal, and an adult male's territory may encompass territories of two to seven females.
  - **Stripes** are individually as unique as human fingerprints.

- **Bilateral instruments/MoU** with several tiger range countries India, Nepal, Bhutan, Bangladesh, China, and Myanmar.

## Challenges in Tiger Conservation

- **Habitat and loss of prey species:** Out of the approximately **four lakh square kilometres** of forests in states that **have tiger habitats**, only **one-third are in relatively healthy condition**.
- **Human-animal conflict:** It has resulted due to **linear infrastructure** such as roads, highways, mining, etc.
- **Funds:** States are dependent on Union for the funds. The allocation of funds is less than the requirement. Also, sometimes funds are not released on time.
- **Hunting, poaching, and illegal trade:** They are hunted as status symbols, decorative items such as wall and floor covering, as souvenirs and curios, and for use in **traditional Asian medicines**.
- **Monitoring:** TR such as **Mukundra, Ranthambore, Nagarhole**, etc. are situated along the boundaries of the state, which creates an issue of monitoring as the animal moves from one generation to another.
- **Climate change: Shifting temperatures** are **altering the habitats of tigers in the Himalayan States**.
  - Climate change accelerates, and wildfires are becoming **more frequent** in **ecosystems** that do not typically experience a **fire season**.
- **Other:** At least **20% of the reserves** are also threatened by **invasive plant species** such as Lantana camara.
  - About 20% of the reserves have **unsustainable pressure** from **pilgrims visiting temples inside these**.

## Conclusion

People have become more conscious of the issue of biodiversity and have taken measures to keep them from declining. For many people, Project Tiger also created jobs. Since the project began, biodiversity has faced marginally less issues. Not only has Project Tiger saved tigers, but also saved other aspects of biodiversity.

## 5.2. PROJECT ELEPHANT

### Why in News?

President Participated in **Gaj Utsav** at Kaziranga National Park and Tiger Reserve (KNPTR) in Assam to mark **30 years of Project Elephant**.

### More on News

- **Objective** of the Gaj Utsav was to raise awareness of **elephant conservation**, **protect** their **corridors** and **habitat**, and reduce **human-elephant conflict**.

### Project Elephant

- **About:** It was launched in **1992** as a **Centrally Sponsored Scheme** by the **Ministry of Environment, Forest and Climate Change (MoEFCC)**.
- **Support and Coverage:** **Financial** and **Technical** support are being provided to major **elephant-bearing States** in the country. Presently the Project is being implemented in 22 States/UTs.
- **Main activities under the Project:**
  - **Conserve** and **protect** viable populations of wild elephants in their natural habitats.
  - To **conserve**, **protect** and to **restore** natural habitats and traditional **corridors/migratory routes** used by the elephants through eco-restoration, acquisition etc.
  - Protect the elephants from **poaching** and other threats by taking suitable measures like **deployment of patrolling squads, intelligence gathering**, etc.
  - Ensure **inter-state** and **regional** and **national level coordination** in protecting and conserving the elephant and its ranges.
- **Steering Committee:** It includes **representatives** of the Government as well as **non-government wildlife experts** and **scientists**.
  - It **advises** the centre on the project related issues.

### Success of the Project Elephant

- India is home to more **than 60%** of all **wild Asian** elephants.
- As per the **Elephant Census 2017**, India had 29,964 elephants.
- **Karnataka** has the highest number of elephants, followed by **Assam** and **Kerala**.
- Census is carried out at **every five-year interval**.

- **Elephant reserves:**

- Declared as an **administrative category** by the government to demarcate **large landscapes** that hold elephants and their movements.
- **33 elephant** reserves together cover a total area of nearly 80,000 sq km.
- **Tamil Nadu** and **Assam** have the highest number of ERs (5 each) followed by Kerala (4) and Odisha (3).
- **Mysore** ER in Karnataka is the largest ER.

#### About Indian elephant (*Elephas maximus indicus*)

- **Characteristics:**

- **Highly intelligent animals** characterised by strong family bonds with sophisticated forms of **communication**.
- **Complex behaviour**, including the ability to feel grief and compassion.
- Form herds of related females led by the **oldest female**, the 'matriarch'.
- Have the **longest gestation period** of all mammals (18 to 22 months).
- Adult male Asian elephants are **less social than females**.
- They enter musth -- a mate-searching strategy for old (above 30 years of age) males, annually.

- **Habitat:** Found in the **central** and **southern Western Ghats**, **North East India**, **eastern** India and **northern** India and in some parts of southern peninsular India.

- **Threats:** Human-elephant conflict, habitat loss and fragmentations, poaching and the loss of genetic viability resulting from small population size and isolation.

#### ELEPHANT PROTECTION STATUS



#### Difference between Asian Elephant and African Elephant

Indicators	Asian Elephant 	African Elephant 
<b>IUCN status</b>	Endangered	<ul style="list-style-type: none"> <li>○ <b>Savanna elephant</b> – Endangered</li> <li>○ <b>Forest elephant</b> – Critically endangered</li> </ul>
<b>Size</b>	Smaller, weighing between 3000–6000 kg	Larger, weighing between 4000–8000 kg
<b>Ears</b>	Smaller rounded ears	Large fan shaped ears
<b>Skin</b>	Comparatively smoother skin	Skin is more wrinkled
<b>Forehead</b>	Twin domed head	Single dome shape
<b>Tusks</b>	<ul style="list-style-type: none"> <li>○ <b>Only some male Asian elephants have tusks</b></li> <li>○ <b>Tusks are absent in females</b> (only rudimentary tusks found).</li> </ul>	Both male and female African elephants grow tusks.

#### Role of Elephant as a keystone species

- **Landscape architects:** Preventing the **overgrowth** of certain plant species
- **Seed dispersal:** Eat plants, fruits and seeds, **releasing the seeds** when they **defecate** in other places
- **Nutrition:** Elephant dung provides **nourishment** to plants and animals
- **Economic and Cultural Value:** Brings **tourism**, part of religious activities etc.

#### Other Conservation measures

- **National Level:**

- **Elephant Corridor-** Has been formed by the **Wildlife Trust of India (WTI)** with assistance from State Forest Department of elephant range states.



- ✓ They are **linear, narrow, natural habitat** linkages that allow elephants to move between secure habitats without **being disturbed by humans**.

- ✓ Currently, there are 101 corridors in India.

- **National Awareness Program - Gaj Yatra** (launched by NGO Wildlife Trust of India (WTI) and Haathi Mere Saathi, aimed at raising awareness about the shrinking habitat for wild elephants and the importance of securing elephant corridors.
- **Elephant Task Force** (2010)- It was set up to review the existing policy of elephant conservation in India and formulate future interventions.
- **National Heritage Animal** (2010) – It was declared so because of its unique role in socio-religious life people.
- **RE-HAB (Reducing Elephant-Human Attacks Using Bees)** initiative launched by Khadi and Village Industries Commission (KVIC)
- **Other Initiatives:** Building hard and soft barriers (trenches and fences) and **anti-depredation squads**, controlling elephant population, initiating **alternate livelihoods** and **compensating** for losses to life and livelihood.



## MIKE Sites in India



### Global Level

- **Monitoring of Illegal Killing of Elephants (MIKE) Programme**- Launched (COP resolution of CITES) in South Asia in the year 2003.
  - Provides information needed for elephant range States to make appropriate **management** and **enforcement decisions**, and to build institutional capacity.
  - There are **currently 28 sites participating in the MIKE programme in Asia**, distributed across 13 countries: India has 10 sites (refer map).
  - In 2017, IUCN was engaged by CITES to implement the MIKE Asia programme in two sub-regions:
    - ✓ **South Asia** (via the IUCN India Country Office in New Delhi);
    - ✓ **Southeast Asia** (through the IUCN Asia Regional Office in Bangkok).
- **International Elephant Foundation**- A non-profit corporation of individuals and institutions dedicated to the conservation of Elephants worldwide.
- **Elephant – 8 Ministerial Meeting (2011)**- It was hosted by India. Botswana, Congo, Indonesia, Kenya, Sri Lanka, Tanzania, and Thailand participated in it.

### Conclusion

The consistent efforts of the government and all the stakeholders have played a key role in enhancing the population of elephants in India. A dedicated authority based on the line of NTCA needs to be set up so that conservation efforts are more effective.

## 5.3. CIRCULAR ECONOMY

### Why in News?

For the first time, **International Day of Zero Waste (IDZW)** has been observed to encourage everyone to **prevent** and **minimize waste** and **promotes** a societal shift towards a **circular economy (CE)**.

## More on News

- A zero-waste approach entails responsible production, consumption and disposal of products in a closed, circular system.
  - This means that **resources are reused or recovered as much as possible** and that we minimize the pollution to air, land or water.
- **United Nations General Assembly (UNGA)** adopted a resolution in 2022 to proclaim 30 March as the **IDZW**, to be observed annually.
  - It is jointly facilitated by the **UN Environment Programme (UNEP)** and the **UN Human Settlements Programme (UN-Habitat)**.
  - Theme of the day was 'Achieving sustainable and environmentally sound practices of minimizing and managing waste'.
- Also, the **Economic Advisory Council to the Prime Minister of India (PMEAC)** released a working paper 'India's Tryst with a Circular Economy'.

## About Circular Economy

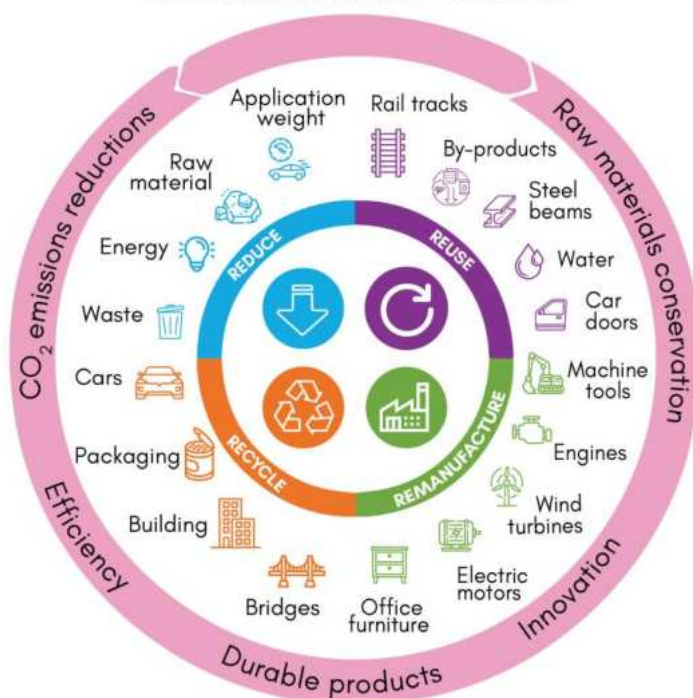
CE is essentially an **economic system** where means of **production** are **organized** around **reusing** and **recycling** the inputs.

- The central idea here is to achieve a **circularity of inputs**.
- At the end of a **product's life**, the materials used to make it are kept in the **economy** and reused wherever possible.
- According to the **Circularity Gap Report 2023**, only 7.2% of the global economy is **circular** with a declining trend.

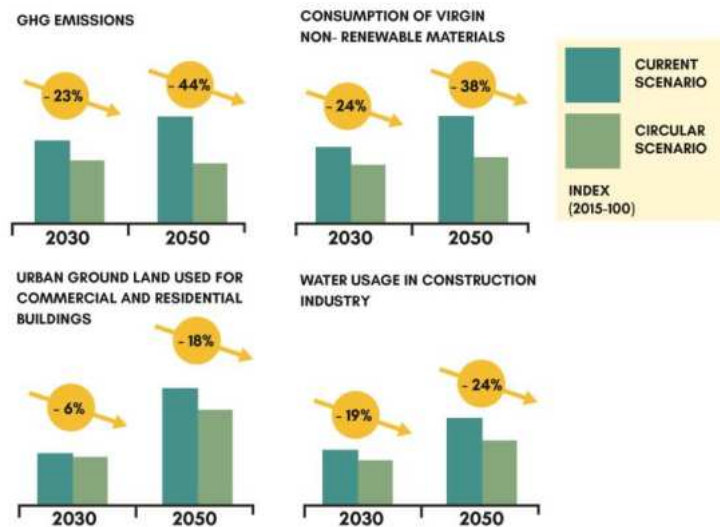
## Need of the Circular Economy

- **Replacing Linear Economic Model:** In this, resources are used to **make things, consumed, and finally thrown away**.
  - From 1970 to 2015, India witnessed a **six-fold increase** in its **annual material consumption**.
- **Reduce waste generation:** According to the **Central Pollution Control Board (CPCB)**, India generates over 62 million tonnes of waste every year.
  - About **70% of it is collected**, of which only about 12 million tonnes are treated, and 31 million tonnes are dumped in landfill sites.
- **Job Creation:** Create new job opportunities for the **repair and refurbishment** of goods, **recycling** and **recovery** of materials, and **waste management**.
- **Global Commitment: Sustainable Development Goal (SDG) 11** (making cities and human settlements inclusive, safe, resilient, and sustainable) and **SDG 12** (ensuring sustainable consumption and production patterns).
  - India has promised to become a **net zero emitter by 2070** at **COP26 Glasgow**. This is why circular economy is important for India.
- **Economic Growth & Resource Optimization:** Its emphasis on **localizing production** and using **locally sourced materials** could create new opportunities for **small and medium-sized enterprises (SMEs)**.
  - India's **resource extraction** is **251% higher** than the world average of 450 tonnes/acre.

## CIRCULAR ECONOMY BENEFITS

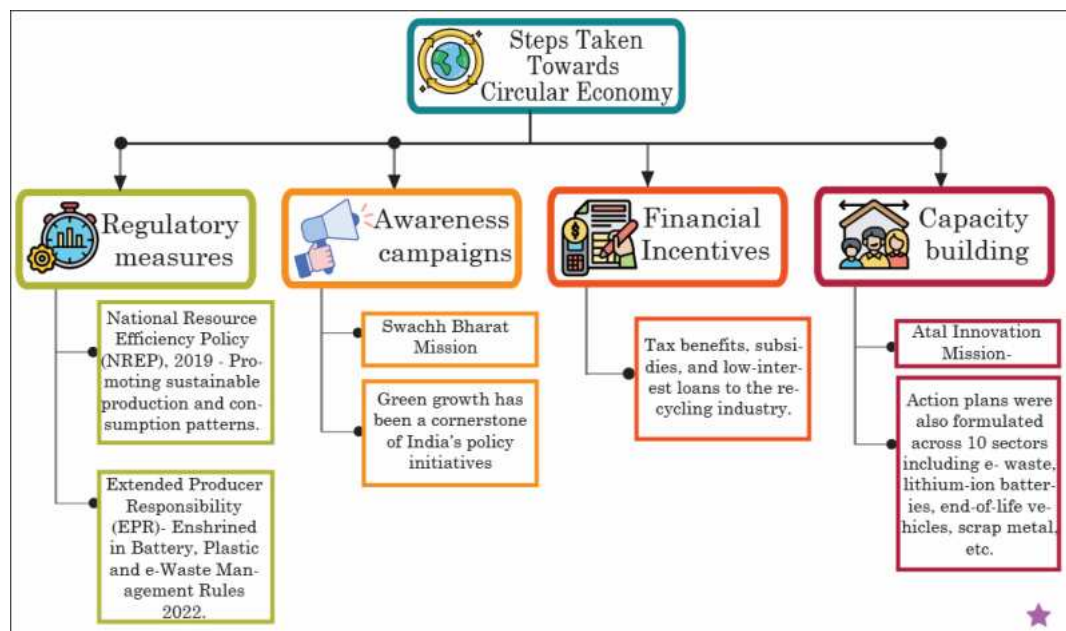


## Potential impact of Circular economy



- It can potentially generate an annual value of US\$ 218 billion by 2030 and US\$ 624 billion by 2050.

- **Self-Reliance:** Reducing dependence on imported resources could improve India's resource security and resilience, reducing its vulnerability to global price fluctuations and supply chain disruptions.
- **Climate Change and Environment**



**Conservation:** India is the **third highest emitter of greenhouse gases**, and accounts for 9.2% of total world emissions.

- **CE will** prevent land degradation, air, water, and noise pollution, the release of toxic substances, and greenhouse gas emissions.

### Challenges in Transitioning to Circular Economy

- **Lack of awareness:** Policymakers, businesses, and consumers lack understanding about the concept of CE.
  - There is lack of focus on **reducing waste** and **maintaining the value proposition** of material and components.
- **Require Systemic Change:** Design, produce, consume, and dispose of goods and services need remarkable changes.
- **Waste Management Sector:** Inefficient and dominated by the informal sector (waste collection and disposal). Percentage of goods recycled in India is just 20 %.
- **Infrastructure:** Municipal Corporation/concerned authorities lack **waste collection** vehicles, **sorting** facilities, and **waste management technology**.
  - For instance, in the national capital 'New Delhi' mountains of garbage have been created.
- **Downcycling:** It refers to the process of **recycling materials** into **products of lower value and quality** compared to the original material.
  - It is mainly prevalent in the **plastic recycling industry**.
- **Limited Research & Development:** It requires **innovation** and new **approaches** to address the challenges of **resource depletion**, **waste**, and **environmental degradation**.
- **Incentivization of Businesses:** Transitioning to CE can be **costly** and **time-consuming**, and businesses need incentives to make the shift.
- **Limited availability of recycled materials:** India generates a vast amount of waste every day, which is not adequately collected or segregated. Due to this, **businesses are forced** to rely on **virgin materials**.

### Way Forward

- **Policy Making:** **National-level vision document** of a CE will establish **clear goals, strategies, and initiatives** that promote circular practices across different sectors.
- **Regulatory framework:** Promotes **circular practices** and **provides incentives** for **businesses** and **consumers** to adopt circular solutions.
- **Monitoring and Evaluation** system: To track the advances made towards achieving the vision of a CE.
- **Waste disposal and Waste Management:** Reducing **waste generation** and **managing waste** more efficiently by promoting recycling, composting, and other forms of waste recovery.
  - For example, French car maker Renault uses 33% recycled materials in all its cars in Europe.
- **Incentivization:** On using **reused, repaired, and recycled** (3 Rs) products.



- Investing in innovation and technology to develop new circular solutions can help develop new materials that are more sustainable and environmentally friendly.

## 5.4. GROUNDWATER

### Why in news?

Standing Committee on Water Resources presented its report on 'Groundwater: A Valuable but Diminishing Resource'.

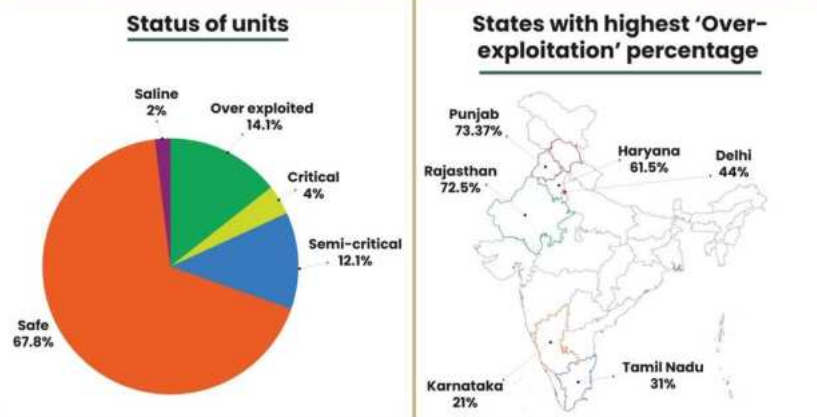
### Key highlight of the report

- The committee noted that the progress made in terms of bringing down the groundwater use is "minimal."
- As per the 2020 assessment, **61.6% of India's annual extractable groundwater resource of 398 billion Cubic Meter (BCM) was being utilized**, with 245 BCM being extracted for all uses.
- Over-extraction of groundwater for meeting irrigation needs is prevalent mainly in northern states**, particularly in Punjab, Haryana, and Rajasthan.
- The Committee find that regional distribution of Ground water varied
  - Northern mountainous terrain of Himalaya** (from Kashmir to Arunachal Pradesh) being **major source of recharge** for the vast Indo- Gangetic and Brahmaputra alluvial plains.
  - Peninsular Shield** located south of Indo-Gangetic-Brahmaputra plains **has limited Ground water potential** while **coastal tracts have potential multi-aquifer systems** in the States of Gujarat, Kerala, Tamil Nadu, Andhra Pradesh, and Orissa.

### Issues related to groundwater in India.

- Dependency on Groundwater:** More than 60% of irrigated agriculture and 85% of drinking water supplies are dependent on groundwater.
  - Urban residents increasingly rely on groundwater due to unreliable and inadequate municipal water supplies.
- Unregulated extraction:** Groundwater, regarded as a "common pool resource", has historically witnessed little control over its extraction.
  - India uses an estimated 230 cubic kilometers of groundwater per year - over a quarter of the global total.
- Poor knowledge of groundwater:** In-depth understanding of groundwater requires **expensive and sophisticated technology** that is difficult to run and maintain.
  - It also requires significant experience in **data collection, analysis, and management** which is largely missing.
- Institutional vacuum:** The various organisations that manage India's groundwater **lack accountability and responsibility**.

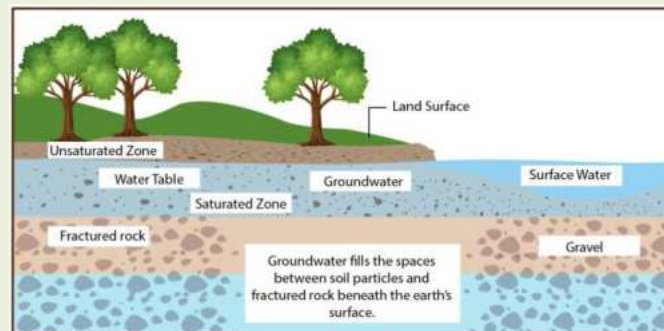
### Groundwater Extraction Scenario in India (2022)



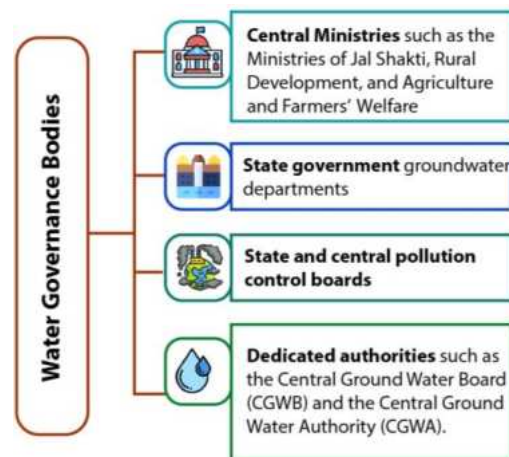
- Safe:** Ground water extraction is **less than 70%**.
- Semi-critical:** Ground water extraction is **between 70% and 90%**.
- Critical:** Ground water extraction is **between 90-100%**.
- Over-exploited:** Ground water **extraction exceeding the annually replenishable ground water recharge**.
- Saline:** **Major part** of the ground water in these aquifers is **brackish or saline**.

### Groundwater

- Water that **exists underground** in saturated zones beneath the land surface.
- The **upper surface of the saturated zone** is called the water table.
  - The water table **may be located only a foot below** the ground's surface, or it can sit **hundreds of feet down**.



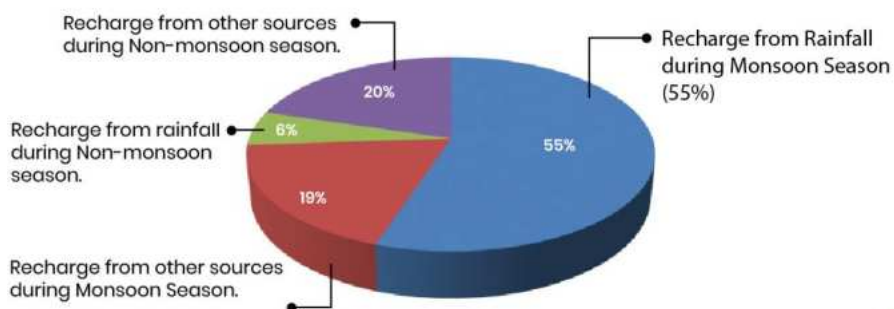
- Standing Committee on Water Resources (2022-23) has highlighted that there is a **lack of coordination** among various bodies to manage ground water.
- **Groundwater contamination:** It refers to the **presence of pollutants** such as bacteria, phosphates and heavy metals from human activities including domestic sewage.
  - In India, high levels of **arsenic, fluoride, nitrate, and iron** are also **naturally occurring** in ground- water, with concentrations likely to **rise as water tables fall**.
- **Lack of Fund:** Standing Committee on Water Resources (2022-23) has highlighted that **National Water Mission** (one of the Missions implementing the National Action Plan on Climate Change) is hindered by **lack of funds and autonomy**.
- **Lack of political will:** 19 states in India have enacted laws on groundwater management based on a 1970 model Bill (last revised in 2005). However, the lack of guidelines has hindered implementation.
  - The Committee recommended urgent action by the Department of Water Resources to address this issue.



### Government initiatives for Groundwater management

- **National Aquifer Mapping and Management Programme (NAQUIM):** It aims to map and manage aquifers through a multi-disciplinary approach involving geological, geophysical, hydro-geological, hydrological, and water quality studies.

### Ground Water Recharge Scenario in India 2022



- **Atal Bhujal Yojana:** It is a Central Sector Scheme, with focus on **community participation and demand side interventions** for sustainable Ground water management in **identified water stressed areas**.
- **Jal Shakti Abhiyan (JSA):** JSA (first launched in 2019) aims to **effectively harvest the monsoon rainfall** through creation of **artificial recharge structures, watershed management, intensive afforestation**, and awareness generation etc.
- **Groundwater recharging:** Schemes such as **Mahatma Gandhi National Rural Employment Guarantee Scheme** and **Pradhan Mantri Krishi Sinchayee Yojana** implement projects for **artificial recharge** of groundwater.
- **Schemes to reduce water consumption in agriculture:** Schemes such as **PMKSY-Per Drop More Crop (PDMC)** and **Mission for Integrated Development of Horticulture (MIDH)** have been brought to reduce Ground water consumption in agriculture.
  - Punjab and Haryana brought **innovative schemes** such as '**Pani Bachao Paisa Kamao**' and '**Jal Hi Jeevan/Mera Pani Meri Virasat**' etc. respectively to motivate farmers towards water conservation.
- **Guidelines to regulate groundwater:** Guidelines for regulation and control of Ground water extraction in India (2020) have been issued by CGWA with **pan-India applicability** to promote sustainable withdrawal.
- **Amrit Sarovar Mission:** The Mission is aimed at **developing and rejuvenating 75 water bodies** in each district of the country.
- **Focus on water conservation in MBBL:** MoHUA formulated **Model Building Bye Laws (MBBL), 2016** for States/UTs, wherein **adequate focus is given on rainwater harvesting and water conservation measures**.
- **Master Plan for Artificial Recharge to Groundwater (2020):** The plan prepared by the CGWB with States/UTs envisages construction of **about 1.42 crore Rainwater harvesting and artificial recharge structures in the Country**.

## Road Ahead

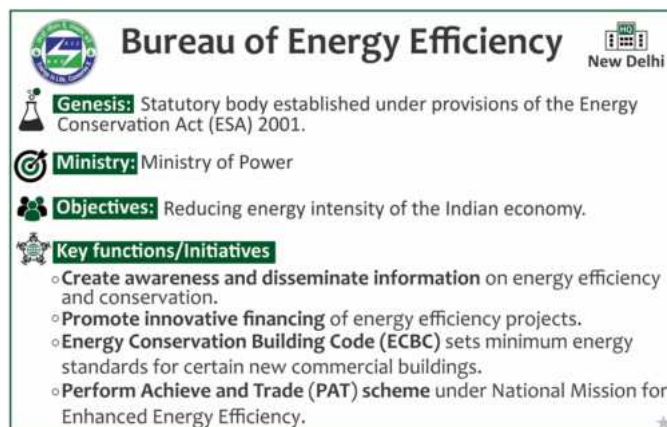
- **Creation of a central body:** Standing committee recommended to form a body with **inter-ministerial representation** as well as representation **from State Government Departments**.
  - Such a body should be entrusted with the responsibility to regulate Ground water in a **cohesive and holistic manner**.
- **From 'land productivity' to 'water productivity':** The committee recommend that water productivity i.e., production per cubic meter of water should be a major criterion in decisions relating to crop production.
  - Measures should be taken to wean **away farmers from water intensive crops** in areas with severe Ground water shortage.
- **Adopt water-sensitive urban design:** Water-sensitive **urban design and planning** can help **maintain the water cycle** by managing groundwater, surface water and rainwater for water demand and supply.
  - Also, explore **potential role of the green** (trees, parks, gardens, playgrounds, and forests) and **the blue** (seas, rivers, lakes, wetlands and water utilities) **spaces** in addressing groundwater challenges.
- **Evidence based policy making:** Availability of real time data will help in **formulation of appropriate strategy** and measures by both the Government and user communities, **suitable to the local requirements**.
- **Encouraging community participation:** Close cooperation with the **user groups/communities** is key to make Government's efforts to **conserve, augment and manage** Ground water resources **successful**.

## 5.5. NEWS IN SHORTS

### 5.5.1. STATE ENERGY EFFICIENCY INDEX (SEEI) 2021-22

- **Ministry of Power released SEEI 2021-22.**
- **SEEI assesses the annual progress of states and UTs in energy efficiency (EE) implementation.** It **improves data collection, enables cross-state collaboration, and develops EE program ideas**.
  - Index uses **51 indicators across seven sectors:** buildings, industry, municipality, transport, agriculture, distribution companies (DISCOMs), and cross-sectoral initiatives.
- Index has been developed by **Bureau of Energy Efficiency (BEE)** in collaboration with **Alliance for an Energy Efficient Economy (AEEE)**.
  - AEEE is an industry led, membership based not-for-profit organization that drives EE markets and policies in India.
- **Key Highlights**
  - Categorizes states and UTs as '**Front runner**' (>60), '**Achiever**' (50-60), '**Contender**' (30-49.5), and '**Aspirant**' (<30).
  - **States in Front Runner category:** Andhra Pradesh, Karnataka, Kerala, Rajasthan and Telangana.
  - **Telangana and Andhra Pradesh showed most improvement** since the last index.
- **Recommendations**
  - Develop and **implement State EE Action Plans**.
  - **Facilitate fiscal support for EE** by earmarking funds.
  - **Strengthen institutional capacity by appointing EE nodal officers** in all government departments and setting up EE cells in district and head offices.

- **Mainstream monitoring and reporting of energy data** through transparent online portals.



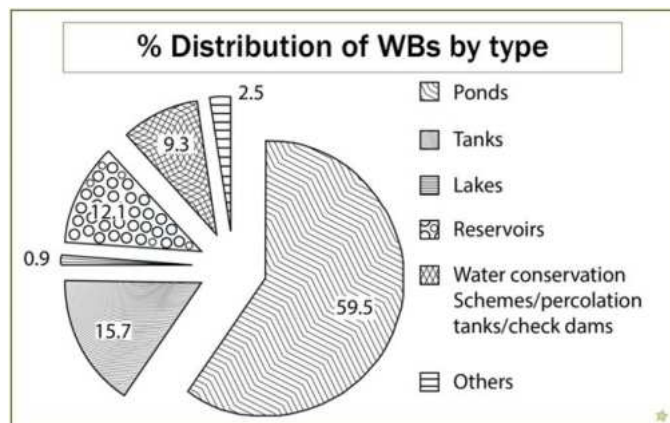
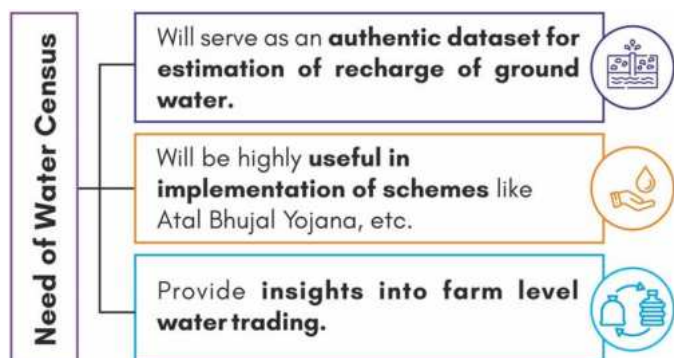
### 5.5.2. FIRST CENSUS OF WATER BODIES

- **Ministry of Jal Shakti released All India report of the first census of Water Bodies.**
- Objective is **to develop a national database for all water bodies** by collecting information on subject including their size, condition, status of encroachments, use, storage capacity, status of filling up of storage etc.
  - Census was launched in **convergence with 6th Minor Irrigation Census** under **Centrally Sponsored Scheme "Irrigation Census"**.
- Water bodies **include all natural or man-made units** bounded on all sides **with some or no masonry work used** for storing water for irrigation or other purposes (refer image for types).



- **Key highlights of the Census**

- **24.24 lakh water bodies** have been enumerated, out of which **97.1% are in rural areas** and only 2.9% are in urban areas.
- **Top 3 states with most water bodies:** West Bengal, Uttar Pradesh, Andhra Pradesh.
  - ✓ West Bengal's **South 24 Parganas district** has **highest number of waterbodies**.
- **States/UTs with least water bodies:** Sikkim, Chandigarh, Delhi.
- **78% are man-made water bodies** whereas **22% are natural** water bodies.
- **55.2% are owned by private entities** whereas rest are under public ownership.
- **Water User Associations (WUA)** has helped in preventing encroachments.



### 5.5.3. PRAYAG PLATFORM

- **PRAYAG stands for Platform for Real-time Analysis of Yamuna, Ganga and their Tributaries**
- Prayag is a **real time monitoring centre for planning and monitoring of projects, river water quality, etc.** through various online dashboards such as Ganga Tarang Portal, Ganga Districts Performance Monitoring System, etc.
- **Launched by: Ministry of Jal Shakti**, Under the ambit of Namami Gange Programme (NGP).
- NGP, under **Ministry of Jal shakti**, is an integrated conservation mission to accomplish objectives of

effective abatement of pollution, conservation and rejuvenation of Ganga.

- It was **launched in 2014** and now **extended till 2026**.
- There is **no State-wise allocation** under NGP.
- Under NGP, **Central Pollution Control Board is carrying out studies for water quality assessment** of River Ganga.



### 5.5.4. ECO-SENSITIVE ZONES (ESZ)

- **Supreme Court (SC) modified order on eco-sensitive zones (ESZ)** around protected forests
- **Modifying its June 2022 order** that mandated a **minimum 1-km ESZ around national parks or wildlife sanctuaries**, SC stated that **ESZ cannot be uniform across the country** and has to be **“protected area-specific”**.
  - Earlier, Centre and several States had **sought modification of the order** as it affected villages in the peripheries of forests.
- **Significance of ESZ**
  - **Create a kind of shock-absorber** around protected areas
  - **Minimize impact of urbanization** and other developmental activities
  - Helps in **in-situ conservation**
  - **Minimise man-animal conflict**
- **Key highlights of modified order**
  - **2022 order will not be applicable:**
    - ✓ **To ESZs for which draft and final notifications have been issued** by Ministry of Environment, Forests and Climate Change (MoEF&CC) and in respect of **proposals which have been received** by Ministry.
    - ✓ **Where national parks and sanctuaries are located on inter-state borders** or share common boundaries.
  - **No mining would be allowed**, either within national parks and sanctuaries or in a 1-km radius.
  - **Any developmental activities undertaken** within ESZs **should follow the MoEF&CC 2011 guidelines** and also provisions of the 2022 Office Memorandum by MoEF&CC.

- ESZ are **ecologically important and fragile areas around protected areas** designated under Environment Protection Act (EPA), 1986.
  - As per **National Wildlife Action Plan (2002-2016)**, **land within 10 km of boundaries** of national parks and wildlife sanctuaries is **to be notified as ESZ**.

#### 5.5.5. PROSOPIS CHILENSIS

- As per the study *Prosopis chilensis*, an alien invasive plant is **threatening to pulverize native vegetation across 21 islands in the Gulf of Mannar Biosphere Reserve (GoMBR)**.
- About *Prosopis chilensis*:**
  - It is a **drought-resistant plant native to the arid regions** of four South American countries namely Argentina, Bolivia, Chile, and Peru.
  - It is a **small to medium-sized legume tree** that grows up to 12 m in height and 1 m in diameter.
  - The *Prosopis chilensis* is also **known as Chilean mesquite**.
- The **GoMBR, India's first marine biosphere reserve**, is one of the important habitats for coastal birds migrating from the Arctic Circle.

#### 5.5.6. ENVIRONMENT STATISTICS 2023

- Recently, **Volume 1 of Environment statistics 2023** was released by Ministry of Statistics and Programme Implementation (MoSPI).
- Key findings**
  - In 2022, **annual rainfall measured in India has increased** in comparison to 2021.
  - In 2022, **maximum heatwave days were reported in Rajasthan**, followed by Punjab and Haryana, Jharkhand, and Delhi.
    - Notably, **Assam and Himachal Pradesh have not reported a heatwave day** since 2010.
  - Number of cyclonic storms experienced by North Indian Ocean (NIO) increased** substantially in 2018 which persisted in subsequent year but **again reduced in 2022**.

#### 5.5.7. AGRIFOOD SYSTEMS

- The **status of women in agrifood systems report** released by Food and Agriculture Organization of the United Nations (FAO).
- Key Highlights of the report**
  - Globally, **36% of working women are employed in agrifood systems**, along with 38% of working men.
  - Agrifood systems are a **more important source of livelihood for women** than for men in many countries.
  - Women's roles tend to be marginalized** and their **working conditions are likely to be worse** than

men's –irregular, informal, part-time, low-skilled, or labour-intensive.

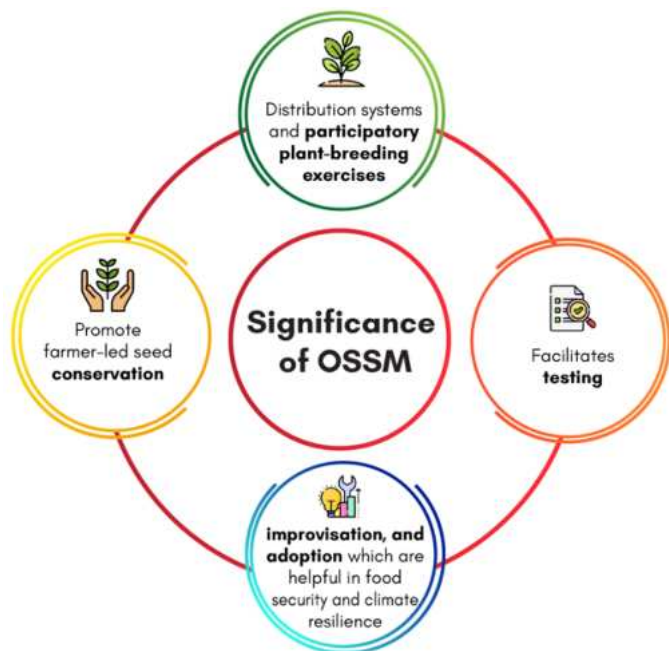
- Women also have **less secure tenure over land, less access to credit and training**, and have to **work with technology designed for men**.
- Women's equality in agrifood systems could boost the global economy by \$1 trillion, reduce food insecurity by 45 million**.
- FAO defines agrifood systems as:** entire range of actors, and their **interlinked value-adding activities**, engaged in the **primary production of food and non-food agricultural products**, as well as in **storage, aggregation, post-harvest handling, transportation, processing, distribution, marketing, disposal and consumption of all food products including those of non-agricultural origin**.



#### 5.5.8. OPEN-SOURCE SEEDS MOVEMENT (OSSM)

- OSSM affirms that **plant genetics and their physical traits cannot/shouldn't be owned by individuals or corporation**.
  - Genetics of open source seeds are **protected and pledged to forever remain in public domain**.
  - This is done by **providing new varieties with an open-source licence** which provides:
    - Anyone **may use it, grow it, propagate it and develop it further through breeding**.
    - No one is allowed to **privatise the seed and its further developments**; **patent and plant-variety protection** are thus excluded.
    - Each recipient **transfers same rights and obligations to future users** of seed and its further developments.
- Concern:** Lack of **IPR (Intellectual Property Rights)** discourages innovators to invest in new technology.
- IPR in agriculture in India**
  - India Patent Act 1970** provides **patents for agricultural tools and machinery or processes of development of agricultural chemicals**.

- **Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001** provides rights to farmer who has **bred or developed new variety**.
  - ✓ It's the world's only IPR legislation which **grants IPR to plant breeders and farmers by protecting new, extant and farmers' varieties**.



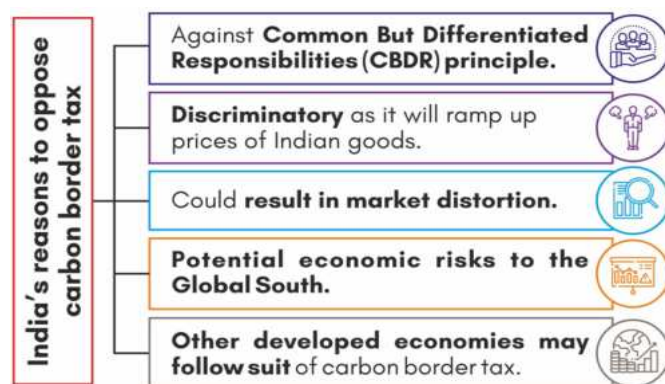
### 5.5.9. FLY-ASH

- First evidence of **industrial fly-ash in an Antarctic ice core**.
- **Spheroidal carbonaceous particles (SCP)**, a component of fly ash, have been identified by researchers for the first time in an Antarctic ice core, which are dated back to 1936.
  - SCPs have **no other anthropogenic or natural sources other than fossil fuel combustion**. Thus, they are an unambiguous environmental indicator of industrialisation.
- **Fly Ash is a fine powder**, which is the **by-product of burning coal in Thermal Power Stations (TPS)**.
  - **Indian coal is of low grade with ash content of 30-45 %**, in comparison to imported coal (10-15%).
  - Fly ash disposal not only **requires large area of land** but is also **pollutes air and water**.
  - It **resembles Portland cement but it is chemically different**.
  - Fly ash is **toxic due to organic pollutants, heavy metals etc.**
- **Composition:** Substantial amounts of **oxides of silica, aluminium and calcium**. Arsenic, Boron, Chromium, lead etc. in trace concentrations.
- **Uses of fly ash:** **Agriculture** (improves water holding capacity and soil aeration), **Construction industry** (manufacturing of cement, bricks etc.).

- **Government measures**
  - Mobile app for ash management-**ASH TRACK**.
  - **Mandatory use of fly ash-based products** in all Government schemes e.g. Pradhan Mantri Gramin Sadak Yojana.
  - **Maharashtra became first state to adopt Fly Ash Utilisation Policy, 2016**.

### 5.5.10. CARBON MARKET REFORMS

- **European Union (EU) lawmakers adopted carbon market reform**.
- These adopted measures are part of the EU's **Fit for 55 package**.
  - **Fit for 55** refers to the EU's target of reducing net greenhouse gas emissions by **at least 55% by 2030 from 1990 levels** and achieve net zero emissions by 2050.
- **Measures adopted**
  - **Social Climate Fund** will support people in Europe with the costs of transitions.
  - **Reforming Emission Trading System (ETS):** European industries and energy companies should cut emissions by 62 % by 2030 compared to 2005 levels, compared to previous target of 43%.
  - **Carbon Border Adjustment Mechanism (CBAM):** To put a **tax on foreign company imports** which does not meet EU's climate protection standards.
    - ✓ **Goods covered by CBAM** are iron, steel, cement, aluminium, fertilisers, electricity and hydrogen etc.
    - ✓ Under this, **importers must purchase carbon certificates equivalent** to the EU's carbon pricing rules.
    - ✓ EU importers can **claim CBAM liability deductions** if **non-EU producers** have already paid emissions fees in their respective countries.



### 5.5.11. MISSION 50K-EV4ECO

- **Small Industries Development Bank of India (SIDBI)** has launched a pilot scheme called **Mission 50K-EV4ECO**.



- The mission aims to strengthen the Electric Vehicle (EV) ecosystem in India by financing EVs purchase through direct and indirect lending to **Micro, Small and Medium Enterprises (MSMEs)** and NBFCs respectively.
- It will serve as precursor to **SIDBI-World Bank's EVOLVE programme**
- **SIDBI is a statutory body** established in **1990** as the principal financial institution for promotion, financing & development of the **MSME sector**.
  - It works under **Ministry of Finance**.

#### 5.5.12. SEA SURFACE TEMPERATURE (SST)

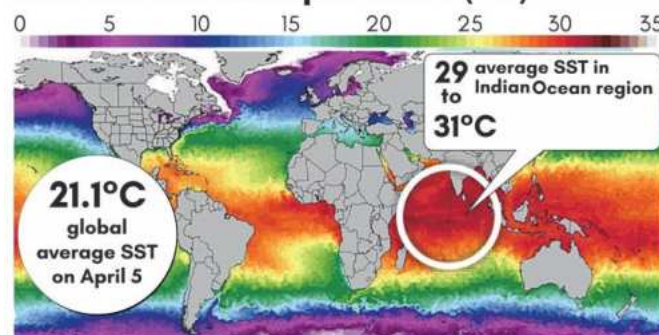
- The **global average** Sea Surface Temperature (SST) reached **21.1° Celsius (C)**, highest in recorded history, according to data released by **Climate Change Institute at University of Maine**.
  - In the **Indian Ocean**, it was **29 to 31° C** on **April 16** - which is **1-2° C above normal**.
  - Due to this, there are patches of **strong marine heat waves** over the **south Arabian Sea** and **Bay of Bengal**.
- **SST is the water temperature close to the ocean's surface**.
  - It varies mainly with **latitude**, **warmest** near **equator** and **coldest** at **poles**.
  - It provides **fundamental information** on the **global climate system**.
  - It helps in the **study of marine ecosystems**, **weather prediction** and **atmospheric model simulations**; including the onset of **El Niño** and **La Niña cycles**, i.e. the
- **Reasons Behind SST Rise:** Global Warming (Climate Change), high solar radiation combined with certain ocean dynamics etc.
- **Impact:**
  - Helping in the **onset of Monsoon** and **rain** through development of **low-pressure systems**,
  - **Coral Bleaching** and **Fish mortality**.

##### Related Information

- Scientists use Ocean mean temperature (OMT), measured up to a 26-degree C isotherm depth, to **predict the Indian summer monsoon**.
- **26 degrees C isotherm is seen at depths varying from 50–100 meters**.

- Contrary to this, **SST gives information only about the thin upper layer of the ocean** and does not reflect the thermal energy available in the upper ocean.

#### Sea Surface temperature (°C)



#### 5.5.13. UPWARD LIGHTNING OR UPWARD FLASHES

- Brazilian researchers recently succeeded in taking pictures of upward lightning.
- **Upward lightning** is a phenomenon whereby a **self-initiated lightning streak develops from a tall object** that travels **upward toward an overlying electrified storm cloud**.
- For this to happen, **storm electrification** and the **resulting presence of a cloud charge region** are enabling factors:
  - The **vertical elevation of a tall object accentuates the electric field locally on the ground**.
  - This results in **conditions favourable for the initiation of an upward streak (called a leader) from a tall object**.

#### 5.5.14. ANIMAL BIRTH CONTROL RULES, 2023

- Ministry of Fisheries, Animal Husbandry and Dairying has notified the **Animal Birth Control Rules, 2023** under **Prevention of Cruelty to Animal Act, 1960**.
- **As per rules:**
  - **Animal Birth Control (ABC) programmes** for the sterilisation and immunisation of stray dogs are to be carried out by the respective local bodies/municipalities etc.
  - Animal birth control programme should be run by an Animal Welfare Board **accredited organization**.
  - Municipal Corporations need to implement the **ABC and Anti Rabies Program jointly**.



**SMART QUIZ**

You can scan this QR code to practice the Smart Quiz of Environment at our open test online platform for testing your understanding and recalling of the concepts.



## 6. SOCIAL ISSUES

### 6.1. NATIONAL CURRICULUM FRAMEWORK FOR SCHOOL EDUCATION (NCFSE)

#### Why in News?

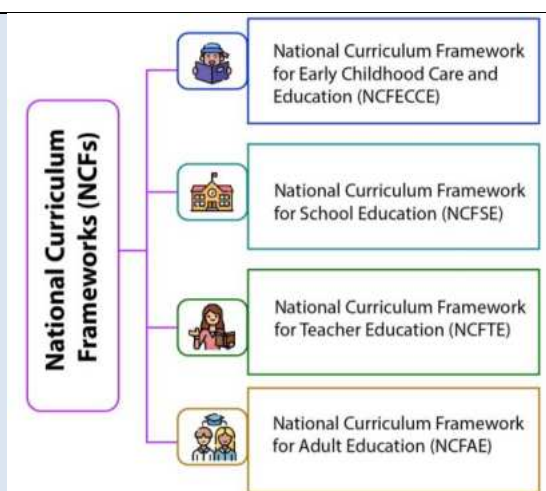
The **Ministry of Education (MoE)** released the **pre-draft of the National Curriculum Framework for School Education (NCFSE)** for public feedback.

#### About Proposed National Curriculum Framework for School Education (NCFSE)

- NCFSE is intended to guide the **development of textbooks and curriculum in accordance with the National Education Policy (NEP) 2020**.
  - The **NCFSE was last revised in 2005** and the existing sets of NCERT text books were prepared using it.
- Proposed NCFSE is **for the age group 3 to 18 years**.
- The NCFSE, after its adoption by the CBSE and other state boards, **will also restructure various other aspects of the classroom, including choice of subjects, pattern of teaching, and assessment of students**.

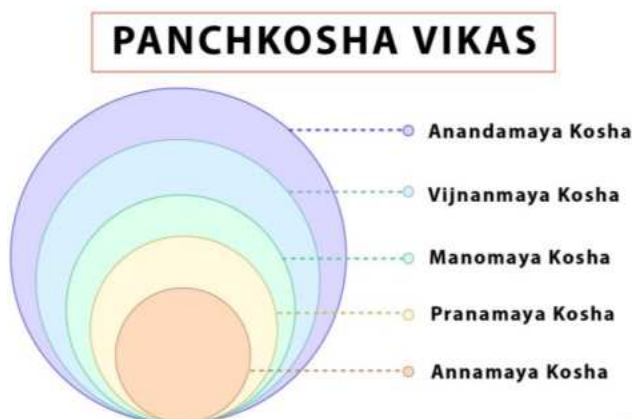
#### National Curriculum Framework (NCF) & National Education Policy (NEP) 2020

- NEP is a comprehensive framework to guide the **development of education in the country**.
  - It guides the development of education and provides **directions for regulating and promoting education**.
- NEP 2020 aims to **devise 4 National Curriculum Frameworks (NCFs)**, for which a comprehensive strategy has been worked out jointly by the MoE and National Council of Educational Research and Training (NCERT).
- National Steering Committee under the **Chairpersonship of Dr. K. Kasturirangan** was set up by the MoE to undertake and guide the development of NCFs.
- The NCF **addresses education for the age group 3 to 18 years**, across the entire range of diverse institutions in India.
  - This is across the **four Stages in the 5+3+3+4 Curricular and Pedagogical restructuring of School Education** as envisioned in NEP 2020.
- National Curriculum Framework for Early Childhood Care and Education (NCFECE)** is already prepared and the rest NCF for teacher education and adult education are underway.
- The NCF brings to life **the aims and commitments of the NEP like**
  - Includes the full range of human capacities, values and dispositions** that are aimed to be developed in school education.
  - Pedagogy, practices, and culture must work in tandem to develop these**, and move away from an overemphasis on memorization and content accumulation; in fact, content reduction is required to create space for such development.
  - Integrative and holistic with equal status to all subjects and learning domains** from Math to Sports.
  - Confronts and address real challenges** facing our countries' education system.



#### Proposed Curriculum Changes

- Class wise approach**
  - For Children aged 3-8 (preschool to class II)**, a play based pedagogical approach using toys, puzzles, and manipulatives is suggested.
  - For the middle stage (class VI, VII, VIII)**, natural as well as social sciences will be introduced. **The textbooks are to play a central role from the Middle Stage.**
  - For class IX and X**, the students are to study 16 courses categorised under eight varied curricular areas and will have to clear eight papers to obtain the final certification.



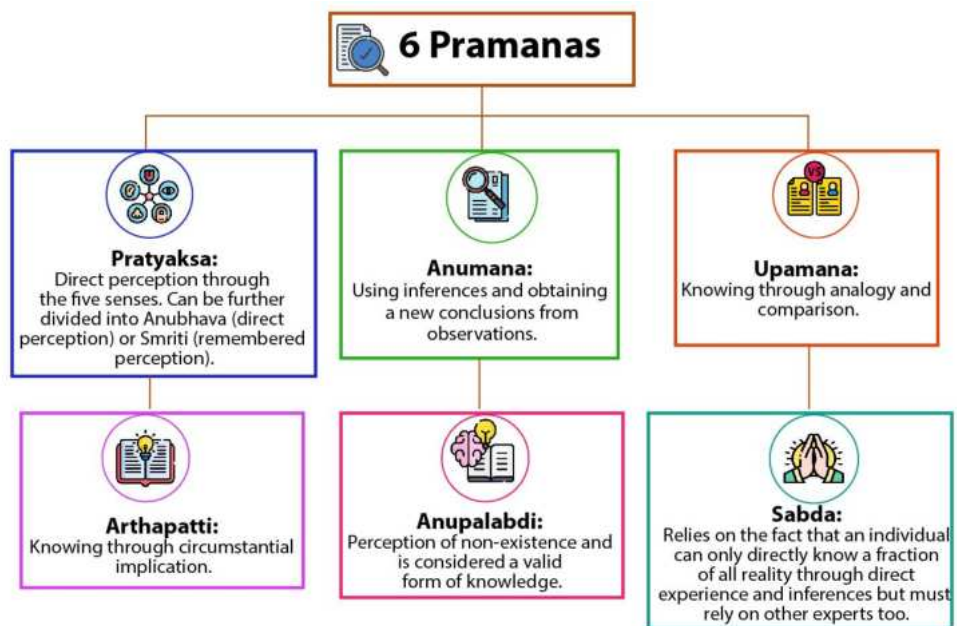
- ✓ The suggested curricular areas are **Humanities (that includes languages), Mathematics & Computing, Vocational Education, Physical Education, Arts, Social Science, Science, and Inter-disciplinary Areas.**

- **For class XI and XII**, choice based courses from the same disciplines are provided and **semester system of examination with cumulative grade points is to be introduced for class XII.**
- **No hard separation among arts, humanities, and sciences:** There is to be no hard separation among arts, humanities, and sciences, the students are provided with the opportunity of pursuing subjects under mixed background.
- **Academic year and School Schedule:** The NCFSE provides for a specific framework, suggesting that the academic year should be 180 school days or 34 weeks across all stages of education.
  - **It calls for a five and half day week schedule with 29 working hours** for students, with periods of 40 mins (Upto Class VIII) and 50 mins (from Class IX).
- **Other Recommendations:**
  - **Modular Board Examinations** will be offered as opposed to a single examination at the end of the year.
  - The pre-draft NCF proposes **the integration of ancient Indian knowledge systems**, such as the **6 pramanas** (ways of acquiring knowledge) and the **Panchakosha system** for Moral Development described in the Taittiriya Upanishad.

The draft has proposed ways through which the Indian education system could be fine-tuned to meet the needs of the current and future trends, without missing away from our roots but adapting ourselves to the growing demands of a pluralistic world.

#### Importance Of NCF for School Education

- **Holistic in nature:** Students are provided the opportunity to pursue a variety of subjects under different streams.
- **Imbibes Cultural Connect:** The curriculum's goal is to make the students understand their cultural connect better, so as to relish and propagate it better.
- **Imparts Equality:** It advocates against the discriminations based on caste, gender, religion, socio-economic conditions, student performance in the campus.
- **Improved learning levels:** The Semester based approach reduces the anxiety created due to one-time board exams and helps the students prepare and learn better.
- **Ideal for the Country's future:** The pedagogy is not only designed to make the student learn better but also to make him a law abiding ideal citizen.



Scan the QR code to know more about **School Education.**

**Weekly Focus #56:** School Education: Mind is a Tabula Rasa





## 6.2. NATIONAL CREDIT FRAMEWORK (NCRF)

### Why in News?

The **University Grants Commission (UGC)** has recently released the **National Credit Framework (NCrF)**.

### Background of NCrF

- To realise objectives of **National Education Policy (NEP) 2020**, Centre approved a **High-Level Committee (2021)** to develop a **National Credit Accumulation and Transfer Framework** for both General and Vocational Education and Training/skilling.
- NCrF has been jointly developed by a High-Level Committee** with members from UGC, All India Council for Technical Education (AICTE), National Council for Vocational Education and Training (NCVT), NCERT, Ministry of Education, Ministry of Skill Development and Entrepreneurship, CBSE, etc.

### About National Credit Framework (NCrF)

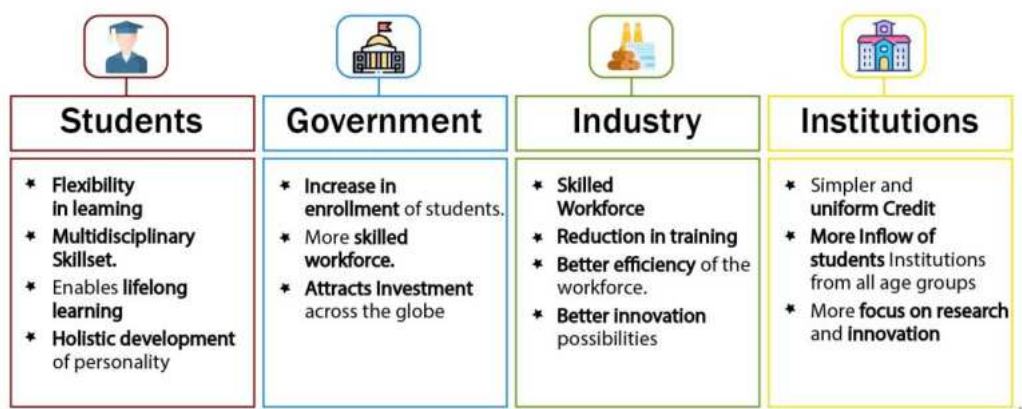
- It is an **inclusive one single meta framework to seamlessly integrate the credits earned** through school education, higher education and vocational & skill education.
- For creditization and integration of all learning**, the National Credit Framework (NCrF) shall encompass the qualification frameworks for higher education, vocational & skill education and school education, namely:
  - National Higher Education Qualification Framework (NHEQF)**,
  - National Skills Qualification Framework (NSQF)**
  - National Curriculum Framework (NCF)/ National School Education Qualification Framework (NSEQF)**.
- It **seeks to integrate the credits earned** through school education, higher education and vocational & skill education **to ensure flexibility and mobility among them**.
  - It will **provide the guideline to be followed** by schools, colleges and universities **in adopting the credit system**.
- It **makes the education more holistic by** enabling broad based, multi-disciplinary education across sciences, social sciences, arts, humanities and sports.
- The Framework has been built on the strength of existing regulations, guidelines and qualification frameworks as being followed by IITs, IIMs, NITs and other Institutes of National Importance so that the options for Multiple Entry-Multiple Exit (ME-ME) are available, accessible and applicable across the higher education, school education and vocational education.
- It aims to provide skills and in-hand experience to the students regarding various industries that enable them to acquire better knowledge and skillset making them more suitable for the needs of the industries.



### Key Highlights of NCrF

- Credit system:** It divides education into 8 levels where levels 1-4 refer to the School Education and 4.5-8 refers to Higher education and for Vocational education & training from level 1 to 8.
  - The credits earned after the completion of academic education,

### Benefits of NCrF



vocational education, training & Skill education - **the collected credits will be stored in the Academic Bank of Credits (ABC).**

- **Different means to earn Credit:** A student can earn credit by three different means:
  - By completing academic education,
  - By undergoing vocational education, training or skill programme,
  - By taking up experiential learning, such as relevant experience and proficiency levels acquired from industries.
- **Integration of earned Credits:** It aims **to integrate the credits earned through schools, colleges, vocational and skill education** by encompassing the NHEQF, NSQF and NSEQF.
- **Multiple Entry and Exit Options:** It **enables lifelong learning** through multiple entry and exit Options as credit transfer mechanism will **enable a student to enter, exit and re-enter the educational ecosystem at any point of time during his/her career.**
  - The Framework has been built **on the strength of existing regulations, guidelines and qualification** frameworks as being followed by IITs, IIMs, NITs and other Institutes of National Importance.
- **Concept of Notional Learning Hours:** It refers to **the time that an average student needs to attend all classes, appear for tests and submit assignments.**
  - The total notional learning hours for school, college, vocational and skill education is **fixed at 1200 Hrs/Year.**

## Conclusion

NCRf is a necessary step to make the NEP more effective, so that the real benefits of the demographic dividend can be reaped to transform India in all aspects.

## 6.3. 7<sup>TH</sup> NATIONAL HEALTH ACCOUNTS (NHA) ESTIMATES (FOR 2019-20)

### Why in news?

Recently, 7<sup>th</sup> National Health Accounts (NHA) Estimates (for 2019-20) were released.

### About National Health Accounts (NHA) Estimates

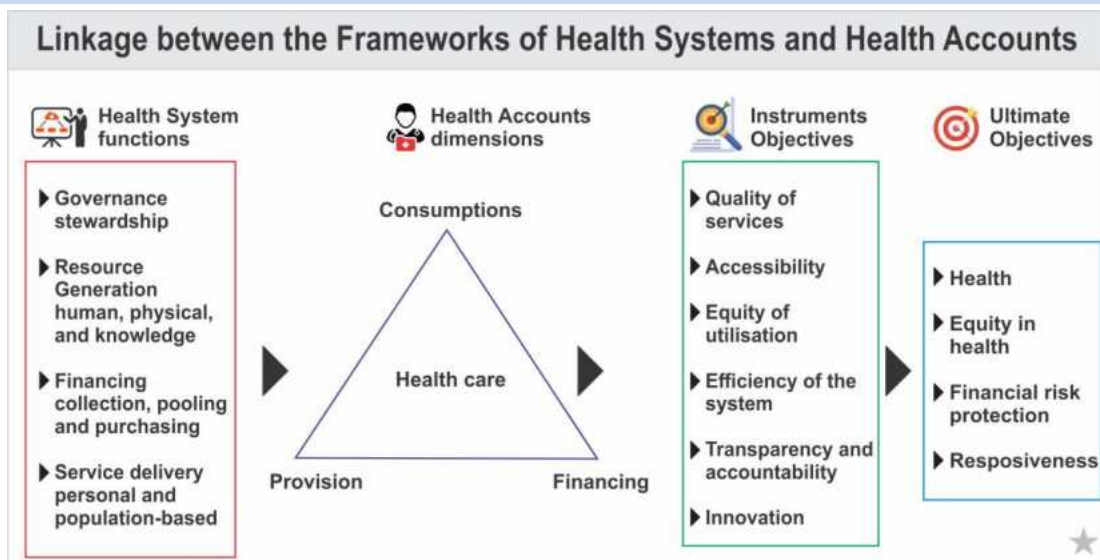
- **Released by:** the Ministry of Health and Family Welfare (MoH&FW).
- **Prepared by:** National Health

Accounts Technical Secretariat (NHATS) with guidance and support from NHA Steering Committee and the NHA Expert Group for India.

- These estimates **enable policymakers to monitor** the progress in **different health financing indicators** of the country.
- NHA for India was envisaged in the **National Health Policy, 2002** and is based on the framework of **System of Health Accounts, 2011.**

### Key Findings:

Health Indicator	Trend 2019-20 (In comparison to 2013-14)	Key Information
<b>Total Health Expenditure (THE) as a percent of GDP and Per Capita</b>	<ul style="list-style-type: none"> <li>• THE as <b>declined</b> from 4% to 3.3%.</li> <li>• THE <b>per capita increased</b> to ₹4,863 from ₹3,638.</li> </ul>	THE constitutes <b>current</b> and <b>capital expenditures</b> incurred by <b>Government</b> and <b>Private</b> Sources including External funds.



<b>Current Health Expenditure (CHE) as a percent of THE</b>	<b>Declined</b> from 93% to 90.52%.	CHE <b>constitutes</b> only <b>recurrent</b> (operational) expenditures for healthcare.
<b>Government Health Expenditure (GHE) as a percent of THE</b>	<b>Increased</b> from 28.6% to 41.41%.	GHE constitutes spending under all schemes funded and managed by <b>Union, State, and Local Governments</b> including quasi-Governmental organizations etc.
<b>Out-of-Pocket Expenditure (OOPE) as a percent of THE</b>	<b>Declined</b> from 64.2% to 47.1%.	<b>OOPE</b> are expenditures directly made by <b>households</b> .
<b>Share of Social Security Expenditure (SSE) on health as a percent of THE</b>	<b>Increased</b> from 6% to 9.3%	SSE includes <b>social health insurance program</b> , government-financed health insurance schemes, etc. made to the government employees.
<b>Private Health Insurance Expenditures as a percent of THE</b>	<b>Increased</b> from 3.4 % to 7.0%	It <b>constitutes</b> spending <b>through</b> health insurance Companies.
<b>External/ Donor Funding for health as percent of THE</b>	<b>Increased</b> from 0.3% to 0.5%	It constitutes all funding available to the <b>country by assistance from donors</b> .

### System of Health Accounts (SHA) 2011

- It provides a standard for **classifying health expenditures** according to the three axes of **consumption, provision, and financing**.
- This framework is drafted by an intense collaboration between **Organisation for Economic Co-operation and Development (OECD)**, **EUROSTAT**, and **World Health Organisation (WHO)**, and supported by a wide-world consultation process.
- It gives **guidance** and **methodological** support in **compiling health accounts**.
- **Purpose:**
  - To provide a **framework** of the **main aggregates relevant** to **international comparisons** of **health expenditures** and **health systems** analysis.
  - To provide a tool, expandable by individual countries, which can produce useful data in the monitoring and analysis of the health system.
  - To define internationally harmonized boundaries of health care for tracking expenditure on consumption.


## 6.4. STATE OF WORLD POPULATION REPORT 2023

### Why in News?

The **United Nations Population fund (UNFPA)**, has released the **State of World Population report 2023: 8 Billion lives infinite possibilities**


### More about News

- This report is an **annual report published by the UNFPA** covering and analyses developments and trends in world population and demographics.
- It also sheds **light on specific regions, countries and population groups** and the unique challenges they face.



## The United Nations Population fund (UNFPA)

HQ: New York



**Genesis:** Created in **1968**, it is an international development agency to **support the execution of projects and programmes in the area of population and sexual and reproductive health**.

**Function:** UNFPA calls for the **realization of reproductive rights** for all and supports access to a **wide range of sexual and reproductive health services** – including voluntary family planning, maternal health care and comprehensive sexuality education.

- Its mandate is established by the **United Nations Economic and Social Council (ECOSOC)**.
- It is **working with governments, partners and other UN agencies** to directly tackle many of **SDGs**:
  - **Goal 3** on health.
  - **Goal 4** on education.
  - **Goal 5** on gender equality.



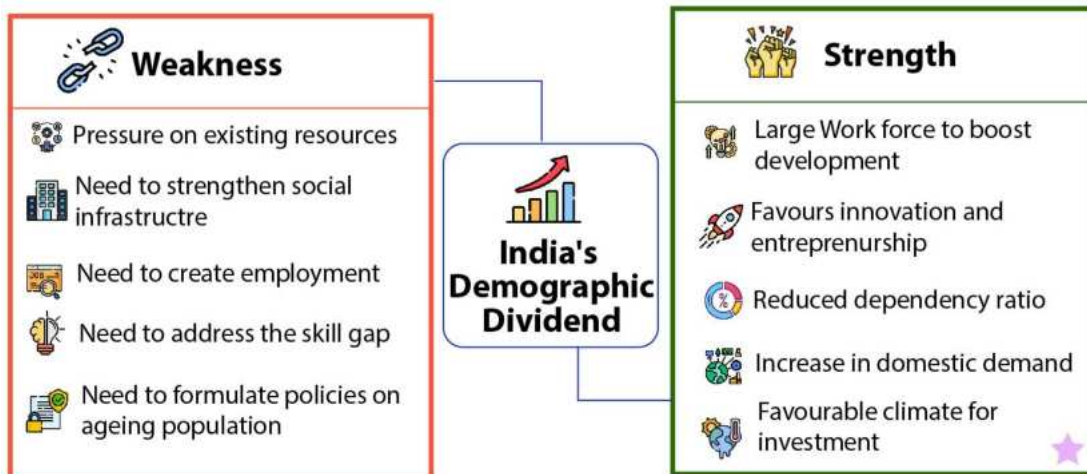
- 2023 report discusses the **milestone of 8 billion recently reached by the human population** and the narratives surrounding population change

#### Key findings with respect to India

- **Most populous country:** India's population is set to reach **1428.6 mn by mid-2023**, thereby replacing **China as the most populous country (1425.7 mn)**.
- **One of the Youngest Countries:** Around **68% of India's population is of the age group 15-64 years** and around **26% of the population fall between 10-24 years**, making India one of the youngest countries.
- **Set to raise old age population:** Currently **7% of the Indian population is above 65 years** and this proportion is set to increase gradually.
- **Falling fertility rate:** The **Total Fertility rate currently stands at 2.0**, which has fallen from 2.2 in 2015-16.
- **Improved life expectancy:** The **average life expectancy of an Indian male is 71 years** and that of **Indian female is 74 years**.

#### Other Key findings:

- The **Global life expectancy has reached 72.8 years in 2019** and expected to reach **77.2 years by 2050**.
- **Migration is predicted to be the sole driver of population growth in many high income countries.**
- **Eight countries** namely Egypt, Ethiopia, **India**, Nigeria, Pakistan, Philippines, Tanzania, Democratic Republic of Congo are **set to provide more than 50% of the projected global population by 2050**.



#### Suggestions provided

- **Ensuring gender equality, empowerment and advancing greater bodily autonomy** for women and girls—is one of the key determinants of a sustainable future.
- With almost half the population under 25 years of age, India has a time-bound opportunity to benefit from the demographic dividend. The focus should be on **giving women more power to control when and how they have children**.
- Report strongly recommends governments institute policies with gender equality and rights at their heart, such as **parental leave programmes, child tax credits, policies that promote gender equality in the workplace**, and universal access to sexual and reproductive health and rights.

## 6.5. GLOBAL FOOD POLICY REPORT 2023

#### Why in News?

**International Food Policy Research Institute (IFPRI)** has recently released the **Global food policy report 2023: Rethinking food crisis responses**.

#### Key Highlights of the report

2023 Report explores a **growing body of evidence on how diverse policy responses can reduce both the immediate and longer-term impacts of food crises**, and improve livelihoods, incomes, and food security and nutrition for the future.

- **Food insecurity:** Food insecurity has raised during 2020-2022 due to multiple crises such as COVID-19 pandemic, climate change, natural disasters along with civil unrest and political instability.

- **With climate change, as many as 72 million more people** will be undernourished by 2050.
- **Stagnation of Global Development Progress:** Global development progress has stagnated and even reversed in some regions, fueled by the outbreak of the pandemic, thereby **affecting both the quantity and quality of available food**.
- **Surge in Food Prices:** Food prices surged in 2021-22 due to supply bottlenecks of COVID-19 recovery and the Russia-Ukraine war, with basic food basket prices increasing by at least 10% in many countries, making food unaffordable to many.
- **Women's Underrepresentation in Disaster Management:** Women's voices are rarely heard in disaster management, and they are not involved in the design of projects, despite evidence that their participation can improve outcomes.
- **Displaced Populations Facing Hunger and Malnutrition:** About four-fifths of displaced people in the world have experienced acute hunger and malnutrition.



**International Food Policy Research Institute (IFPRI)**



**Genesis:**

**Established in 1975**, it is spread over 70 countries and is the **major research centre of Consultative group on International Agricultural Research (CGIAR)**.

- **CGIAR is a global partnership established in 1971 as a unified international organization engaged in research for a food secured future.**



**Vision and Mission:**

To create a **world free of hunger and malnutrition**, to provide research based **policy solution for reducing poverty, end hunger and malnutrition**.



**Function:**

Fostering **Climate-Resilient and Sustainable Food Supply**, Promoting **Healthy Diets and Nutrition for All**, Building **Inclusive and Efficient Markets** and Food Industry, **Transforming Agricultural and Rural Economies**, Strengthening Institutions and Governance.



**Recommendations**

Areas	Measures
<b>Proactive response to food system shocks</b>	<ul style="list-style-type: none"> <li>● More proactive response to food system shocks with <b>focus on three key areas</b>: <ul style="list-style-type: none"> <li>○ Crisis prediction and preparation;</li> <li>○ building resilience before and during crises; and</li> <li>○ making crisis response supportive and inclusive of women, forced migrants and other vulnerable groups.</li> </ul> </li> </ul>
<b>Risk Monitoring</b>	<ul style="list-style-type: none"> <li>● <b>Revise protocol for declaration of a famine</b> to ensure it is <b>operational in conflict-affected locations</b>.</li> <li>● Also, a <b>better integration of existing agricultural early warning systems</b> with the acute food insecurity warning systems is critical for any country.</li> </ul>
<b>Humanitarian Response</b>	<ul style="list-style-type: none"> <li>● <b>Support interventions</b> that reflect <b>humanitarian–development– peace nexus</b>, such as nutrition-sensitive programming, use of local procurement etc.</li> <li>● <b>Empowering women in crisis situations is crucial</b>; they shoulder a disproportionate share of negative impacts.</li> </ul>
<b>Building resilient food systems</b>	<ul style="list-style-type: none"> <li>● <b>Tailor crisis response to type of shock</b>, particular context and value chain.</li> <li>● <b>Invest in improved and innovative technologies</b> and tools that build resilience, such as <b>climate-smart agriculture and index-based insurance</b>.</li> </ul>
<b>Adaptive safety nets for crisis recovery</b>	<ul style="list-style-type: none"> <li>● <b>Invest in incorporating shock-responsive designs into social protection</b> programming such as investment in monitoring and in predictive early warning systems.</li> <li>● Improve <b>coordination between emergency humanitarian aid</b> and <b>pre-existing social protection programs</b>.</li> </ul>
<b>Emphasizing Social Protection Systems</b>	<ul style="list-style-type: none"> <li>● <b>Provide more focus on social protection systems</b> as they will build resilience prior to a crisis and facilitate better crisis recovery.</li> </ul>

## 6.6. NEWS IN SHORTS

### 6.6.1. TRIPLE THREAT REPORT

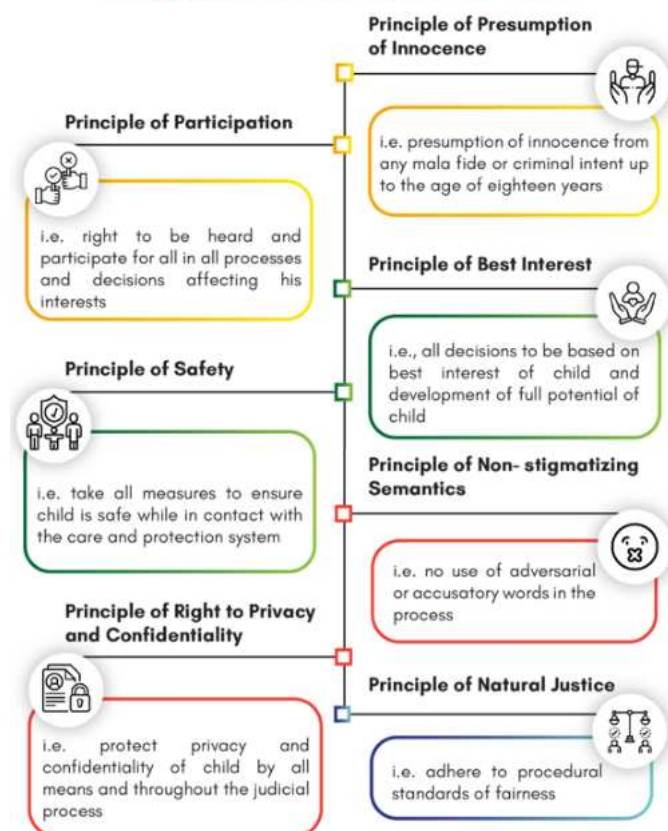
- Report, by United Nations Children's Fund (UNICEF), examines **"triple burden" of Water, Sanitation and Hygiene (WASH) related threats** faced by children.
  - WASH is a collective term to **access safe drinking water, improved sanitation facilities, and maintain basic level of hygiene.**
- Triple threat/burden is defined as**
  - Less than 50 percent access to at least basic water or sanitation services.**
  - Within **top 20 countries with highest burden of deaths** attributable to **unsafe WASH among children under 5.**
  - Within **top 25 percent of countries** facing **highest risk of climate and environmental hazards** in UNICEF's Children's Climate Risk Index (CCRI). (refer image)
- Key findings of report**
  - Globally, 600 million children still **lack safely managed drinking water**, 1.1 billion **lack safely managed sanitation** and 689 million **lack basic hygiene service.**
  - Unsafe WASH led to 4 lakh children deaths under age of 5** each year.
  - Triple burden is **heavily concentrated in 10 countries in sub-Saharan Africa.**
- Recommendations**
  - Scale up current investment** to meet WASH-related SDG targets by 2030.
  - Strengthen resilience** in WASH sector and communities.
  - Increase effective and accountable coordination** and capacities to provide water and sanitation services.

#### Major Climate and Environmental Risk Factor for Children



- National Commission for Protection of Child Rights (NCPCR) issued guidelines** for assessment of child suspects
- In compliance with Supreme Court directive** (in Barun Chandra Thakur vs Master Bholu, 2022 case), **Guidelines will enable Juvenile Justice Board (JJB) to conduct Preliminary Assessment** to
  - Determine **whether a child should be treated as a minor or not** in criminal cases **which come under "heinous" offences category** of Juvenile Justice (Care and Protection of Children) Act (JJ ACT), 2015.
- Although **JJ Act defines child** as a person who has **not completed 18 years of age**, in **2015** it was amended to add a provision wherein a child in **age group of 16-18 years** could be **tried as an adult** in case of **heinous offenses.**
  - JJB** carries assessment to **determine whether to try such a child as an adult or a minor.**

### Principles followed for the Implementation of JJ Act



### 6.6.2. ASSESSMENT OF CHILD SUSPECTS

- Key highlights of Guidelines**
  - General Principles:** Follow **fundamental principles** which guide JJ Act implementation (refer box for major principles under it).





- **Preliminary Assessment Purpose:** Determine age and four determinants, i.e. **Physical capacity** of child, **mental capacity**, **circumstances**, and **ability to understand consequences** of alleged offence.
- **Role of JJB:** solely responsible for assessment and can take assistance from child psychologists etc.
- **Completion of Preliminary Assessment:** Within a period of three months.


**child** under provisions of Surrogacy (Regulation) Act, 2021.

- Act allows **only altruistic surrogacy** and **penalises commercial surrogacy**.
- **The triple test**
  - **Genetic test** for husband to ensure **child is not born with any disorder**.
  - **Physical test** for couple to ascertain their **capacity to manage the child**
  - **Economy test** for couple to ensure that they can **protect the future of the child**.

### 6.6.3. TRIPLE TESTS FOR SURROGACY

- Karnataka High Court has evolved “triple tests” to help a couple facing legal hurdles to have a surrogate

 <p><b>SMART QUIZ</b></p>	<p>You can scan this QR code to practice the Smart Quiz of Environment at our open test online platform for testing your understanding and recalling of the concepts.</p>	
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# ESSAY

## ENRICHMENT PROGRAMME 2023

**18 JUNE | 5 PM**

- ▶ Introducing different stages from developing an idea into completing an essay
- ▶ Practical and efficient approach to learn different parts of essay
- ▶ Regular practice and brainstorming sessions
- ▶ Inter disciplinary approaches
- ▶ **LIVE / ONLINE** Classes Available



# 7. SCIENCE AND TECHNOLOGY

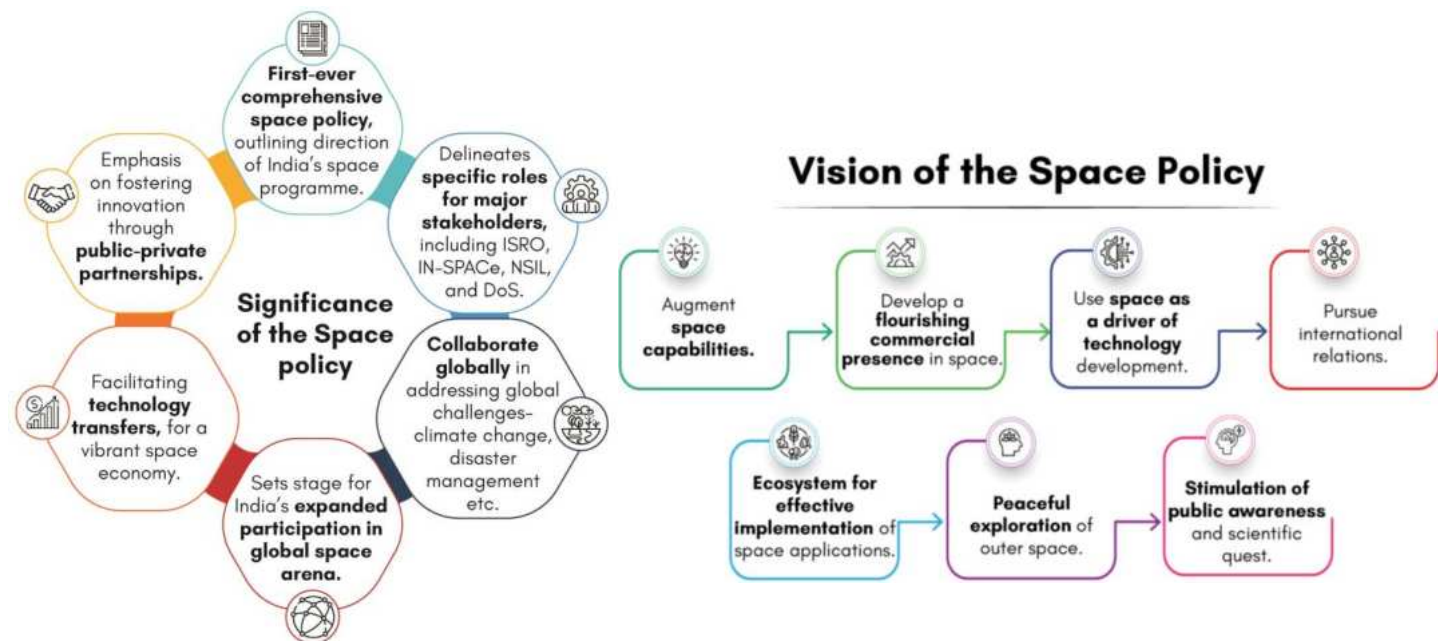
## 7.1. INDIAN SPACE POLICY – 2023

### Why in news?

Recently, Indian Space Policy-2023 was approved by the Government.

### More on News

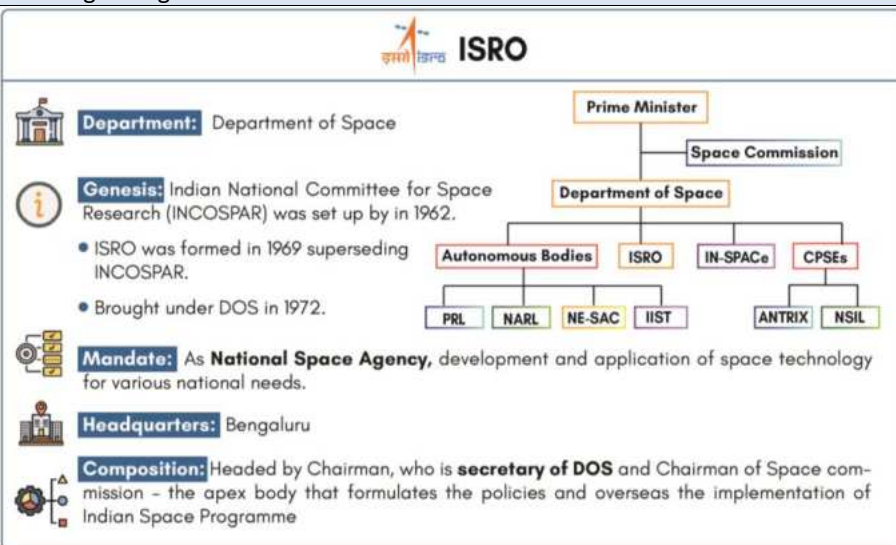
- The Space policy underlines the **growing importance of Private Sector participation in Space**.
- Government of India had started **reforms in space domain in 2020**, opening the doors for **enhanced participation of Non-Government Entities (NGEs)** with an aim to provide them a **level playing field**.
- Subsequently, Government sought to provide **regulatory certainty to space activities** by various stakeholders.
- Indian Space Policy – 2023 has thus been formulated as an **overarching, composite and dynamic framework to implement this reform vision**.



### Strategy outlined in the policy

Stakeholder	Role
Government	<ul style="list-style-type: none"> <li>• Encouraging advanced <b>Research &amp; Development</b>.</li> <li>• Stable and <b>predictable regulatory framework</b> to provide a level playing field to NGEs through IN-SPACe.</li> <li>• Promoting and support to <b>start-ups</b>.</li> <li>• Using <b>space as a driver for overall technology development</b>.</li> </ul>
Non-Governmental Entities (NGEs)	<ul style="list-style-type: none"> <li>• Offer national and international <b>space-based communication services</b>.</li> <li>• Establish and <b>operate</b> <ul style="list-style-type: none"> <li>○ <b>Ground facilities for space objects</b> operations, e.g. Satellite Control Centres (SCCs).</li> <li>○ Remote sensing satellite systems.</li> </ul> </li> <li>• Use Orbital Resources to <b>establish space objects for communication services</b> over India and outside India.</li> <li>• <b>Commercialise technologies</b> for enhancing and augmenting the satellite navigation, communication and remote-sensing.</li> <li>• Engage in the <b>commercial recovery of an asteroid resource</b> or a space resource.</li> </ul>
Department of Space (DOS)	<ul style="list-style-type: none"> <li>• <b>Nodal department</b> for implementation of the Indian Space Policy-2023.</li> <li>• Ensure <b>availability of continuous &amp; improved earth observation capability</b> and data to fulfil the national requirements.</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Participate in international efforts</b> by providing critical remote sensing satellite data for disaster management, for sustainable development goals etc.</li> <li>• Establish <b>framework to ensure safe and sustainable space operations</b>, in compliance with relevant international space debris mitigation guidelines.</li> </ul>
<b>Indian Space Research Organization</b>	<ul style="list-style-type: none"> <li>• <b>Role under policy</b> <ul style="list-style-type: none"> <li>○ Focus <b>primarily on research and development</b> of new space technologies and applications.</li> <li>○ <b>Expanding the human understanding</b> of outer space</li> <li>○ <b>Share technologies, products, processes</b> and best practices with NGEs</li> <li>○ Enable <b>open data access</b> from remote sensing satellites of ISRO.</li> <li>○ <b>Demonstrate human spaceflight capability</b> and develop a long term road-map for sustained human presence in space.</li> </ul> </li> </ul>
<b>IN-SPACe- Indian National Space Promotion &amp; Authorisation Centre</b>	<ul style="list-style-type: none"> <li>• Act as the <b>single window agency</b> for the authorisation of space activities by govt entities and NGEs.</li> <li>• Work with industry to <b>establish India as a preferred service</b> provider at global level.</li> <li>• Ensure a <b>level playing field for the utilization of all facilities</b> created using public expenditure. Decisions of INSPACE shall be binding on the operators of such facilities.</li> <li>• <b>Facilitate the transfer of technologies</b> developed by ISRO.</li> <li>• Prescribe <b>guidelines regarding liability of potential damages</b> due to the space activities.</li> </ul>
<b>New Space India Limited (NSIL)</b>	<ul style="list-style-type: none"> <li>• Responsible for <b>commercialising space technologies and platforms</b> created through public expenditure.</li> <li>• The operational part of ISRO's missions will be moved to the NSIL.</li> <li>• <b>Service the space-based needs</b> of users.</li> </ul>



### Significance of Private Participation in Space

- **Focus on R&D:** This approach allows **ISRO to concentrate on cutting-edge research and development**, exploration missions and human spaceflight programme.
- **Shift from supply driven model to demand driven model:** Almost every sector, starting from agriculture to transport, weather department and even urban development, now wants satellite data and space technology.
  - Entry of the private sector into **end-to-end space activities** enables to meet the new demands in these areas.
- **Rapidly rising space industry:** The Indian space sector is projected to **increase at a ~48% CAGR over the next five years to reach US\$ 50 billion**.
- **Enhance share in global space economy:** Currently, India accounts for **only about two per cent of the space economy**, much behind the major players - the US and China.





- **Diversify space activities to new areas:** In the global space market, rocket and satellite launch services—an area in which ISRO specialises—amount to only 5% share. Satellite-based services and ground-based systems account for the remaining 95%.
- **Innovation and Indigenisation:** Focus on **public-private partnerships, technology transfer** enables sharing of resources, knowledge, and expertise between the public and private sectors.
- **Promote Make in India:** With active private participation, India can aspire to become a satellite manufacturing hub and a launchpad for the world ranging from the Small Satellite Launch Vehicle to the Geosynchronous Satellite Launch Vehicle.

### Conclusion

Indian Space Policy 2023 sets the stage for a bold and ambitious future for India's space sector, opening the door to innovation, collaboration, and international cooperation. However, it is essential to recognise that the **global space landscape is not static** but constantly evolving. India must **embrace adaptability and strategic foresight to keep pace with these rapid changes**.

#### Private sector participation in Space sector: Current status

- There are around **100 start-ups registered with the ISRO** and are working closely in "various domains of the space sector."
- India had more than **350 space tech companies** in 2021.
- In 2022, **Vikram-S, India's first privately built rocket** was launched under **Mission Prarambh'**. It was developed by Hyderabad-based Skyroot Aerospace.
- **PSLV Production:** NSIL and Hindustan Aeronautics Limited (HAL) exchanged the MOU for producing PSLVs. L&T is partnering with HAL in the consortium.

#### Other measures private participation in space

Apart from NSIL and IN-SPACe, other institutions include;

- **Indian Space Association (ISpA):** Launched in 2021, it is the apex, **non-profit industry body** exclusively working towards successful exploration, collaboration, and development of private and public Space Industry in India.
  - It will undertake **Policy Advocacy, Engage and Operate with all Stakeholders** and act as a **catalyst for accelerating** the exchange of knowledge, technology of space-related domains.
- **Antrix Corporation Limited:** Incorporated as a **marketing arm of ISRO**. It handles ISRO's commercial deals for satellites and launch vehicles with foreign customers.
- **Space Entrepreneurship & Enterprise Development (SEED):** Conceived as a competitive early-stage encouragement programme to startups and MSMEs in focus areas of interest to ISRO.

## 7.2. LIGO-INDIA PROJECT

### Why in news?

Union Cabinet has approved the **Laser Interferometer Gravitational-Wave Observatory, or LIGO, project** to build an advanced gravitational-wave detector.

### More on News

- **Components will be made in India-** improving the technological expertise of Indian scientists and engineers.
- The project will have **multidisciplinary benefits on India's Astrophysics research**, high end technological development.

### About the project

- LIGO - India is a planned **advanced gravitational-wave observatory** to be located in India as part of the worldwide network.
- **Genesis:** The project was given "in principle" approval in 2016 to be **completed by 2030**.
- **Location:** Hingoli district in Maharashtra.

#### Current LIGO facilities

- LIGO-India will be the third observatory of its kind.
- Currently, LIGO consists of two widely separated installations within the United States -- **one in Hanford Washington and the other in Livingston, Louisiana**.
- The instruments at these observatories are **so sensitive** that they can easily get influenced by events like earthquakes, landslides, or even the movement of trucks, and produce a false reading.
- That is why **multiple observatories** are needed to revalidate the signals.
- Also, multiple detectors can help **tap all possible sources of gravitational waves**, and to **improve the quality and accuracy of information**.

#### LIGO sister facilities

- **Virgo:** Located in Italy, Virgo is gravitational wave interferometer with arms 3 km long (LIGO's are 4 km long). It is funded by the European Gravitational Observatory (EGO), a collaboration of the Italian and French governments.
- **GEO600:** It is a 0.6 km (600 m) interferometer located near Hannover, Germany, funded by both the German and British governments.
- **KAGRA:** Japan is currently building a 3 km interferometer inside of the Kamioka mine.

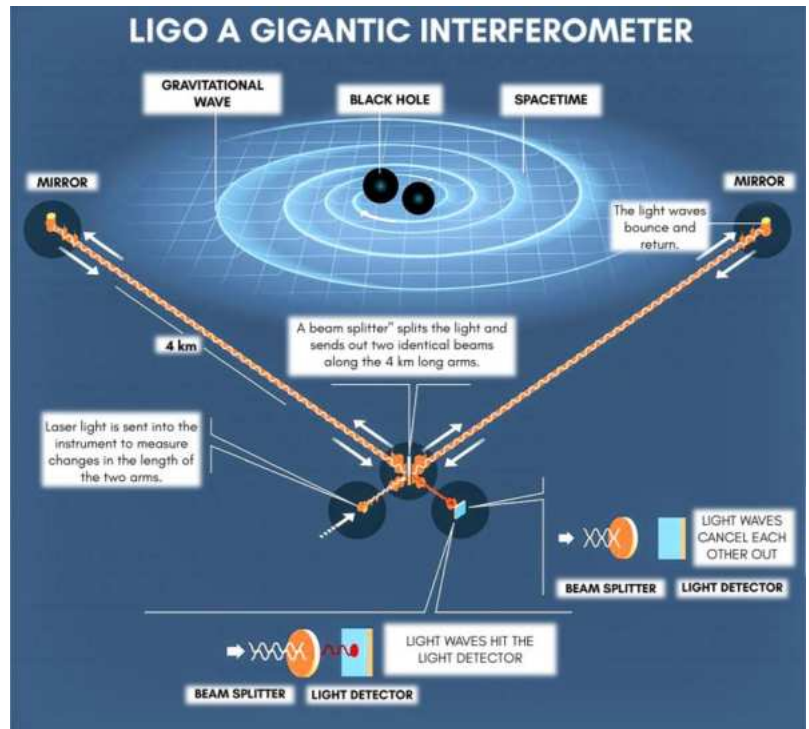
- **Funding:** Department of Atomic Energy (DAE) and the Department of Science and Technology (DST).
- **Capacity:** It is a **collaborative project** between a consortium of Indian research institutions and the LIGO Laboratory in USA. The US will provide key components for the lab.
- **Institutions and departments involved:**
  - Department of Atomic Energy.
  - Department of Science and Technology.
  - U.S. National Science Foundation.
  - Directorate of Construction, Services & Estate Management, Mumbai.
  - Inter-University Centre for Astronomy and Astrophysics, Pune.
  - Institute For Plasma Research, Gandhinagar.
  - Raja Ramanna Centre for Advanced Technology, Indore.

### What is LIGO and how it works?

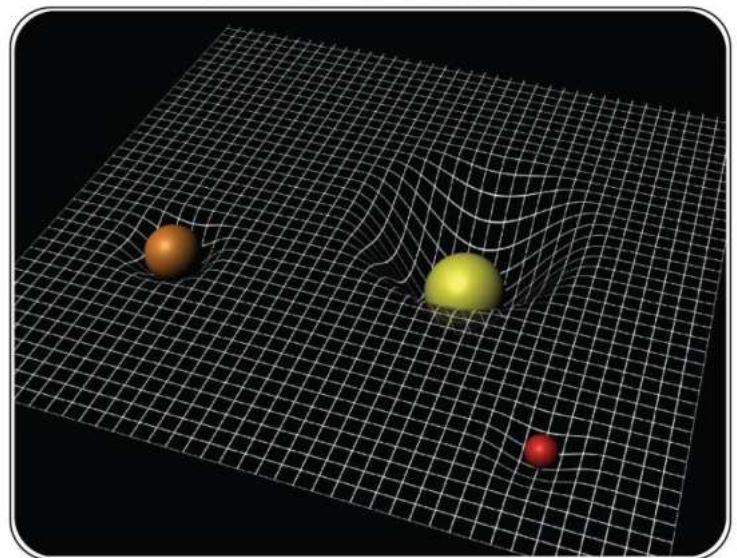
- LIGO is a tool to **detect gravitational waves** with the use of laser interferometers.
- LIGO detectors consist of **two 4-km-long vacuum chambers**, arranged at right angles to each other, with mirrors at the end.
- The experiment works by **releasing light rays simultaneously** in both chambers.
- Normally, the **light should return at the same time in both chambers**.
- However, if a gravitational wave passes through, **one chamber gets elongated while the other gets squeezed**, resulting in a phase difference in the returning light rays.
- Detecting this phase difference confirms the **presence of a gravitational wave**.

### What are gravitational waves?

- Gravitational waves are '**ripples**' in **space-time** caused by some of the most violent and energetic processes in the Universe.
- Gravitational waves are **invisible**.
- They **travel at the speed of light (186,000 miles per second)**.
  - Gravitational waves **squeeze and stretch anything** in their path as they pass by.
- **Albert Einstein** predicted the existence of gravitational waves in 1916 in his **general theory of relativity**.
- One of the main conclusions of general theory of relativity is that **objects of mass warp the very fabric of spacetime**.



### Illustration of how mass bends space



#### About Spacetime

- In our everyday lives we think of three-dimensional space and time as completely separate things.
- But Einstein's theory showed that the **three spatial dimensions plus time are actually just part of the same thing**: the four dimensions of spacetime.
- Not only are space and time part of the same thing, but **they are both warped by mass or energy, causing a curved spacetime**.

- The greater the mass of an object the more extreme the warping of space it causes, so a **star warps spacetime more than a planet, and a black hole warp it more than a star.**
- Most powerful **gravitational waves are created** when **objects move at very high speeds.** Some examples of events that could cause a gravitational wave are:
  - When a star explodes asymmetrically (called a supernova).
  - When two big stars orbit each other.
  - When two black holes orbit each other and merge.
  - Black hole-neutron star merger

### Conclusion

Detection of gravitational waves **help understand black holes, neutron stars, supernovae, even the Big Bang.** Extracting the information carried by the waves addresses the questions in both physics and astronomy.



• **First ever detection of a gravitational wave** happened in 2015, by the two US-based LIGO detectors.



• The signal was named **GW150914** (from gravitational wave and the date of observation 2015-09-14)



• These gravitational waves were **produced by the merger of two black holes**, which were about 29 and 36 times the mass of the Sun, 1.3 billion years ago.



• This achievement was rewarded with the **Nobel Prize in 2017.**

## 7.3. DARK MATTER MAP

### Why in News?

Astronomers have made the **most detailed map of dark matter** showing that both the 'lumpiness' (piece of a solid substance, usually with no particular shape) of the universe and the rate at which the universe is **growing**.

### More on News

- They have created a map by using the **microwave detector** of the **Atacama Cosmology Telescope (ACT).**
- Astronomers were observing the data collected by the ACT to find out whether **Einstein's predictions in his theory are correct** regarding the **expansion of the Universe.**
- They also observed the sanctity of the **standard model of cosmology (SMC).**

### Big Bang Model

- It is the only model that is able to explain the existence of the Cosmic Microwave Background (CMB).
- According to this model, the Universe **started** with a very **dense** and **hot** phase that **expanded** and **cooled** itself; for several hundreds of thousands of years the temperature was so high that neutral atoms could not form.
- Matter consisted mostly of **neutrons** and **charged particles (protons and electrons).**
- Electrons interacted closely with the light particles, and therefore **light and matter were tightly coupled at that time** (that is, **light could not travel for a long distance in a straight line**).
- **Light** could therefore **not propagate** and the **Universe** was opaque.
- It took about 300 000 years for the Universe to **cool down** to a **temperature** at which atoms can **form (about 3000°C).**
- Matter then became **neutral**, and allowed the light to travel freely, then Universe

### Einstein's Theory of Relativity

- It was propounded by him in **1915.**
- In this theory, he **contradicted Isaac Newton's concept** of space who **saw space and time as fixed.**
- But according to his theory, space is **fluid and malleable.**
- Gravity is not a force, but rather a distortion of time and space.
- **Tiny ripples** are caused by colliding **black holes.**

### Observation Made by Astronomers

- **Invisible world:** Features of the **invisible world** (dark matter and energy) were observed which are hundreds of **millions of light-years across.**
- **Cosmic Microwave Background (CMB) radiation:** **Gravitational pull** of large, heavy structures including dark matter warps the **CMB radiation** on its 14-billion-year journey to Earth.
  - **CMB** or **fossil radiation** is the **cooled remnant** of the **first light (or leftover of the Big Bang)** that could ever travel freely throughout the Universe.
  - The CMB light **gets deflected** by **dark matter**, just like a **magnifying glass** deflects **light that passes through it.**
- **Lumpiness:** Measurements showed that the 'lumpiness' of the universe is of the **exact right size as per SMC.**
- **Expansion:** Rate at which it is growing is just what was expected from our SMC based on Einstein's theory.
- **Gravitational lensing:** It was observed while recording the movement of the CMB.



- It is a phenomenon in which light moving through a region of space-time warped (bend or twist out of shape) by powerful gravitational fields travels, in a curve until it emerges as a stretched-out arc called an **Einstein ring**.
- **Gravitational lensing** helps in detecting dark matter.

#### Einstein's Prediction in the Theory of General Relativity (GR)

- **Motion in Space:**

**Concentrations of mass and energy** curve the **structure of spacetime**, affecting the motion of anything passing near, including light.

- He expected a **beam of starlight** should **bend** when **passing through the sun's gravity**.

- **Expansion of Universe:** He provided the mathematical framework for **describing** the **structure** and **evolution** of the universe (once hotter and denser than it is today) from its beginnings 13.8 billion years ago and into the future.
  - Galaxies are moving away from each other.
  - Also, he predicted that the **universe is lumpy**.

#### How does the new map confirm Einstein's Prediction?

- **Crisis in Cosmology:** Previous maps indicated that the **lumpiness** of the universe **was not as dense as** Einstein's theory had proposed, under the **standard model of cosmology** and led to concerns that the model may be broken.
  - These findings used a **different background light**, one emitted from stars in galaxies rather than the CMB.
  - However, the latest results from **ACT** were able to precisely assess that the **lumpiness seen are as per Einstein's theory**.
- **Standard Model of Cosmology (SMC):** Findings proved that the **expansion of the universe is as per the SMC**.
  - It is also called the "**Concordance Cosmological Model**" or the " **$\Lambda$ CDM Model**".
  - It is based on the principle that the universe **was created by the "Big Bang"** from pure energy.
  - Also, it believes that Universe is composed of about **5%** ordinary matter (visible), **27%** dark matter, and **68%** dark energy.
- Presence of **CMB** shows that Universe started with a **very dense** and **hot phase** that expanded and cooled itself and later released CMB. Its movement depicts it is Universe is still expanding.
  - Also, its deflection by Massive object upheld that Gravity is not a force, but rather a distortion of time and space.

#### Conclusion

The latest finding with the help of the ACT has upheld the SMC and solved the crisis in cosmology up to a large extent. It will give new opportunities to astronomers and researchers for space-related research. Space agencies such as NASA, ISRO, etc. can use these findings for their space exploration programs.

## 7.4. NATIONAL QUANTUM MISSION (NQM)

#### Why in News?

**Recently**, National Quantum Mission received cabinet approval at a total cost of about Rs. 6000 crores.

#### Composition of the Universe

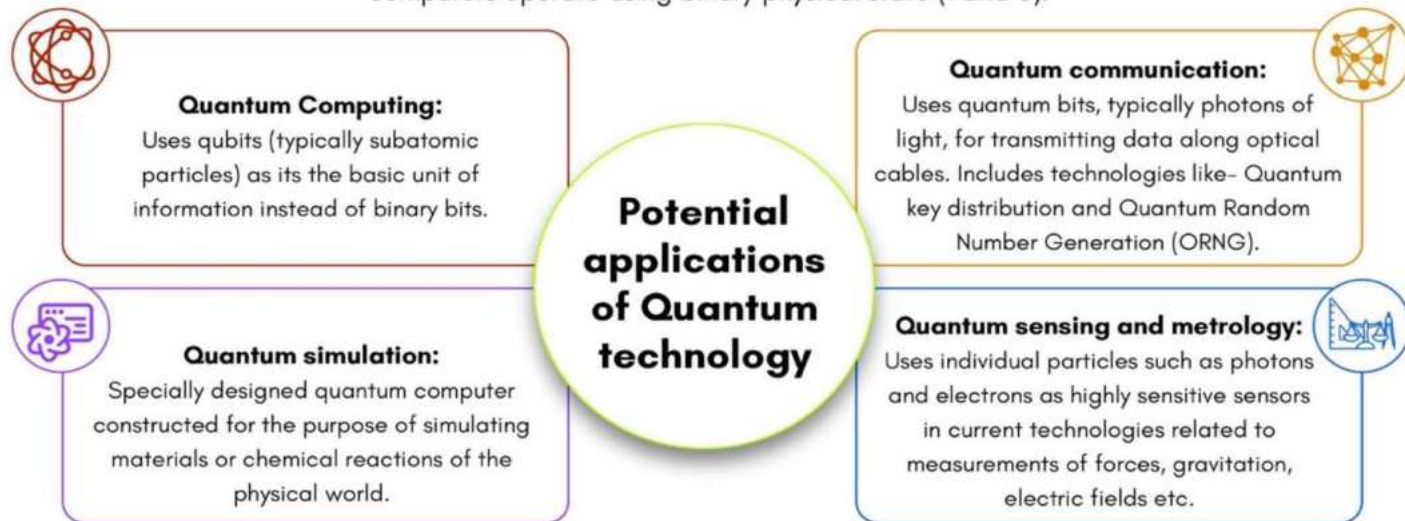
- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Unlike <b>normal matter</b>, dark matter <b>does not interact</b> with <b>electromagnetic force</b>.               <ul style="list-style-type: none"> <li>○ This means it does not <b>absorb</b>, <b>reflect</b> or <b>emit light</b>, making it extremely <b>hard to spot</b>.</li> </ul> </li> <li>• Researchers <b>have been able</b> to infer the <b>existence of dark matter only</b> from the <b>gravitational effect it seems to have on visible matter</b>.</li> <li>• It seems to outweigh <b>visible matter roughly six to one</b>, making up about <b>27%</b> of the universe.</li> <li>• Astronomer <b>Fritz Zwicky</b> first used the term "<b>dark matter</b>" in the 1930s.</li> </ul> |   |
| <ul style="list-style-type: none"> <li>• It makes up approximately <b>68%</b> of the <b>universe</b> and appears to be <b>associated</b> with the vacuum in space.</li> <li>• It is <b>distributed</b> evenly throughout the <b>universe</b>, not only in space but also in time.</li> </ul>   | <ul style="list-style-type: none"> <li>• It makes <b>up 5%</b> of the Universe.</li> <li>• It <b>includes</b> Earth, the sun, other stars, and galaxies.</li> <li>• It is made of <b>protons</b>, <b>neutrons</b>, and <b>electrons</b> bundled together into atoms.</li> </ul> |



## About Quantum Technology

Quantum technology **seeks to harness laws of quantum physics**, which describe the behaviour of matter and energy at the **atomic and subatomic level**.

**This is unlike classical physics**, in which an **object can exist in one place at one time**. E.g. classical computers operate using binary physical state (1 and 0).



### About the Mission

- **Aim:** To seed, nurture and scale up scientific and industrial R&D and create a vibrant & innovative ecosystem in Quantum Technology (QT).
- **Implementing agency:** It will be implemented by the Department of Science & Technology (DST) under the Ministry of Science & Technology.
- **Mission duration:** From 2023 to 2031.
- **Targets:**
  - **Developing intermediate-scale quantum computers** with 50-1000 physical qubits (refer image) in 8 years.
  - **Satellite-based secure quantum communications** between ground stations over a range of 2000 kilometres within India and with other countries.
    - ✓ Also, inter-city **quantum key distribution** over 2000 km.
- **Applications areas:**
  - **Magnetometers with high sensitivity** in atomic systems;
  - **Atomic Clocks** for precision timing, communications, and navigation.
  - **Design and synthesis of quantum materials** such as superconductors, novel semiconductor structures, and topological materials for the fabrication of quantum devices.
  - **Single photon sources/detectors, and entangled photon sources** for quantum communication, sensing, and metrological applications.
- **Themes**
  - **It includes setting up four Thematic Hubs (T-Hubs)** in top academic and National R&D institutes in the domains-
    - ✓ Quantum Computing,

### KNOW THE TERM



- **Quantum key distribution:** It is a secure communications technology that enables two parties to share random secret keys that are known only to them and can be used to encrypt or decrypt messages.
- **Magnetometers:** It is an instrument for measuring the strength and sometimes the direction of magnetic fields, including those on or near the Earth and in space.



### Key principles



**Superposition:** It is the ability of a quantum particle to be in multiple states at the same time until it is measured.



**Entanglement:** It refers to a situation in which two or more quantum particles are linked in such a way that it is impossible for them to be described independently.








- ✓ Quantum Communication,
- ✓ Quantum Sensing & Metrology, and
- ✓ Quantum Materials & Devices.

### Significance of the Mission

- **Technological advancement:** NQM can take the Technology Development ecosystem in the country to a globally competitive level.
- **Help various disciplines:** The Mission would greatly benefit various sectors, including communication, health, finance, and energy with applications in drug design, space, banking, security, etc. s
- **Research and Development:** It will help establish a research ecosystem in and around quantum technology.
- **Global leader:** India can take an early advantage in developing the technology and harnessing the benefits.
  - Currently, only six other countries – the United States, Finland, Austria, China, Canada, and France are working in the field of developing quantum technology on a large scale.
- **National Security:** It will aid national security in areas such as optimized intelligence collection, encryption, stealth technology, communications etc.

### Way forward

National Quantum Mission is a giant stride in the future. To realise its potential, a collaboration between businesses, universities, and government must happen. This will help address the financial and human resource gaps and at the same time, aid in the creation of a national quantum research ecosystem.

Qubit			
Just like a <b>binary bit</b> (0 and 1) is the basic unit of <b>information in classical</b> (or traditional) computing, a <b>qubit</b> (or <b>quantum bit</b> - a combination state of 0 and 1) is the basic unit of information in quantum computing.			
Physical vs. logical qubits			
 A physical <b>qubit</b> is a physical device that behaves as a <b>two-state quantum system</b> , used as a <b>component of a computer system</b> . E.g., an atom of Hydrogen existing in multiple energy levels.	<b>Classical bits</b> <b>Bit 1</b>  Empty = "0"		<b>Quantum bits (Qubits)</b> <b>Qubit 1</b>  1/3 of "0" and 2/3 of "1"
	 Head="0"		 Tail="1"
 <b>Logical qubits</b> are groups of physical qubits working together to perform a computation.	 50% chance if landing on "0" 50% chance if landing on "1"		



Scan the QR code to know more about **Quantum Technology**.

**Weekly Focus #69:** Quantum Technology in India: Exploring the possibilities ahead



## 7.5. JUPITER ICY MOONS EXPLORER (JUICE) MISSION

### Why in News?

**European Space Agency (ESA)** has launched **JUICE** from Europe's spaceport French Guiana on an **eight-year-long voyage** to **Jupiter** and its **moons** through **Ariane-5**.

### More on News

- Spacecraft will complete fly-bys of **Venus**, **Earth**, and the **Earth-Moon system** to arrive at its destination in **2031**.
- It is the first large-class mission in ESA's **Cosmic Vision 2015-2025** programme.
- For the first time that the **ESA** has sent a spacecraft beyond the asteroid belt.
- It is a product of "**global**" **cooperation** between 23 countries, academic institutions, and private companies.



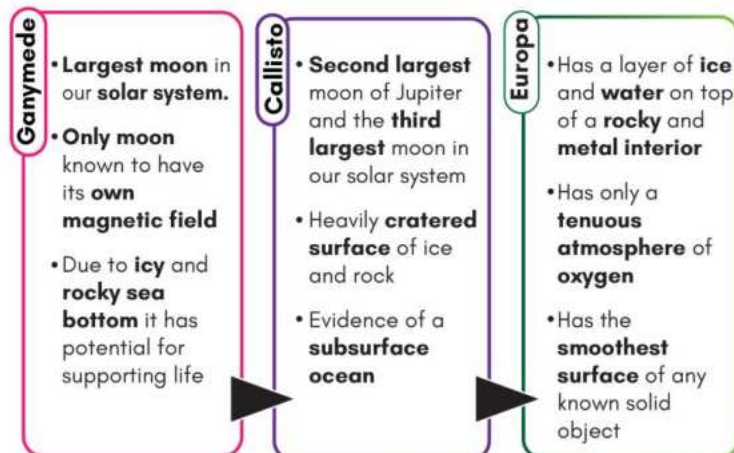
## About JUICE Mission

- **Objectives:** It will make detailed observations about Jupiter and its three **large ocean-bearing** moons – **Ganymede, Callisto and Europa**.
  - It will inspect and analyse the **moons' weather, magnetic field, gravitational pull** and other elements.
- **Time Period:** It will spend at **least three years** studying the gas giant and its moons.
- **Spacecraft:** It has a record **85 square metres of solar panels**, which stretch out to the size of a basketball court.
- It will collect as much energy as possible near Jupiter, **where sunlight is 25 times weaker** than on Earth.
- **Payload:** It includes **GALA** (GAnymede Laser Altimeter), **MAJIS** (Moons and Jupiter Imaging Spectrometer), **UVS** (UV imaging Spectrograph) etc.

## Jupiter: Quick Facts



- **Fifth** from the Sun.
- **Largest planet** in the solar system, more than twice as massive as all the other planets combined.
- It is one of the **Jovian planets** (others are Saturn, Uranus and Neptune).
  - They do not have **solid surfaces**. Instead, they are **composed primarily** of **hydrogen** and **helium**, with traces of **methane, ammonia**, water, and other gases in their atmospheres.
- It has the **highest number of moons** (95), followed by Saturn.
- It has a **faint ring system**.
- **Great Red Spot** is a giant storm bigger than Earth that has raged for hundreds of years.
- **Rotation and Revolution around the Sun:** **Rotates** once about every **10 hours (a Jovian day)**, but takes about **12 Earth years to complete one revolution** of the Sun (a Jovian year).



## Major Space Missions to Jupiter

Mission	By	Year
Pioneer 10	NASA	1972
Voyager 1 and 2	NASA	1977
Galileo (first to enter Jupiter's orbit)	NASA	1989
Ulysses	NASA and ESA	1990
Juno	NASA	2011
Europa Clipper	NASA	Expected 2024

## Benefits of the JUICE Mission

- **Life in Solar System:** It may find the **evidence of life** on the moons of Jupiter.
- **New Scientific Knowledge:** It will reveal **new set of information about Jupiter**.
  - Also, it will help in **understanding** the **formation of planets and moon**.
- **Inspiration for Other Space Agency:** Using **renewable source** of energy (solar panels) will set an example in front of other space agencies such as ISRO.



## BENEFITS OF SPACE EXPLORATION

### IT INSPIRES THE YOUNGER GENERATION

There are many young people who are interested in the idea of space exploration. As a result they pursue education in science so they can live their passion of studying space and everything that it has to offer.



### NEW RAW MATERIALS

Out in space there are virtually unlimited resources. It is all just a matter of collecting it and bringing it back, which granted will not be an easy task. Still...it is virtually unlimited natural resources!



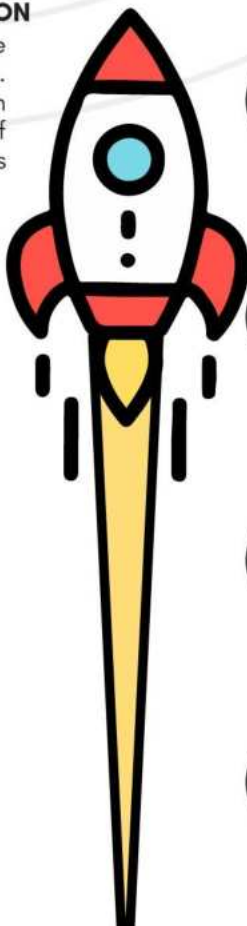
### JOB CREATION

Space exploration doesn't just involve scientists and astronauts; it also requires many engineers, research assistants, technicians, mechanics, and other professionals. If space exploration were stopped today, these people would become jobless.



### MEDICINE INNOVATIONS

From a robotic arm that can work directly using functional magnetic resonance imaging to methods of administering anti-cancer drugs aimed directly at diseased cells, research in microgravity has brought about important innovations in the field of medicine.



### IT PROTECTS US FROM ASTEROIDS

The asteroid threat may be manna from heaven for the catastrophists, but it has to be taken into consideration: a serious and well-founded space programme must have the capacity to monitor large asteroids that could potentially destroy our planet.



### ARE WE ALONE IN THE UNIVERSE?

So far, the Kepler space telescope has unveiled a long list of the other 'Earths' beyond our solar system, situated in inhabitable belts around their respective stars. They are all potentially hospitable for life.



### GREAT DISCOVERIES

From the thermal space blanket, used today by marathon runners, to the portable vacuum cleaners we now have in our homes, space research has bequeathed surprising and pleasing innovations that we non-astronauts use every day.



### UNITING THE NATIONS

If there is one thing that the entire world can get behind, it's space exploration. The nations might fight against each other about the things that go on with regards to planet Earth, but they all want to explore the cosmos.



## Challenges in JUICE Mission

- **Complex:** Mission is dependent on **several manoeuvres** which are required for the insertion of spacecraft in the orbit of Jupiter and Ganymede.
- **Extreme Atmospheric Condition:** Temperature around the gas planet stands at a **chilly -230°C**. This contrasts starkly with the scorching 250°C near Venus.
- **Gravity-assisted flyby:** Of **Venus, Earth**, and the **Earth-Moon** system **may change the trajectory** of the mission.
- **Monitoring:** Spacecraft **will travel** more than **1.7 billion miles** in space.
- **Collision:** Solar panels on the spacecraft are under threat due to **Space debris** (also known as **space junk**).

### Jupiter Trojan Asteroids (Related News)

- **NASA's spacecraft 'Lucy'** has captured images of the **Jupiter Trojan asteroid** for the first time.
- Images will help scientists to analyze how the Trojan asteroids reflect light from certain angles.
  - **Trojans** (also known as ancient population of asteroid fossils) orbit the **Sun** in two loose groups, with one group leading ahead of Jupiter in its path, the other trailing behind.
  - They are **stabilized** by the Sun and its largest planet in a **gravitational balancing act**.
- **Lucy** was launched in 2021 as the **first space mission** to study the Trojans. It is on a 12-year **mission** that will take close observations of **nine of Jupiter's Trojans** and **two main belt asteroids** along with that.

## 7.6. PREPAREDNESS AND RESILIENCE FOR EMERGING THREATS (PRET) INITIATIVE

### Why in news?

Recently, **World Health Organisation (WHO)** launched Preparedness and Resilience For Emerging Threats (PRET) Initiative.

### About Preparedness and Resilience For Emerging Threats (PRET) Initiative

- PRET is an innovative approach to improving disease pandemic preparedness.
  - It recognizes that the same systems, capacities, knowledge, and tools can be leveraged and applied for groups of pathogens based on their mode of transmission (respiratory, vector-borne, foodborne etc.).
  - It incorporates the latest tools and approaches for shared learning and collective action established during the **COVID-19 pandemic** and other recent public health emergencies.
  - It places the principles of equity, inclusivity, and coherence at the forefront.
  - PRET provides a platform for national, regional and global stakeholders to collaborate to strengthen preparedness.
- PRET recognizes that there are 3 tiers of systems and capacities relevant for pandemic preparedness those that are:
  - cross-cutting for all or multi-hazards,
  - relevant for groups of pathogens (respiratory, arboviruses etc.),
  - are specific to a pathogen.
- PRET operate under the aegis of the **International Health Regulations (IHR)**.
  - IHR 2005 are a legally binding agreement of 196 States Parties, including all 194 Member States of **WHO** to build the capability to detect and report potential public health emergencies worldwide.
  - IHR sets out the core capacities that countries need to be able to detect and respond effectively.
  - **WHO plays the coordinating role in IHR implementation** and, together with its partners, helps countries to build capacities.
  - IHR require that all countries have the ability to **Detect; Assess; Report; and Respond**.
- The technical actions in **PRET are mapped to the IHR core capacities**, grouped according to five subsystems for **health emergency preparedness, response and resilience (HEPR)**.
  - HEPR under WHO is a learning channel brings together resources for **WHO, national counterparts and partners** to outline the process of developing national investment plans to apply for additional resources, including Pandemic Fund resources.
- PRET can also serve to operationalize the objectives and provisions of the **Pandemic Accord**, which is currently being negotiated by WHO Member States.



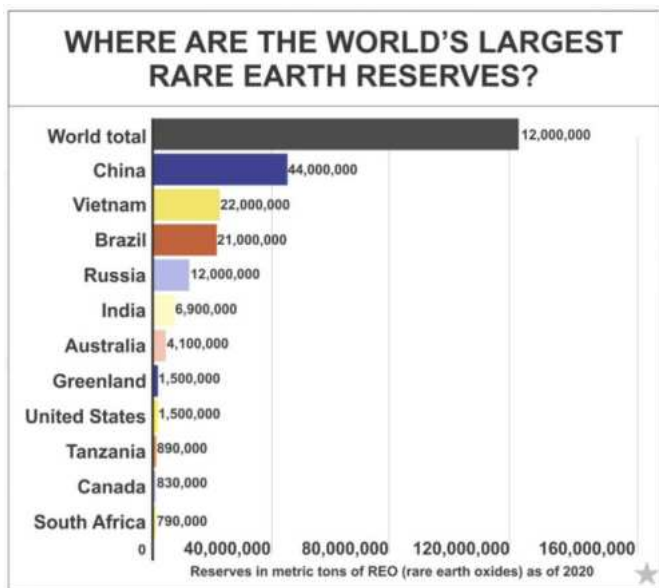
## 7.7. NEWS IN SHORTS

### 7.7.1. RARE EARTH ELEMENTS

- Hyderabad-based **National Geophysical Research Institute** has found large deposits of 15 Rare Earth Elements (REE) in Andhra Pradesh's Anantapur district.
- REEs (aka rare earth oxides) are a group of 17 silvery-white soft heavy metals that occur together in periodic table.
  - Group consists of yttrium and 15 lanthanide elements (lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, and lutetium).
  - REEs are all metals having many similar properties, and that often causes them to be found together in geologic deposits.



- REEs are used in **high end technology, defence applications, electronic devices** like cell-phones, computers, electric vehicle etc. because of their luminescent and catalytic properties.
- In similar development, scientists from Institute of Minerals and Materials Technology, Bhubaneswar, have estimated the **quantity of REEs that can be recovered from Red Mud**.
- Red Mud is a **toxic byproduct of aluminium extraction from bauxite ore** using Bayer process.
  - **Red Mud contains REEs**. There are **two strategies** to recover REEs from red mud: **extract only REEs or extract all metals** (such as iron, titanium, and sodium) including REEs.



### 7.7.2. BLOCKCHAIN PROJECT

- **Government launched Blockchain Project** to explore potential of Web3
- Project is titled '**Design and Development of a Unified Blockchain Framework for offering National Blockchain Service and Creation of Blockchain Ecosystem**'.
- It is a part of government's effort towards **realizing Web3**, as **blockchain plays a crucial role in it**.
- It will facilitate the creation of Open Application Programming Interfaces (APIs) for **smooth integration and provision of blockchain-as-a-service (BaaS) over distributed infrastructure**.
- BaaS refers to **third-party cloud-based infrastructure and management for companies**.
  - It allows Government Departments to **leverage Blockchain services to build, host and use their own blockchain apps, smart contracts and functions** on blockchain.

- Project has been launched in accordance with objectives of **National Strategy on Blockchain, 2021** (launched by Ministry of Electronics and Information Technology).
  - It creates a **trusted digital platform** by evolving a national Blockchain infrastructure.
- Blockchain is a **distributed or decentralised ledger technology** that facilitates the process of recording and tracking transactions between users.
  - Each **transaction** in a blockchain is recorded as a **"block"** of data which is linked with other blocks before or after it.

### Benefits of BaaS



### 7.7.3. SUPPORT FOR UP-GRADATION PREVENTIVE REPAIR & MAINTENANCE OF EQUIPMENT (SUPREME)

- SUPREME was launched by **Department of Science and Technology**.
- It is a **first-of-its-kind program** to provide **financial support for repair/ upgradation/ maintenance/ retrofitting or acquiring** additional attachments to **increase functional capabilities** of existing Analytical Instrumentation Facilities (AIFs).
  - **Funding pattern: 75:25** for all **private and government owned institutions** except for state funded institutions which will get 100% funding.
  - Support under the scheme will be **upto 3 years**.
- **Analytical Instruments** are **vital for pursuing research** through sample analysis in many areas of modern science and technology.

### 7.7.4. PSLV ORBITAL EXPERIMENTAL MODULE-2 (POEM-2)

- **ISRO carried out scientific experiment using POEM-2 in PSLV-C55 mission**.
- PSLV-C55 is a **dedicated mission of NewSpace India Limited (NSIL)**, for the international satellite customer from Singapore.
  - **PSLV is a four-stage launch vehicle** (1st & 3rd stage: Solid; 2nd & 4th: Liquid).

- **NSIL is the commercial arm of ISRO for enabling Indian industries to take up high technology space-related activities.**
- **Main payloads launched:**
  - **TeLEOS-2, an earth observation satellite** to support satellite imaging requirements of Singapore government agencies.
  - **Lumelite-4 to augment Singapore's maritime navigation** and benefit the global shipping community.
- **Mission, for the first time, will see solar panels powering PSLV's fourth (final) stage** for conducting month-long experiments.
  - **Usually, fourth and final stage of a rocket** remains in space for only a couple of days before **dropping back into the atmosphere and burning up.**
- **However, PSLV includes PSLV Orbital Experimental Module-2 (POEM-2) platform to perform in-orbit experiments using the final stage of PSLV.**
  - POEM has a **dedicated Navigation Guidance and Control system which acts as platform's brain** to stabilize it with specified accuracy.
  - POEM will derive its **power from mounted solar panels and a Li-Ion battery.**

#### 7.7.5. TROPOSPHERIC EMISSIONS MONITORING OF POLLUTION (TEMPO) INSTRUMENT

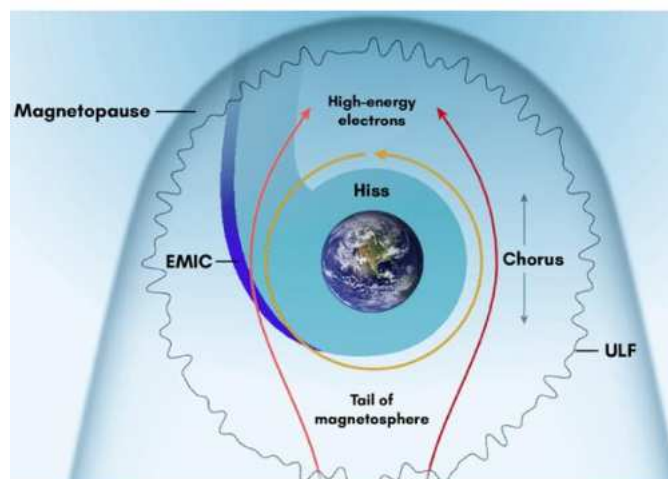
- **NASA launched device called TEMPO to monitor air pollution from space.**
- TEMPO will allow scientists to **monitor air pollutants and their emission sources and air quality across greater North America on an hourly basis during daytime.**
  - **Situated in geostationary orbit 35,786 kilometers above the equator.**
  - Among the pollutants tracked by TEMPO will be **nitrogen dioxide, produced from the combustion of fossil fuels, formaldehyde and ozone.**
  - It will be able to **measure atmospheric pollution down to a spatial resolution of 10 square kilometers or neighborhood level.**

#### 7.7.6. ELECTROMAGNETIC ION CYCLOTRON (EMIC) WAVES

- Recently, Indian Scientists identified **EMIC waves** in the **Indian Antarctic station, Maitri**, and studied its characteristics.
  - Study can help understand the **impact of energetic particles** in the radiation belts on the **low orbiting satellites.**

- **About EMIC Waves**
  - They are the **discreet electromagnetic emissions** (transverse plasma waves) observed in the **Earth's inner magnetosphere.**
    - ✓ **Plasma** is the '**fourth state of matter**' along with **solid, liquid and gas.**
    - ✓ Plasma is a **superheated matter**, i.e. a gas with sufficient energy that the **electrons are ripped away** from the atoms to form an **ionized gas.**
  - These waves are generated in the **equatorial latitudes** and propagate **along magnetic field lines** to its footprint in the **high latitude ionosphere (atmosphere).**
  - They can be recorded in both **space as well as ground based magnetometers.**
  - These waves play an important role in **precipitation of killer electrons**, which are hazardous to our **space-borne technology/instruments.**
    - ✓ **Killer electrons** are electrons having **speed close to speed of light**, which form the radiation belt of planet Earth.
- **Magnetosphere** is the region around a planet dominated by the **planet's magnetic field**, rather than the magnetic field of interplanetary space.
  - The Earth's Magnetosphere is dominated by the magnetic field of Earth, **protecting earth's atmosphere** from many types of **radiation from the sun.**

#### EMIC Waves



#### 7.7.7. DEEP LEARNING GEOMAGNETIC PERTURBATION (DAGGER) MODEL

- NASA researchers have developed a **new computer model called DAGGER, to forecast geomagnetic disturbances and provide a warning for solar storms.**
- **The model integrates Artificial intelligence with Satellite data**, to predict the incoming solar winds

- It provides a lead time of 30 minutes for an impending solar storm anywhere on Earth, enough to protect the critical systems from solar storms.
- The solar wind is a stream of material that flows from the Sun carrying the Sun's magnetic field out into space and can cause damage to existing electrical infrastructure in the world.

#### 7.7.8. MAGNETORESISTANCE

- Recently, Nobel laureate Andre Geim discovered that Graphene displays an anomalous giant magnetoresistance (GMR) at room temperature.
- GMR is the result of electrical resistance of a conductor (sandwiched between two materials) being affected by magnetic fields in adjacent materials.
  - When materials are magnetised in same direction, electrical resistance in the conductor is low.
  - When directions are opposite each other, resistance increases.
- Application of GMR: Hard disk drives and magnetoresistive RAM in computers, biosensors, automotive sensors, microelectromechanical systems, and medical imagers.
- New study has found that a graphene-based device, unlike conventional counterparts, wouldn't need to be cooled to a very low temperature to sense magnetic fields.
- About Graphene
  - Graphene is 'a two-dimensional single-atom-thick layer of carbon atoms bonded in a hexagonal honeycomb lattice structure.
  - It is extracted from graphite and displays unique physicochemical properties like:
    - ✓ High surface area, good biocompatibility, strong mechanical strength, excellent thermal conductivity, and fast electron transportation.
  - Applications include Energy (Solar cell, Fuel cell, Super computers etc); Sensor, Bio-sensor; Biomedical (diagnostic, drug delivery etc); Environment treatment etc.
- In 2007, Albert Fert and Peter Grünberg received the Nobel Prize in Physics for their discovery of GMR in 1988.
- In 2010, Andre Geim and Konstantin Novoselov received Nobel Prize for Physics for their work on graphene.

#### 7.7.9. NEW URANIUM ISOTOPE

- A previously unknown isotope of uranium, with atomic number 92 and mass number 241, i.e., uranium-241 discovered.

- Uranium is a naturally occurring radioactive element.
- Naturally, 99.27% of Uranium exists in form of U-238 while rest in other isotopes as: U-235 (0.72%), and U-234 (0.006%) etc.
- Theoretical calculations suggest it could have a half-life of 40 minutes.
- New isotope was found during a process called multinucleon transfer in which two isotopes exchanged protons and neutrons.
- Benefits: refines our understanding of nuclear physics, designing nuclear power plants and models of exploding stars.

#### 7.7.10. STATE OF THE WORLD'S CHILDREN (SOWC) 2023 REPORT

- The State of the World's Children (SOWC) 2023: For Every Child, Vaccination Report released by UNICEF.
- Building on global strategies outlined in Immunization Agenda 2030 and Gavi Strategy 5.0 to promote equity and sustainably scale up immunization coverage, report presents an agenda to put childhood vaccination first.
- Key priorities identified
  - Vaccinate every child, everywhere by
    - ✓ Catching up on vaccination of children missed during the pandemic.
      - 98% of the population in India currently perceive vaccines as important for children.
    - ✓ Identifying zero-dose (unreached or missed out) and under-vaccinated children.
      - India was among top 20 countries with the largest numbers of zero-dose children.
  - Strengthen demand for vaccination by talking to communities; tackling gender barriers; rethinking accountability in health systems.
  - Spend more on immunization and health by investing in primary health care at national level and better aligning donor support.
  - Build resilient systems by improving data collection and disease surveillance; Securing vaccine and other supplies etc.
    - ✓ In India, digital health platform TeCHO+ (Technology Enabled Community Health Operations) and electronic vaccine intelligence network (eVIN) increased vaccination coverage while enhancing data entry efficiency.



### 7.7.11. THE BIG CATCH-UP

- WHO, UNICEF, Gavi, the Vaccine Alliance and Bill & Melinda Gates Foundation, along with Immunization Agenda 2030 and other health partners, are implementing the “The Big Catch-up”.
- It is a targeted global effort to **boost vaccination among children** aiming to reverse the **declines in childhood vaccinations driven by COVID-19** pandemic.
  - It will have a particular focus on **20 countries including India** where **three quarters of the children who missed vaccinations** in 2021 live.
  - It will **strengthen healthcare workforces, improve health service delivery, build demand for vaccines and address obstacles** to restoring immunization.

### 7.7.12. SHINGRIX VACCINE

- GlaxoSmithKline (GSK) Pharma has launched vaccine “Shingrix” in India to prevent shingles.
  - Shingles is caused by the **reactivation of the varicella zoster virus (VZV)**, same virus that **causes chickenpox**.
  - Those suffering from diabetes, heart disease and kidney diseases were at an increased risk of developing shingles because of weakened immunity.
- Shingrix aims to **prevent shingles (herpes zoster) and post-herpetic neuralgia in adults aged 50 years or more**.
  - It is the **world’s first non-live, recombinant subunit vaccine** to be given intramuscularly in two doses.

- It was approved by US Food and Drug Administration and European Commission.

### 7.7.13. KNOW YOUR MEDICINE

- **National Anti-Doping Agency (NADA)** has developed the **Know Your Medicine** web and mobile application with an aim to **create a clean sporting environment in India**
- Paving the path for **clean sport**, the application will enable the sports ecosystem to:
  - **Check** if any **prohibited substance** is present in **medicines**.
  - **Make informed choices** about use of medicines.
- Available in **Hindi and English**, the users can **search by image and text options** and search by **medicines and ingredient options**.

### 7.7.14. INTERNATIONAL PRIZE IN STATISTICS

- Indian American **C R Rao** won the **Nobel Prize equivalent in statistics** at the age of 102.
- International Prize in Statistics was **established in 2016** by a group of **five major statistical organizations**,
  - American Statistical Association, Institute of Mathematical Statistics, International Biometric Society, International Statistical Institute, and Royal Statistical Society
- It is **awarded once in every two years** to an individual or a team.
- Prize is given for **major achievements using statistics to advance science, technology and human welfare**.



**SMART QUIZ**

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.



## 8. CULTURE

### 8.1. INDIAN KNOWLEDGE SYSTEMS IN HIGHER EDUCATION

#### Why in news?

University Grants Commission (UGC) has released draft guidelines for the incorporation of the Indian knowledge systems (IKS) in higher education for undergraduate (UG) and postgraduate (PG) courses.

#### More on News

- Earlier, in 2020, **IKS division under Ministry of Education was setup** to promote research on and disseminate “Indian Knowledge Systems”.
- Also, expertise in the Indian Knowledge System has been added in the recently released **final version of the National Credit Framework**.

#### Key Features of the Guidelines

- **Credit courses in IKS:** UG and PG Students be encouraged to take credit courses in IKS amounting in all to at least five per cent of the total mandated credits.
  - At least 50% of the credits apportioned to the IKS should be related to the major discipline.
- **Emphasis on authentic sources:** IKS are to be based on authentic sources—such as source texts, historical accounts, inscriptions, etc.
- **Focus on continuity:** Continuity of the Indian Knowledge Traditions, from ancient times up to the relatively recent period in the design of the course content.
- **Instructions:** Medium of instruction for the IKS courses could be any of the Indian languages, apart from English and Sanskrit.
- **Translation from Sanskrit:** Technical terms and citations from the Sanskrit sources should be given in the Devanagari script as well as in English transliteration.

#### Significance of integrating Indian Knowledge system in higher education

- **Nurturing the rich legacy:** For instance, India had distinguished institutions like Nalanda and Takshashila, even before the existence of globally eminent universities like Oxford, Cambridge.
- **Decolonising Indian education system:** Colonial roots of education system acted as obstacle to understand the structure and foundations of our own scientific thought. Integrating IKS will aid in **preserving and disseminating IKS** for further research and societal application.



#### What is Indian Knowledge System?



- Indian Knowledge System encompasses.



○ All of the **systematized disciplines of Knowledge** which were developed to a high degree of sophistication in India from ancient times and.



○ All of the **traditions and practises** that the various communities of India—including the tribal communities—have evolved, refined and preserved over generations.



*Refer Appendix for major contributors for various fields from India.*



#### Indian Traditional Knowledge Systems (Bharatiya Gnana Parampara) Division



**Ministry:** Ministry of Education



**Genesis:** Established as innovative cell under MoE at AICTE in 2020.



#### Vision:

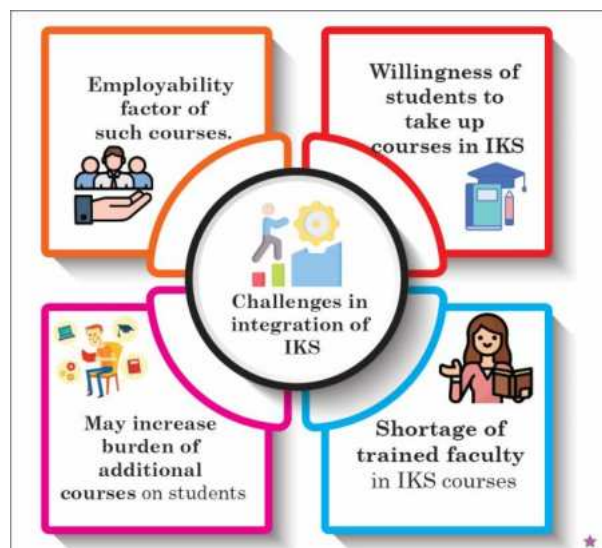
- To **promote interdisciplinary research** on all aspects of “Indian Knowledge Systems”,  
**Preserve and disseminate “Indian Knowledge Systems”** for further research and societal applications.



#### Functions:

- Facilitate and **coordinate IKS related inter and transdisciplinary work** done by various institutions in India and abroad including, R&D laboratories etc.
- Establish, guide and **monitor subject-wise interdisciplinary research groups from institutes, centers etc.**
- Create and **promote popularization schemes.**
- **Facilitate funding** of projects and develop mechanisms to undertake research.
- **Make Policy recommendations** for the promotion of IKS.

- **Applications of IKS in current times:** Knowledge of Ayurveda, construction of ships in ancient times, aircraft knowledge, architecture of Indus Valley Cities, and political science in ancient India- have applications in today's world.
  - This can allow to teach the world the 'Indian way' of doing things.
- **Multidisciplinary approach:** Multidisciplinary and crossdisciplinarity nature of IKS would enrich the students' horizon and prepare them better for life's challenges.
  - Solutions to many of world's problems, like climate change, health, need for sustainable living lie in IKS.
- **Bring closer to cultural ethos:** Exposure to the conventional and contemporary concepts will bring engineers closer to their cultural ethos, expand their intellectual horizons and enhance their confidence.



## Conclusion

It is important that IKS are taught in a **critical and evidence-based manner**. NEP 2020 also highlights the importance of training teachers to ensure that IKS are taught in a **scientifically rigorous manner**, avoiding any promotion of unverified beliefs or practices.

## 8.2. NATIONAL MISSION FOR CULTURAL MAPPING






### Why in news?

Government has identified and documented distinctive features of more than one lakh villages under the 'Mera Gaon Meri Dharohar' (My Village My Heritage) programme of the National Mission for Cultural Mapping (NMCM).

### About Mera Gaon Meri Dharohar survey

- **Aim:** Seeks to document the cultural identity at the village level by involving citizens to share what makes their village, block, or district unique.
  - It aims to harness the unique cultural heritage of rural India.

### Some examples of villages include

Village	Significance
 Sinauli, Uttar Pradesh	<ul style="list-style-type: none"> <li>• Sinauli Harappan Site is an archaeological site.</li> <li>• Known for <b>artefacts associated with the bronze age civilization</b> e.g. solid-disk wheel carts, found in 2018, which were <b>interpreted by some as chariots</b>.</li> </ul>
 Raini, Uttarakhand	<ul style="list-style-type: none"> <li>• Known for the Chipko movement.</li> <li>• In 1974, the <b>movement to save forests</b> began in Raini village and later became famous as the Chipko movement.</li> </ul>
 Suketi fossil park, Himachal	<ul style="list-style-type: none"> <li>• Also called <b>Siwalik Fossil Park</b>.</li> <li>• It contains rich <b>collection of 2.5 million years old vertebrate fossils</b>.</li> <li>• Displays <b>life-size fiberglass models of six of the prehistoric animals</b> that lived in the area 1 to 1.5 million year ago.</li> </ul>
 Pandrethan, Jammu & Kashmir	<ul style="list-style-type: none"> <li>• Village of <b>14th-century Kashmiri saint and mystic poet Lal Ded</b>. Also known as Lalla or Lalleshwari.               <ul style="list-style-type: none"> <li>○ Her writings are called "<b>Vakhs</b>"</li> </ul> </li> <li>• Also home to an <b>8th century Shiva temple</b>. Preserved and <b>rejuvenated by Chinara Corps of the Indian Army</b>.</li> </ul>
 Bishnoi, Rajasthan	<ul style="list-style-type: none"> <li>• Case study for living in harmony with nature.</li> <li>• Villagers follow a set of 29 (bis and noi) principles, which include norms related to the <b>protection of animals and conservation of trees</b>.</li> </ul>



- **Mechanism:** Involves **Common Services Centres (CSC) Village Level Entrepreneur** conducting meetings with locals and then uploading interesting facts about their village on to an application.
  - It can be **places of interest, customs and traditions, famous personalities, festivals and beliefs, art and culture**, etc., of the village.
- **Coordination:** **Ministry of Culture has partnered with the CSC**, under Ministry of Electronics & IT.
- **Villages have been broadly divided into various categories** based on whether they are important ecologically, developmentally, and scholastically, if they produce a famous textile or product etc.

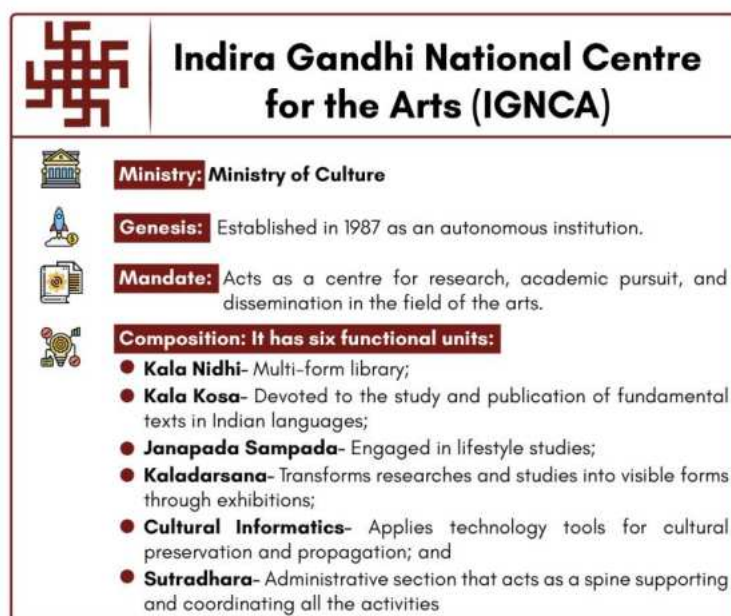
#### About National Mission for Cultural Mapping

- Initiated by the **Ministry of Culture** in 2017.
- **Goals of the mission**
  - **Preserving the threads of rich Indian Art and Cultural Heritage**,
  - Converting vast and widespread cultural canvas of India into an **objective Cultural Mapping**,
  - Design a mechanism to **fulfil the aspirations of the artist community**,
  - Creating strong '**Cultural Vibrancy**' throughout the nation.
- **Institutions involved**
  - CSC e-Governance Services India Limited (CSC) is **given the task by Ministry of Culture to carryout NMCM**.
  - Mission is being executed under the guidance of **Indira Gandhi National Centre for the Arts (IGNCA)**.
- **At broad-level, there are three important objectives of the mission, as follows.**
  - **National Cultural Awareness Abhiyan:** Hamari Sanskriti Hamari Pahchan Abhiyan (Our Culture Our Identity)- It is conducted from Block to the national level by arranging awareness programmes among locals about cultural heritage.
  - **Nationwide Artist Talent Hunt/Scouting Programme:** Sanskritik Pratibha Khoj Abhiyan seeks to search **hidden as well as traditional talent**.
  - **National Cultural Work Place (NCWP)-** It is a fully equipped cultural portal which will serve as common interaction work place for all stake holders including artistes, institutions, NGOs and Ministry of Culture.

#### Conclusion

A properly mapped, documented and designed database can be effectively used for not only preserving the rich cultural heritage but also providing means of livelihood and ameliorating the economic conditions of the performing artistes.

## Significance of NMCM



## 8.3. RAJA RAVI VARMA

### Why in news?

175th birth anniversary of Raja Ravi Varma was celebrated recently.

### Contributions to Indian art

- **Proponent of Lithography:** He was one of the **earliest proponents of lithography** in India.
  - Lithography refers to **art of producing a work on a flat stone or metal plate**.
  - He employed this technique to depict **popular scenes and characters from Hindu literature**.
- **Union of Indian tradition and European art:** He is one of the few painters who managed to accomplish a beautiful **union of Indian tradition with the techniques of European academic art**.
  - He was also responsible in **taking the Indian art all over the world** with his impeccable technique.
- **Insights to mythological stories:** Through his paintings, he gave an insight of the famous mythological stories.
  - The most popular paintings under this category include the ones depicting episodes from the **story of Dushyanta and Shakuntala**, story of Nala and Damayanti, Lord Rama's triumph over Varuna etc.
- **Artist of the people:** He was notable for making **affordable copies** of his paintings available to the public.
  - This greatly enhanced **his reach and influence**. His portrayal of Hindu gods and goddesses become worship material for many people **belonging to the lower castes** who were often forbidden from entering temple.

### Fact Sheet

Also known as **'The Father of Modern Indian Art'**.  
He is best-known for **his paintings and prints** that **exquisitely render Indian subjects using European techniques**.

**Date of Birth:** April 29, 1848

**Place of Birth:** Kilimanoor, Travancore

**Date of Death:** October 2, 1906

**Profession:** Painter, Artist

**Classification of paintings**

- Portraits
- Portrait-based compositions
- Theatrical compositions based on myths and legends.

**Teachers:** Rama Swami Naidu (water painting); Theodor Jenson, a Dutch Painter (oil painting)

**Awards:** Kaisar-i-Hind Gold Medal (1904); Government of Kerala has instituted an award in his name.



## 8.4. NEWS IN SHORTS

### 8.4.1. GLOBAL BUDDHIST SUMMIT 2023

- **Global Buddhist Summit 2023** concluded with **New Delhi Declaration**.
- Summit was organised by Ministry of culture, in collaboration with Delhi-based **International Buddhist Confederation**, to **engage global Buddhist dhamma leadership and scholars on matters of Buddhist and universal concerns**.
- **Key highlights of New Delhi Declaration**
  - In the present world scenario, **texts, doctrines and philosophy of Buddha Dhamma** are best guide for **inter-faith dialogue, harmony and universal peace**.
  - Recognize **significance of Buddhist pilgrimage** as a living heritage.
- Summit highlighted the **rising role of Buddhism in India's soft power strategy**.
  - Soft power enables a **change of behaviour in others**, without competition or conflict, **by using persuasion and attraction**.
- **Other initiatives taken towards Buddhist diplomacy**
  - PM makes **Buddhism a regular feature of his diplomatic visits** and also emphasises shared Buddhist heritage.
  - **Presence of Dalai Lama and Tibetan government-in-exile** in Dharamshala has **bolstered India's image** in global Buddhist community.
  - **India hosted Buddhist pilgrims** from South Korea.
  - **Creation of specialized Buddhist tourist circuits** that cross international borders.
  - **Restoration of Nalanda University** etc.

### Significance of promotion of Buddhist diplomacy



### 8.4.2. SANCHI

- Sanchi (Madhya Pradesh) is all set to become the country's first solar city.
- Buddhist Monuments at Sanchi is a UNESCO world heritage site.
- Place is related to Buddhism but not directly to life of Buddha. It is more related to Ashoka than to Buddha.
  - It comprises various Buddhist monuments dating back to 1st and 2nd C.E, famous one being the Sanchi Stupa.
  - Sanchi stupa houses 4 gateways that showcase Buddha's life through intricate carvings.
  - It is also home to Gupta temple, one of the earliest example of temple architecture.

### 8.4.3. MANAMADURAI POTTERY

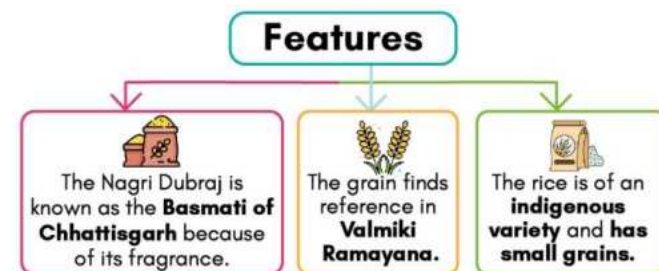
- Recently Manamadurai pottery of Sivagangai district, Tamil Nadu got the Geographical Indication (GI) tag.
- A unique type of clay is sourced from water bodies like Nedunkulam, Nathapurakki, Sundaranadappu, Seikalathur to make these pots.
  - Main raw materials for making these pots are soil and water.
  - Vaigai River which runs through the Manamadurai village enriches the clay used for the pottery.

### 8.4.4. LADAKHS WOOD CARVINGS

- Prime Minister applauds GI Tag for Ladakh's Wood Carving, a first of its kind.
- Wood carving of Ladakh has been an aesthetically vibrant art form in Ladakh region.
  - It will boost exports, promotes goods at international level, and will bring economic prosperity to producers and stakeholders.
- GI sign used on products that have a specific geographical origin and possess qualities or a reputation that is due to that origin.
  - Geographical Indications (GI) of Goods (Registration and Protection) Act, 1999 provide for registration and better protection of GI for 10 years.

### 8.4.5. NAGRI DUBRAJ RICE

- Chhattisgarh's Nagri Dubraj rice variety got a geographical indication tag.
  - After Jeeraphool rice in 2019, Dubraj is the second brand to get the GI tag.
- The women's self-help group "Maa Durga Swasahayata Samuh" of Nagri in Dhamtari district has been harvesting Dubraj and had applied for the GI tag.



### 8.4.6. PUSHKARALU/PUSHKARAM FESTIVAL

- 12-day Pushkaralu festival of Telugu-speaking people commenced in Varanasi.
- Pushkaralu refers to the worship of the 12 sacred rivers in which the god Pushkar appears every 12 years.
  - Rivers are: Ganga, Yamuna, Godavari, Krishna, Kaveri, Bhima, Tapti, Narmada, Saraswati, Tungbhadra, Sindhu, and Pranhita.
- The celebration happens annually, once in 12 years along each river which are associated with a zodiac sign.



### 8.4.7. HAKKI PIKKI

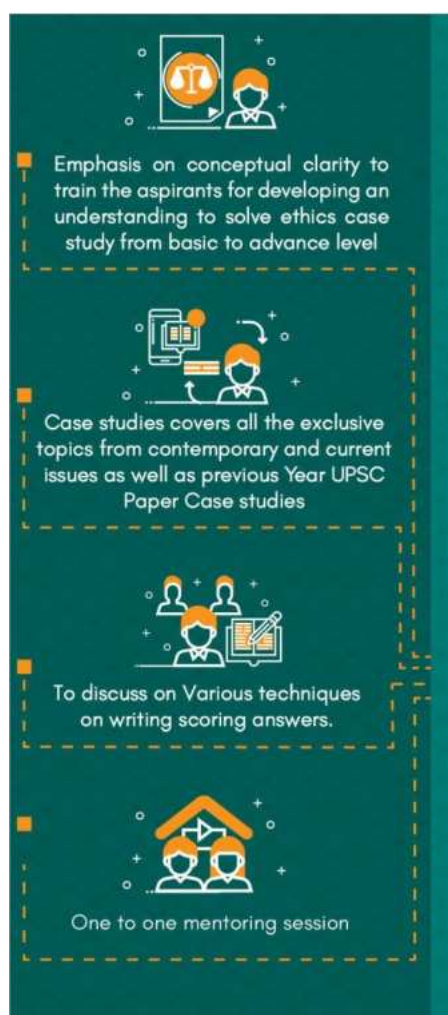
- Few members of the tribe are stranded in Sudan amidst internal war.
- They are predominantly living in Shivamogga, Davanagere and Mysuru districts of Karnataka.
- They are known for knowledge of traditional and herbal medicine that is in high demand in African countries.
- Hakki-Pikkis are said to be a matriarchal group.
- They speak an Indo-Aryan language. They communicate in 'Vaagri' (mother language) at home but speak in Kannada when conducting daily business.
- UNESCO has listed 'Vaagri' as one of the endangered languages.



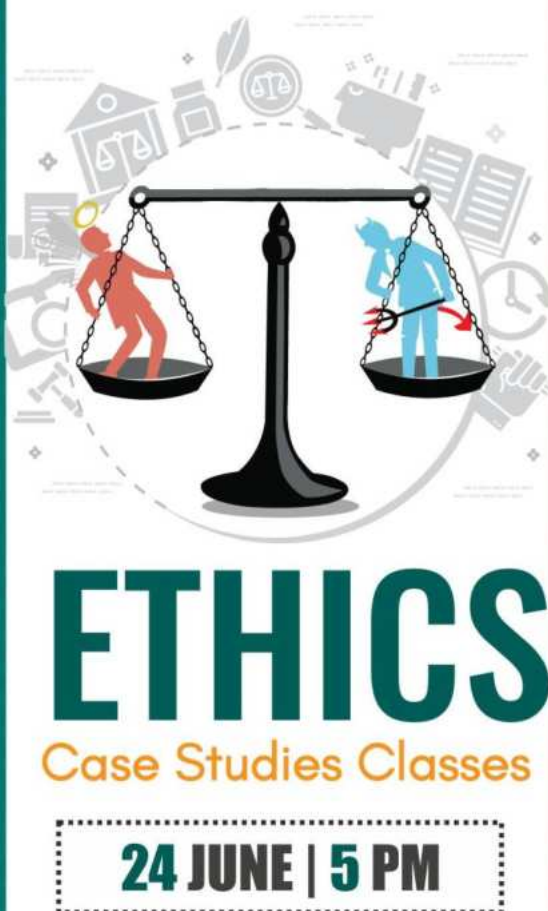
#### 8.4.8. ABHILEKH PATAL

- PM praised “Abhilekh patal” a portal with over 1 Crore Pages of Historical Records of National Archives.
- It is a full-featured web-portal to access National Archives of India’s (NAI) reference media and its digitized collections through internet.
- It is an initiative of NAI to make its Indian Archival Records available to all.
- NAI is an Attached Office of the Ministry of Culture and act as repository of non-current records of Government of India.

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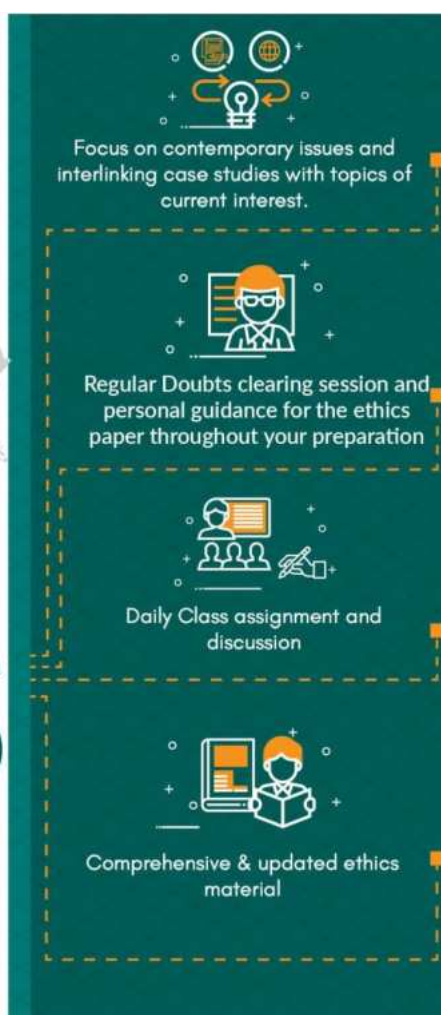


- Emphasis on conceptual clarity to train the aspirants for developing an understanding to solve ethics case study from basic to advance level
- Case studies covers all the exclusive topics from contemporary and current issues as well as previous Year UPSC Paper Case studies
- To discuss on Various techniques on writing scoring answers.
- One to one mentoring session



**ETHICS**  
Case Studies Classes

**24 JUNE | 5 PM**



- Focus on contemporary issues and interlinking case studies with topics of current interest.
- Regular Doubts clearing session and personal guidance for the ethics paper throughout your preparation
- Daily Class assignment and discussion
- Comprehensive & updated ethics material

# 9. ETHICS

## 9.1. ETHICS OF MIGRATION

### Introduction

The World Bank's **World Development Report 2023** proposed an **integrated framework** to **maximize the development impacts** of **cross-border movements** on both **destination** and **origin** countries and on migrants and refugees themselves.

**Migration** is both seen as an **asset** and a **liability** by the world.

In order to utilize asset and shun away liability, countries around the world **devise policies and laws as per their suitability**. Such policies often **lack ethical principles**.

**What are the Ethical interests of different stakeholders?**

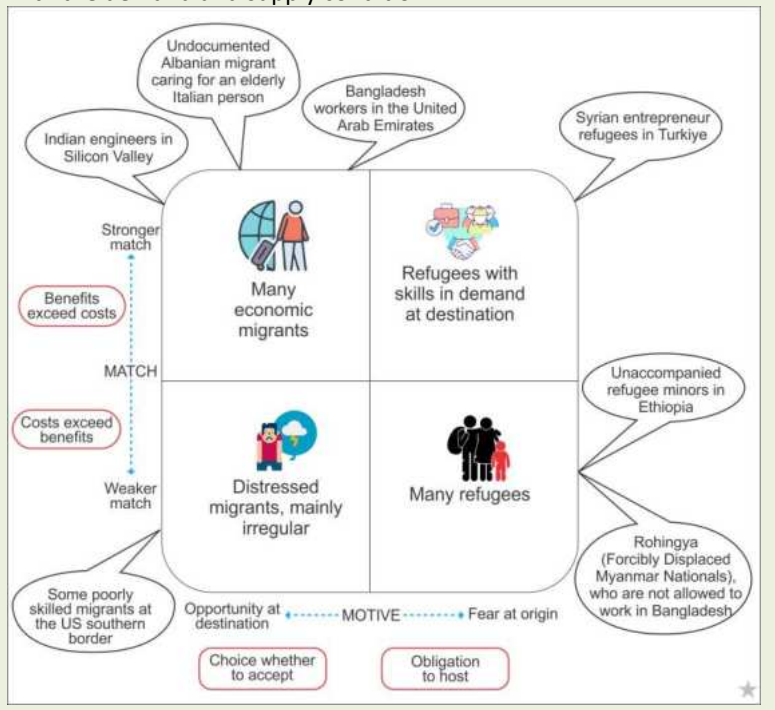
Individual	Origin Country	Destination Country	For Rescuers	International Organization
<b>Person</b> lives his/her home in search of a more decent life. They expect that place where they are relocating <b>should treat them as equivalent to their citizen</b> . They want them to perceive <b>themselves as an end</b> rather than as means.	The <b>conflict between individuals' right to exit their territories and these states' efforts to regulate the recruitment</b> and protect the rights of their citizens working abroad. It brings <b>remittances</b> and on the other hand, it causes <b>brain drain</b> (migration of talented people).	They want to receive <b>only productive</b> migrants and refugees. Also, they are not open to migration above a <b>certain limit</b> as it may impact <b>demographic change</b> and <b>resource utilization</b> patterns.	<b>Tension felt by rescuers between, on the one hand, the humanitarian imperative</b> to help people in need and, on the other hand, the danger that, by doing so, <b>one might become coopted into the violent practices</b> of either states or human smugglers.	Organizations such as <b>International Organization for Migration (IOM)</b> oversee that <b>migrants' rights are well protected</b> where ever they live.

### Ethical Issues in Migration and Refugee Policy

- **Violates Human Rights:** Migration policies do not comply with the rights enshrined in international laws such as the **Universal Declaration of Human Rights (1948)**, **International Covenant on Civil and Political Rights (1966)**, **UN General Assembly Resolution on the Protection of Migrants (2014)**, etc.
- **Utilitarian Approach:** Policies give priority to the **migration of skilled workforce** and discourage the distress migration and refugees.
  - For instance, engineers, doctors, etc. are given a warm **welcome in developed countries** but on the other hand when an illiterate from Syria or Lebanon arrives, they are not mainstreamed.
- **Means and End:** **Labor economics** emphasizes the **movement of workers across** borders to countries where their **labor can be employed** more productively than in their origin country. Humanity's perspective is missing from it.
- **Apathy:** Thousands of Migrants and refugees **die while moving toward** their destination place. North African migration to Europe is a relevant example of it.
- **Sensitiveness:** At the global level, policies have **not been formulated to deal** with this fresh wave of **Climate Refugees and Migrants**.

### Matrix of Migration (Match and Supply)

The destination country prefers migrants and refugee who **are more beneficial to them** (upper boxes of matrix). On the other side, if they are not able to match the criteria of the destination country, **then are have less opportunity** (lower boxes of the matrix). It keeps changing with the demand and supply condition.



- **Ethics of temporary labor migration programs (TLMPs):** Faced with labor and skills shortages in sectors such as social care and food production, many high-income countries have been actively considering the expansion of TLMPs, including for lower skilled migrant workers.
  - **TLMPs violate principles of domestic equality** because they always afford migrant workers more restricted rights than those enjoyed by citizens.

Impacts of Migration and Refugee Policy-making		
Spheres	When Ethical Principles are Not Incorporated	When Ethical Principles are Incorporated
<b>Citizenship status</b>	Treated like a <b>Secondary Citizen</b> (considered subordinate).	<b>Treated equally</b> in different arenas of life.
<b>Rights</b>	<b>Social, political, and economic</b> rights are not entitled to them.	They <b>enjoy all the rights</b> in an effective way. This helps them to live a decent life.
<b>Potential</b>	In <b>adverse situations</b> , they are not able to give their best in a different arena.	Due to equal opportunities, they are <b>able to fully utilize their potential</b> . Jews community in India is the best example of it.
<b>Activities</b>	Due to unfavorable situations, they get <b>involved in illegal activities</b> such as terrorism, drug trafficking, etc.	Along with their development, they contribute to the <b>development of society</b> and the <b>country at large</b> .
<b>Peace and Security</b>	Improper integration with <b>society leads to various conflicts</b> such as ideological, psychological, etc. E.g. Issue of Rohingyas Exodus.	They are well <b>integrated</b> into society. Principles of <b>tolerance, sympathy</b> , etc. are being upheld in society.

### How we can Integrate Ethical Principles in Policy-Making?

- **Equality and non-discrimination:** It **prohibits** distinction, exclusion, restriction or preference on the basis of a list of non-exhaustive grounds such as race, colour, descent, ethnic origin, etc.
  - States should address direct and indirect discrimination against and unequal treatment of people in **laws, policies, and practices**, etc.
- **Respecting Human Rights:** Nations should **refrain** from **human rights violations** of migrants. This includes refraining from **arbitrary detention, torture, or collective expulsion of migrants**.
- **Participation and inclusion:** Everyone is entitled to active, free, and meaningful participation in **decisions** that affect the **enjoyment of their rights**.
  - **Migrants** should be **consulted** and **included** in the development of **relevant public policy**.
- **People-centric Approach:** It recognizes that **migrants** and refugees are **men and women** who **make often difficult choices** and deserve fair and **decent treatment**. They are people with **identities, skills, cultures, and preferences**.
- **Accountability and rule of law:** States should **ensure transparency** in the design and **implementation** of their **policies** and ensure that rights-holders have access to redress mechanisms and enjoy effective remedies when human rights breaches occur.
  - The system **governing migration** should allow **migrants** full access to **justice**, including redress and remedies if they experience human rights violations.



### Conclusion

The policies related to **migration** and **refugee** needs to be **comprehensive** and **broad** in nature. The interest of the vulnerable needs to be given priority. **Sustainable Development** goals will be achieved only when all the people of the world will prosper.

Scan the QR code to know more about **Migration**.

**Weekly Focus #54:** Forced Displacement: A humanitarian crisis and a development challenge










# 10. SCHEMES IN NEWS

## 10.1. CREDIT GUARANTEE SCHEME FOR MICRO AND SMALL ENTERPRISES (CGMSE)

Why in news?

Revamped Credit Guarantee Scheme for Micro and Small Enterprises (CGMSE) was launched recently.

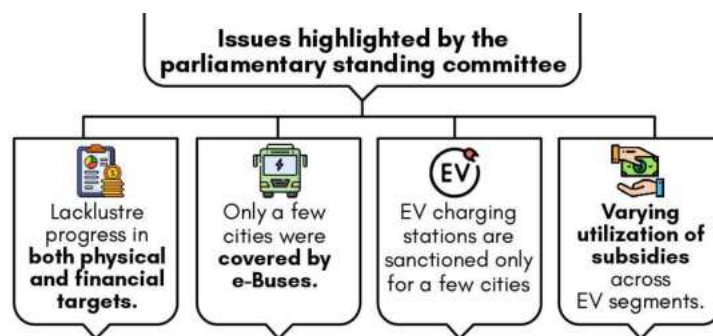
Objectives	Salient Features
<ul style="list-style-type: none"> <li>To strengthen credit delivery system and <b>facilitate flow of credit</b> to the MSE sector.</li> <li>Availability of bank credit without the <b>hassles of collaterals / third party guarantees</b>.</li> <li>To enable access to finance for <b>unserved, under-served and underprivileged</b>, making availability of finance from conventional lenders to <b>new generation entrepreneurs</b>.</li> </ul>	<ul style="list-style-type: none"> <li>The scheme was formally <b>launched in 2000</b>.</li> <li>The <b>Ministry of Micro, Small and Medium Enterprises, GoI and SIDBI</b> established a Trust named <b>Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)</b> to implement the Scheme. <ul style="list-style-type: none"> <li>The corpus of CGTMSE is being contributed by <b>the GoI and SIDBI in the ratio of 4:1</b> respectively.</li> </ul> </li> <li><b>Eligible enterprises:</b> Both the <b>existing and the new enterprises</b> are eligible to be covered under the scheme.</li> <li><b>Eligible activity:</b> <b>Manufacturing and services</b> including Trading (Retail / Wholesale Trade) and Educational / Training Institution. <b>SHG and agriculture</b> are ineligible for coverage.</li> <li><b>Eligible Lending Institutions:</b> All <b>Scheduled Commercial Banks</b>, selected Regional Rural Banks, NBFCs, Small Finance Banks (SFBs), Scheduled Urban Co-operative, Microfinance Institutions (MFIs) etc.</li> <li><b>Eligible Credit Facility:</b> Fund and non-fund based (Letters of Credit, Bank Guarantee etc.) credit facilities <b>up to 500 lakh per eligible borrower</b> are covered.</li> <li><b>Annual Guarantee Fee (AGF):</b> AGF will be charged on the <b>guaranteed amount for the first year</b> and on the outstanding amount for the <b>remaining tenure</b> of the credit facilities. <ul style="list-style-type: none"> <li>Recently, guarantee fees for <b>loans upto ₹1 crore is reduced by 50%</b> bringing the minimum guaranteed fee to the level of 0.37% pa only.</li> </ul> </li> <li><b>Claim settlement when account turns NPAs:</b> The lending institution <b>may invoke the guarantee</b> in respect of credit facility when <b>accounts turn into Non-Performing Assets</b>. <ul style="list-style-type: none"> <li>However, <b>initiation of legal proceedings as a pre-condition</b> for invoking of guarantees is now waived for credit facilities upto 10 lakh (earlier 5 lakh).</li> </ul> </li> <li><b>Tenure of Guarantee:</b> The Guarantee cover under the scheme is for the <b>agreed tenure of the term loan/composite credit</b>. In case of working capital, the guaranteed cover is <b>of 5 years or block of 5 years</b>.</li> </ul>

Guarantee cover			
 Category (including Trading activity)	Maximum extent of Guarantee Coverage		
	where guaranteed credit facility is		
	Upto ₹ 5 lakh	Above ₹ 5 lakh & upto ₹ 50 lakh	Above ₹ 50 lakh & upto ₹ 500
 Micro Enterprises	85%	75%	75%
 MSEs located in North East Region (incl. Sikkim, UT of Jammu & Kashmir and UT of Ladakh)	80%		
 Women entrepreneurs/SC/ST entrepreneurs / MSEs situated in Aspirational District/ZED certified MSEs/	85%		
 All other category of borrowers	75%		

## 10.2. FAME (FASTER ADOPTION AND MANUFACTURING OF HYBRID AND ELECTRIC VEHICLE) SCHEME

### Why in news?

A Parliamentary Panel observed that Government achieved only 52% of the target during the last four years under the 2<sup>nd</sup> phase of the FAME scheme.



Objective	Features
<ul style="list-style-type: none"> <li>To increase demand for hybrid and electric vehicles by making them more affordable and accessible.</li> <li>To reduce the country's dependence on fossil fuels.</li> <li>To reduce air pollution, and mitigate the impact of climate change.</li> </ul>	<ul style="list-style-type: none"> <li><b>Ministry:</b> It was launched in 2015 under the <b>Ministry of Heavy Industry and Public Enterprises</b>.</li> <li><b>Background:</b> The scheme is a part of the <b>National Mission on Electric Mobility (NEMMP)</b>. <ul style="list-style-type: none"> <li>NEMMP was launched in 2013. It aims to achieve 6-7 million sales of hybrid and electric vehicles year on year from the year 2020 onwards.</li> </ul> </li> <li><b>Implementation:</b> The FAME scheme is implemented through the following verticals: <ul style="list-style-type: none"> <li>Demand Incentives</li> <li>Establishment of a network of Charging Stations</li> <li>Administration of Scheme including Publicity, IEC (Information, Education &amp; Communication) activities etc.</li> </ul> </li> <li><b>Monitoring:</b> By Project implementation and sanction committee, headed by the <b>Secretary (Department of Heavy Industry)</b>.</li> </ul> <p><b>Phases of the scheme</b></p> <ul style="list-style-type: none"> <li><b>FAME India - Phase 1 (2015-2019):</b> It had four focus areas - technological development, demand generation, pilot project, and charging infrastructure components.</li> <li><b>FAME India - Phase 2 (2019-2022):</b> It focuses on the electrification of public and shared transportation. <ul style="list-style-type: none"> <li>The scheme aims to provide incentives to various categories of vehicles, including electric two-wheelers, electric four-wheelers, hybrid four-wheelers, e-rickshaws, and e-buses.</li> </ul> </li> <li><b>FAME II – Redesigned (2022-2024):</b> The scheme was redesigned based on the experience of Covid-19 pandemic and feedback from the industry and users. <ul style="list-style-type: none"> <li>The redesigned scheme aims at faster proliferation of Electric Vehicles by lowering the upfront costs. This would be through increased incentives and aggregating demand for making procurement more viable.</li> </ul> </li> </ul>



**To know more about Electric Vehicles (EVs), kindly refer to Article 5.8 Electric Vehicles (EVs) Policy, March 2023 Edition of Monthly Current Affairs Magazine**

# 11. APPENDIX

## APPENDIX: CONTRIBUTION OF INDIAN KNOWLEDGE SYSTEM IN VARIOUS FIELDS

 Field	 Contribution from ancient India
 Mathematics	<ul style="list-style-type: none"> <li>● <b>Baudhayan</b> <ul style="list-style-type: none"> <li>➤ <b>Work: Shulba Sutra and Shrauta Sutra.</b></li> <li>➤ Sulbasutras give a compilation of the results in mathematics that had been used for the <b>designing and constructions of the various elegant</b> Vedic fire-altars right from the dawn of civilization.</li> <li>➤ Sulbasutras see an explicit statement of the <b>Bodhayana Theorem</b> (Pythagoras' theorem).</li> </ul> </li> <li>● <b>Pingala</b> <ul style="list-style-type: none"> <li>➤ <b>Work: Chandahsastra</b> presents the first known description of a binary numeral system.</li> </ul> </li> <li>● <b>Aryabhatta</b> <ul style="list-style-type: none"> <li>➤ He was a mathematician, astronomer, astrologer and physicist.</li> <li><b>Work: Aryabhatiya.</b></li> <li>➤ He described the method of denoting big <b>decimal numbers</b> by alphabets.</li> <li>➤ Made contributions in <b>number theory, geometry, trigonometry and Beejaganita (algebra).</b></li> </ul> </li> <li>● <b>Brahmgupta</b> <ul style="list-style-type: none"> <li>➤ <b>Work: Brahm Sputa Siddantika</b> through which the Arabs came to know our mathematical system.</li> <li>➤ Introduced <b>negative numbers</b> and operations on zero into mathematics.</li> </ul> </li> <li>● <b>Bhaskaracharya</b> <ul style="list-style-type: none"> <li>➤ <b>Work: His book Siddanta Shiromani</b> is divided into four sections: Lilavati (Arithmetic), Beejaganit (Algebra), Goladhyaya (Sphere) and Grahaganit (mathematics of planets).</li> <li>➤ Introduced <b>Chakrawat Method or the Cyclic Method</b> to solve algebraic equations.</li> </ul> </li> <li>● <b>Mahaviracharya</b> <ul style="list-style-type: none"> <li>➤ <b>Work: Ganit Sara Sangraha</b>, which is the first textbook on arithmetic in present day form.</li> <li>➤ Current <b>method of solving Least common Multiple (LCM)</b> of given numbers was also described by him</li> </ul> </li> <li>● <b>Narayana Pandita</b> <ul style="list-style-type: none"> <li>➤ <b>Work: Gaitakaumudi</b></li> <li>➤ He gave <b>turagagati</b> method for constructing 4x4 magic squares.</li> </ul> </li> <li>● <b>Yajurveda</b> introduces names for powers of 10 upto <math>10^{12}</math>.</li> <li>➤ <b>Tallakshana</b>, a term from the Buddhist tradition represented <math>10^{55}</math>.</li> </ul>
 Astronomy	<ul style="list-style-type: none"> <li>● First 'astronomical' objects, found in the Andamans, belong to the palaeolithic era, some 12,000 years ago; they are <b>calendar sticks noting the waxing and waning of the moon</b> by incising daily notches on a wooden stick.</li> <li>● <b>Aryabhatta</b> <ul style="list-style-type: none"> <li>➤ Discussed <b>units of time and features of celestial sphere</b>, described the earth as a rotating sphere hanging in space, and produced a table of the planets' mean positions.</li> <li>➤ Also <b>gave a correct explanation for both lunar and solar eclipses</b>, and stated that the diameter of the earth is 1,050 yojanas (closer to the actual dimension)</li> </ul> </li> <li>● <b>Varahamihira</b> <ul style="list-style-type: none"> <li>➤ <b>Work: Pancha siddhantika</b></li> <li>➤ Extensively discussed the revolutions of planets, eclipses, and the zodiac, often with an astrological background.</li> </ul> </li> <li>● <b>Brahmagupta</b> <ul style="list-style-type: none"> <li><b>Work: Brahmasphuta Siddhanta</b>, dealt with a variety of astronomical instruments like:               <ul style="list-style-type: none"> <li>▪ A <b>water clock (ghati yantra)</b> consisting of a bowl with a small hole at the bottom, which would sink in exactly 24 minutes (a ghati) if placed over water;</li> <li>▪ A gnomon ( a short stick kept vertically for the study of the motion of its shadow)</li> </ul> </li> <li>➤ It was through his works the <b>Arabs learned of Indian astronomy.</b></li> </ul> </li> </ul> <div data-bbox="941 1302 1485 1701">  <p><b>DO YOU KNOW?</b></p> <ul style="list-style-type: none"> <li>● <b>Waxing moon is a moon that gets more sunlight</b> on it as the days go by. It is after we experience a new moon up to a full moon.</li> <li>● A <b>Waning moon is after the full moon</b> and will remain waning until we again experience a new moon.</li> </ul> </div>





## Field



## Contribution from ancient India



### Astronomy

- **Bhaskaracharya**

- Discussed the mean and true positions of planets, the triple problem of 'time, direction and place', the risings and settings and conjunctions of the planets, eccentric and epicyclic theories for their motions of planets etc.

- **Kerala School of Mathematics and astronomy**

- Flourished between the **14th and 16th centuries**.
- Prominent among them include- Madhava, Parameshvara, Neelakanta Somayaji, etc.
- **Madhava** discovered a procedure to determine the positions of the Moon every 36 minutes, and methods to estimate the motions of the planets.
- **Parameshvara**, was the founder of the **Drigganita system of Astronomy**.
- **Nilakanthan Somayaji (1444-1544)** in his Tantrasangraha, revised Aryabhata's model for the planets Mercury and Venus.

- **Maharaja Sawai Jai Sing of Jaipur**

- He setup in **Jaipur, Delhi, Ujjain, Banaras and Mathura** astronomical observatories called Jantar Mantar.



### Indian Health Sciences

- **Susruta**

- **Work:** Susruta Samhita
- Considered as **father of surgery**.
- He **studied human anatomy** with the help of a dead body.
- In Susruta Samhita, over **1100 diseases are mentioned**.
- Over 760 plants are described as remedies.
- Susruta's greatest contribution was in the **fields of Rhinoplasty (plastic surgery) and Ophthalmic surgery (removal of cataracts)**.

- **Charaka**

- Considered as the **father of ancient Indian science of medicine**.
- He was the Raj Vaidya (royal doctor) in the **court of Kanishka**.
- **Work:** Charak Samhita
- He was the **first to talk about digestion, metabolism and immunity** as important for health.

- **Yoga & Patanjali**

- The science of Yoga was developed in ancient India as an allied science of Ayurveda for **healing without medicine at the physical and mental level**.



### Metallurgy in India

- **Harappans** used gold and silver to produce a wide variety of ornaments. Also, many bronze figurines have been unearthed (e.g. dancing girl).

- **Delhi Iron Pillar:** The 1600 year old iron pillar is made up of wrought iron, erected by Chandragupta II, is known for its rust-resistant properties.

- **Kanada- 6th century**

- He was a scientist of **Vaisheshika School**, one of the six systems of Indian philosophy.
- According to Kanada, **material universe is made up of kanas**, (anu/atom) which cannot be seen through any human organ. These cannot be further subdivided.

- **Varahamihira**

- His **Brihat Samhita**, has a **chapter on the preparation of numerous perfumes out of sixteen fundamental substances** mixed in different proportions.

- **Nagarjuna- 10th century**

- In his treatise, **Rasaratnakara**, he has discussed methods for the extraction of metals like gold, silver, tin and copper.

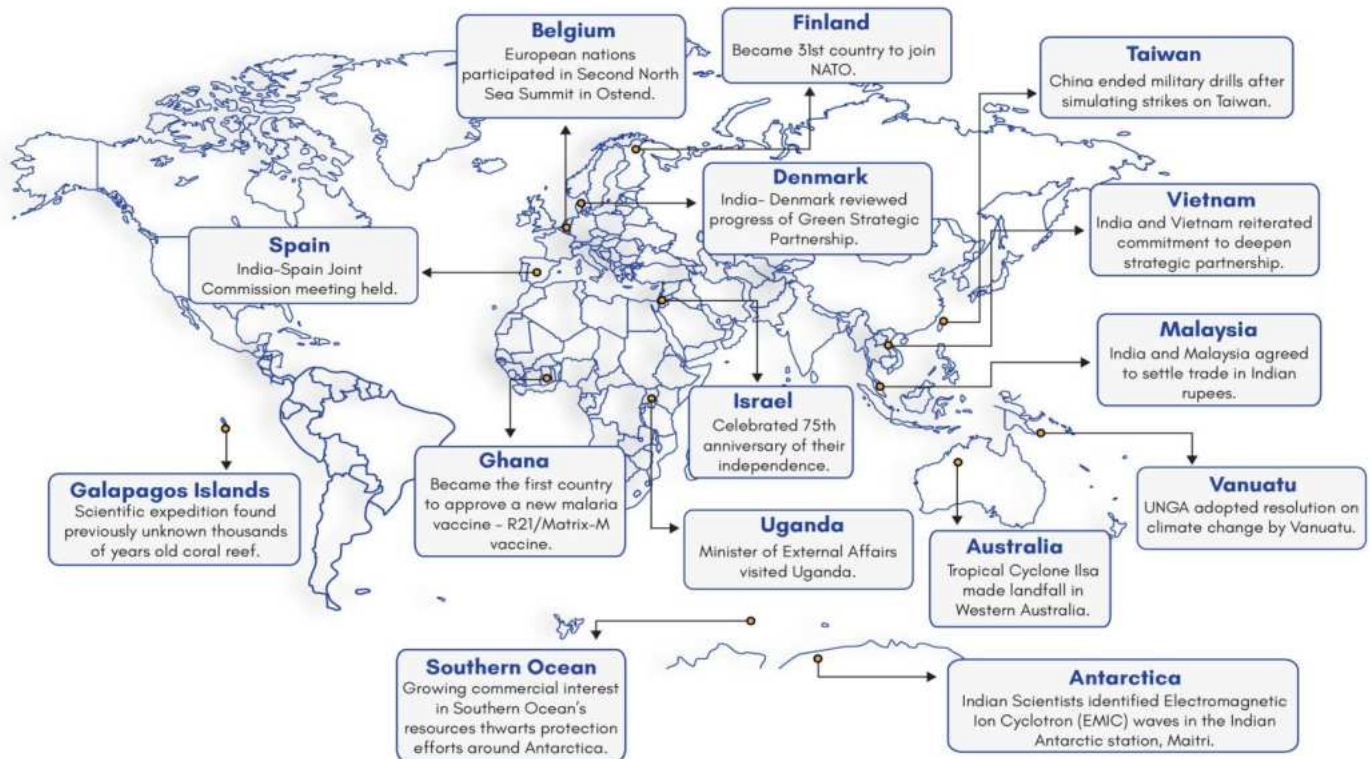


### Indian Agriculture

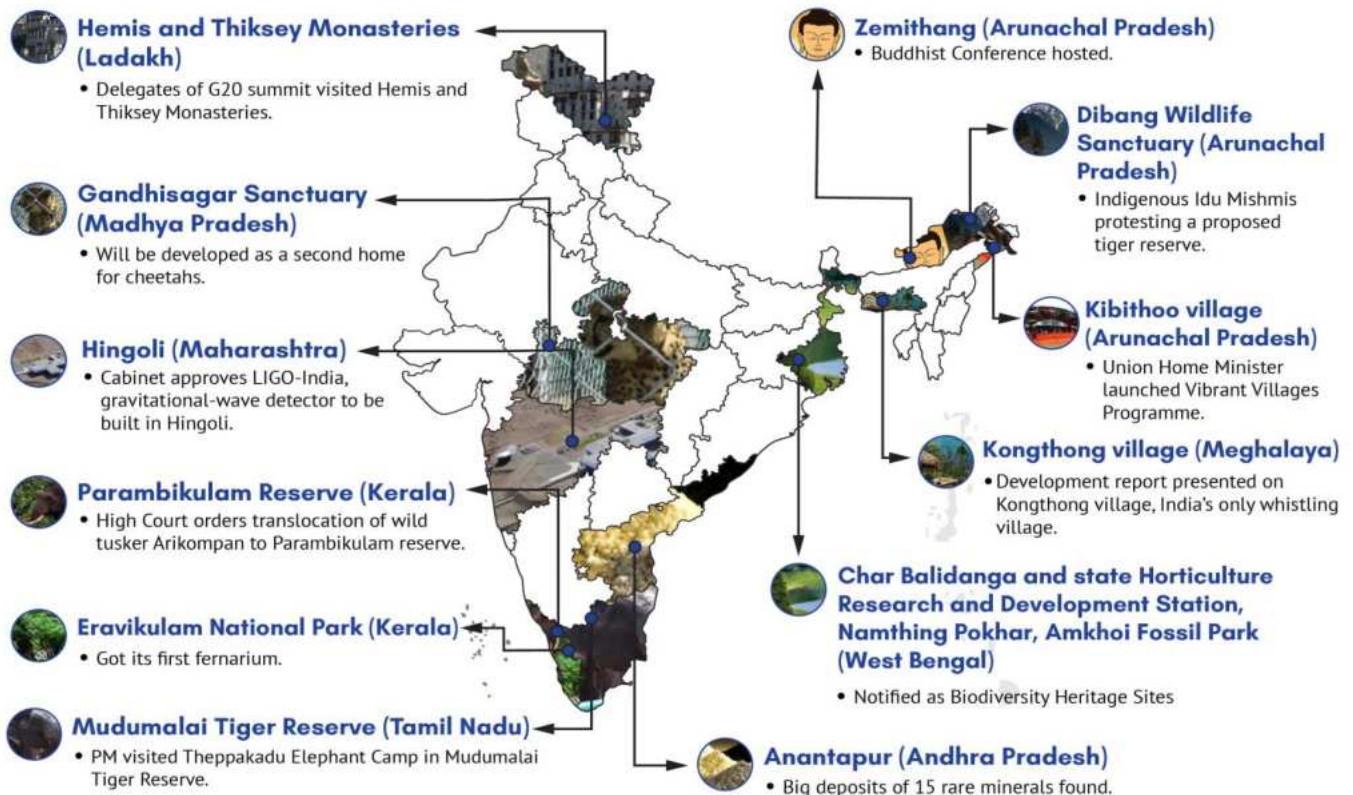
- One of the **oldest water regulating structures** in the world is Grand Anicut dam on river Kaveri (1st-2nd Century CE).

- The significance of **agriculture and irrigation as emphasised in the Ramayana, Mahabharata and other texts**.

# Places in News: World



# Places in News: India





## Personalities In News







Personality	About	Ethical Values Exhibited by the Personality
 <p><b>Jagadguru Basaveshwara</b></p>	<ul style="list-style-type: none"> <li>PM paid tributes to Basaveshwara on his birth anniversary.</li> <li>He was a 12<sup>th</sup> century poet and born in Karnataka.</li> <li>Known for <b>Socio-Religious Reforms, Anubhava Mantapa</b> (facilitated gathering for philosophy and experience), <b>Vachana Literature and Lingayat Movement</b> in south India. <ul style="list-style-type: none"> <li>Basava Purana, written by Palkuriki Somanatha in 13<sup>th</sup>-century, holds full account to Basavanna's life and ideas.</li> </ul> </li> <li>He rejected gender and caste discrimination, superstitions and rituals.</li> <li>A strong promoter of ahimsa (non-violence), he condemned human and animal sacrifices.</li> <li>His philosophy was based on principles of Arivu (true knowledge), achara (right conduct), and Anubhava (divine experience).</li> <li>He developed and inspired a new devotional movement named Virashaivas, or ardent, heroic worshippers of Shiva.</li> </ul>	<p><b>Egalitarianism and dignity of labour</b></p> <ul style="list-style-type: none"> <li>He penned down poems to question the social and political order of his time based on hierarchy of status and wealth.</li> <li>In his teachings, he advocated for the dignity of manual labour and its right to be recognized.</li> </ul>
 <p><b>Babu Jagjivan Ram</b></p>	<ul style="list-style-type: none"> <li>PM paid tributes to Babu Jagjivan Ram on his birth anniversary.</li> <li>Born in Bihar, he was a <b>freedom fighter, prominent leader of the untouchable.</b></li> <li><b>Contributions</b> <ul style="list-style-type: none"> <li>In 1934, he founded <b>Akhil Bhartiya Ravidas Mahasabha</b> and the <b>All-India Depressed Classes League</b>.</li> <li>In 1935, he appeared before <b>Hammond Commission</b> and <b>demanding, for the first time, voting rights for Dalits.</b></li> <li>Participated in <b>Civil Disobedience Movement, Satyagraha movement, and Quit India Movement.</b></li> </ul> </li> </ul>	<p><b>Courage and Visionary</b></p> <ul style="list-style-type: none"> <li>He was a fearless leader who stood up against the injustice and discrimination faced by Dalits and other marginalized communities.</li> <li>He had a clear vision for a just and equitable society. He worked tirelessly to bring about social change and to ensure that the voice of the oppressed was heard.</li> </ul>
 <p><b>Dr. Keshavarao Baliram Hedgewar</b></p>	<ul style="list-style-type: none"> <li>Keshavrao was born on April 1, 1889 in Nagpur.</li> <li>He passed the medical exam with flying colours and returned to Nagpur. Dr. Hedgewar declined the position for the sake of the country and society.</li> <li><b>Contributions:</b> <ul style="list-style-type: none"> <li>For freedom fighter Dr. Keshavrao Baliram Hedgewar, India's independence was the only goal of his life.</li> <li>In student life, he pioneered the 'Vande Mataram' movement and came in contact with great revolutionaries like Arvind Ghosh, Bhai Parmanand, Sukhdev and Rajguru etc</li> </ul> </li> </ul>	<p><b>Selflessness and Patriotism</b></p> <ul style="list-style-type: none"> <li>He was a selfless individual who dedicated his life to the cause of national unity and social upliftment.</li> <li>He was a true patriot who loved his country deeply and aimed to promote self-reliance and independence from foreign rule.</li> </ul>
 <p><b>CY Chintamani</b></p>	<ul style="list-style-type: none"> <li>Chiravuri Yajneshwar Chintamani was born on April 10, 1880, in Vizianagaram, Andhra Pradesh.</li> <li><b>Contributions:</b> <ul style="list-style-type: none"> <li>He regarded Gopal Krishna Gokhale as his political mentor. In 1898, he joined the Congress.</li> <li>He was appointed as the editor of the Vizag Spectator newspaper. After he became editor, the name was changed to Indian Herald.</li> <li>The Leader's (English Nationalist Newspaper) first joint editors were Chintamani and Ganendranath Gupta.</li> <li>Chintamani left the Congress in 1918 to form the Liberal Party with Surendranath Banerjee, Dinshaw Wacha, Chimanlal Setalvad, and Tej Bahadur Sapru.</li> <li>Chintamani was appointed Education Minister of the United Provinces under the Government of India Act of 1919.</li> <li>He was the Leader of the Opposition in the UP Legislative Council from 1927 to 1936.</li> </ul> </li> </ul>	<p><b>Open-mindedness</b></p> <ul style="list-style-type: none"> <li>He was known for his willingness to listen to different viewpoints. He was always ready to engage in constructive dialogue and was respected for his ability to see things from different perspectives.</li> </ul>



	<ul style="list-style-type: none"> <li>● In 1930, he was invited <b>as a delegate to the first Round Table Conference in London.</b></li> <li>● He was <b>knighted in 1939</b>, but he never stopped criticising the British Raj.</li> </ul>	
 <p><b>V. V. SUBRAMANYA IYER</b></p>	<ul style="list-style-type: none"> <li>● <b>Varahneri Venkatesh Subramanya was born on April 2, 1881, in the village of Varakaneri</b> in the Tiruchirappalli district of what was then Madras Pradesh.</li> <li>● He passed the <b>Barrister of Law examination in London but refused to take the degree.</b></li> <li>● <b>Iyer began visiting 'India House,'</b> which was once a popular hangout for Indian nationalists in London.</li> <li>● <b>Contributions:</b></li> <li>● When he <b>arrived in Pondicherry, he allegedly taught the youth how to use weapons and also delivered weapons</b> to other revolutionaries in the country.</li> <li>● <b>He was also an accomplished Tamil scholar.</b> <ul style="list-style-type: none"> <li>▸ He worked on the <b>English translation of Veer Savarkar's Marathi book " Swatantra Samar of 1857,"</b> which he secretly promoted in India.</li> <li>▸ While imprisoned by the British, <b>he used his time to translate important Tamil literature into English.</b></li> <li>▸ Iyer met Mahatma Gandhi in Pondicherry in 1917 and became a supporter of nonviolence.</li> </ul> </li> <li>● <b>Iyer was the editor of the Tamil magazine 'Desbakhthan'.</b></li> <li>● He is still regarded as the <b>father of the modern Tamil short story.</b></li> </ul>	<p><b>Respect for diversity and creativity</b></p> <ul style="list-style-type: none"> <li>● He was fluent in several languages and respected the diversity of cultures and ideas.</li> </ul>
 <p><b>Sagarmal Gopa</b></p>	<ul style="list-style-type: none"> <li>● Sagarmal Gopa, was born on 3 November 1900 in the princely state of Jaisalmer.</li> <li>● <b>Contributions:</b></li> <li>● Sagarmal led the <b>outlawed Praja Mandal and inspired people in Jaisalmer</b> and surrounding areas to join the freedom struggle.</li> <li>● In 1921, <b>Sagarmal joined Mahatma Gandhi's non-cooperation movement</b> and encouraged the people of Jaisalmer to join.</li> <li>● Sagarmal mentioned <b>Jawahar Singh's (Jaisalmer's ruler) atrocities in his book "Gundaraj of Jaisalmer,"</b> and inspired the public to join the freedom movement.</li> </ul>	<p><b>Justice and Leadership</b></p> <ul style="list-style-type: none"> <li>● By highlighting the atrocities of Jaisalmer's ruler, he stood for the people's justice.</li> </ul>
 <p><b>C F Andrews</b></p>	<ul style="list-style-type: none"> <li>● <b>Charles Freire Andrews was born in England on February 12, 1871.</b></li> <li>● On March 20, 1904, <b>he arrived in India and enrolled at St. Stephen's College in Delhi.</b></li> <li>● <b>Contributions:</b></li> <li>● He <b>fought British rule along with Mahatma Gandhi, Gopal Krishna Gokhale, and other prominent Indians.</b></li> <li>● Andrews was close friends with Rabindra Nath Tagore.</li> <li>● In Africa, <b>Andrews also collaborated closely with Mahatma Gandhi.</b></li> </ul> <p>Andrews is thought to have <b>brought Mahatma Gandhi and Rabindranath Tagore together.</b></p>	<p><b>Commitment to justice and Empathy</b></p> <ul style="list-style-type: none"> <li>● He fought against British rule in India and collaborated with prominent Indian leaders in the freedom struggle.</li> <li>● He was known for his concern for the poor and oppressed and was referred to as Deenbandhu.</li> </ul>

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Holistic coverage of the issue every week

ISSUE	DESCRIPTION	READ MORE
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 <b>Constitutional Ethos III – Unity in Diversity – Multilingualism</b>	<p>The finest expressions of India's culture are seen portrayed in fairs and festivals, arts, music, dance and drama, architectural and sculptural styles, literature and most importantly in languages. Language in India is not just a means for communicating or sharing information/knowledge by a community, language, in many cases, signifies a collective way of life.</p>	
 <b>Technology Governance- Forging a New Era of Public Policy</b>	<p>The emerging technologies of the Fourth Industrial Revolution have been at the centre of the innovations worldwide. While these technologies can help drive enormous social breakthroughs and economic value, they can also potentially be misused. Governing these new technologies will require new principles, rules and protocols that promote innovation while mitigating risks. This document explains the concept of technology governance and explores the best way forward to fill the existing gaps in effective regulation of technology.</p>	

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AIR



**SHUBHAM KUMAR**

**3**  
AIR



**GAMINI  
SINGLA**

**4**  
AIR



**AISHWARYA  
VERMA**

**5**  
AIR



**UTKARSH  
DWIVEDI**

**6**  
AIR



**YAKSH  
CHAUDHARY**

**7**  
AIR



**SAMYAK  
S JAIN**

**8**  
AIR



**ISHITA  
RATHI**

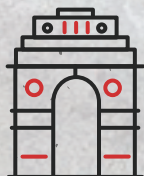
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**PREETAM  
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• **Mukherjee Nagar Center:** 635, Opposite Signature View Apartments, Banda Bahadur Marg, Mukherjee Nagar



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