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June 2025

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**DELHI : 8 JULY, 11 AM | 15 JULY, 8 AM | 18 JULY, 5 PM**
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# Table of Contents


***1. POLITY AND GOVERNANCE ___ 3***

**1.1. 50 years of Emergency ___ 3**

**1.2. Personality Rights ___ 4**

**1.3. News in Shorts ___ 5**

1.3.1. Constitutional Validity of Narco Tests ___ 5

1.3.2. Quality Council of India (QCI) ___ 6

1.3.3. ECINET app ___ 6

1.3.4. Adi Karmyogi Programme ___ 7

***2. INTERNATIONAL RELATIONS ___ 8***

**2.1. India and Shanghai Cooperation Organization (SCO) ___ 8**

**2.2. China-led Trilateral Nexus ___ 9**

**2.3. Israel-US-Iran Conflict ___ 11**

**2.4. Group of Seven (G7) ___ 12**

**2.5. World Trade Organization (WTO) Reforms ___ 14**

**2.6. Economic Community of West African States (ECOWAS) ___ 15**

**2.7. News in Shorts ___ 16**

2.7.1. UN Security Council (UNSC) ___ 16

2.7.2. UN Economic and Social Council (ECOSOC) ___ 17

2.7.3. Us Pulls Funding from Gavi, The Vaccine Alliance ___ 18

2.7.4. International Organisation for Mediation (IOMed) ___ 18

2.7.5. India-Kyrgyzstan Bilateral Investment Treaty (BIT) ___ 18

2.7.6. International Organization for Marine Aids to Navigation (IALA) ___ 19

2.7.7. Zangezur Corridor ___ 19

2.7.8. E-Passport ___ 20

***3. ECONOMY ___ 21***

**3.1. Rural India: The New Engine of India's Consumer Market ___ 21**

**3.2. Quick Commerce in India ___ 22**

**3.3. Aviation Safety ___ 24**

**3.4. Asset Monetization ___ 25**

**3.5. Foreign Direct Investment (FDI) ___ 28**

**3.6. Financing for Sustainable Development ___ 30**

3.6.1. Sustainable Development Report (2025) ___ 31

**3.7. Atal Mission for Rejuvenation and Urban Transformation (AMRUT) ___ 32**

**3.8. News in Shorts ___ 34**

3.8.1. Digital Payment Intelligence Platform (DPIP) ___ 34

3.8.2. Priority Sector Lending (PSL) Norms For Small Finance Banks (SFBs) ___ 34

3.8.3. Sagarmala Finance Corporation Limited (SMFCL) 35

3.8.4. Indigenous Polar Research Vessel (PRV) ___ 36

3.8.5. Report On Value of Output from Agriculture and Allied Sectors (2011-12 To 2023-24) ___ 36

3.8.6. Modified Interest Subvention Scheme (MISS) ___ 37

3.8.7. International Crops Research Institute For The Semi-Arid Tropics (ICRISAT) ___ 37

3.8.8. National Turmeric Board ___ 38

3.8.9. Nano Fertilizers ___ 39

***4. SECURITY ___ 40***

**4.1. Fifth-Generation Fighter Jet AMCA ___ 40**

**4.2. News in Shorts ___ 41**

4.2.1. Silver Notice ___ 41

4.2.2. Successful Trial Rudrastra Conducted At Pokhran, Rajasthan ___ 42

4.2.3. Exercises In News ___ 43

***5. ENVIRONMENT ___ 44***

**5.1. Agroforestry ___ 44**

**5.2. International Conference on Disaster Resilient Infrastructure 2025 ___ 45**

5.2.1. Disaster Risk Reduction (DRR) Financing ___ 46

**5.3. Maritime Disasters ___ 48**

**5.4. Crowd Disaster Management ___ 50**

**5.5. Bharat Forecast System ___ 52**

**5.6. News in Shorts ___ 52**

5.6.1. Intergovernmental Science-Policy Panel On Chemicals, Waste And Pollution Established ___ 52

5.6.2. ILO Convention on Biological Hazards ___ 53

5.6.3. State And Trends Of Carbon Pricing 2025 ___ 54

5.6.4. State of The Climate In Asia 2024 ___ 54

5.6.5. National Mission for a Green India ___ 55

5.6.6. Global Drought Outlook, 2025 Released ___ 55

5.6.7. Global Ocean Darkening Threatens Underwater Ecosystems ___ 56

5.6.8. Blue Nationally Determined Contributions (NDC) Challenge ___ 56

5.6.9. Third United Nations Ocean Conference (UNOC3) ___ 57

5.6.10. New Ramsar Sites in Rajasthan ___ 57

5.6.11. Greater Flamingo Sanctuary ___ 58

5.6.12. IBAT Alliance ___ 58

5.6.13. International Big Cat Alliance (IBCA) ___ 59

5.6.14. Revised Guidelines On National Bioenergy Programme ___ 59

5.6.15. Energy Transition Index (ETI), 2025 ___ 60

5.6.16. Thirstwave ___ 61

5.6.17. Salkhan Fossil Park Added To UNESCO Tentative List For World Heritage Sites ___ 61

5.6.18. Recent Volcanic EruptionsMount Etna ___ 62

***6. SOCIAL ISSUES ___ 63***

**6.1. Cultural Appropriation ___ 63**

**6.2. Tier-2 Influencers redefining Cultural Capital in Digital India ___ 64**

**6.3. Improvement in QS World University Rankings ___ 65**

**6.4. Manosphere ___ 67**

**6.5. Women in Armed Force** 68
**6.6. Global Tobacco Epidemic 2025** 69
**6.7. Global Gender Gap 2025** 70
**6.8. News in Shorts** 72
6.8.1. WHO Report On Social Connection 72
6.8.2. Performance Grade Index (PGI) 2.0 72
6.8.3. State of World Population Report 2025 73
6.8.4. Global Education Monitoring 2024 Report 73
6.8.5. Gender Budgeting Knowledge Hub Portal 74
***7. SCIENCE AND TECHNOLOGY*** ***76***
**7.1. Axiom-4 Mission** 76
**7.2. News in Shorts** 78
7.2.1. Science And Technology (S&T) Clusters Initiatives 78
7.2.2. Critical And Emerging Technologies Index 78
7.2.3. Quantum Entanglement-Based Communication Achieved 78
7.2.4. Fiber Optic Drones 79
7.2.5. DHRUVA (Digital Hub for Reference and Unique Virtual Address) 79
7.2.6. Tianwen-2 Probe 80
7.2.7. India's First Gene-Edited Sheep Produced 80
7.2.8. HIV Prevention Drug Approved 81
7.2.9. Weight Loss Drug 82
***8. CULTURE*** ***83***
**8.1. INS Kaundinya and Tankai method** 83
**8.2. News in Shorts** 84
8.2.1. Emblems and Names (Prevention of Improper Use) Act, 1950 84
8.2.2. Kumbakonam Vetrilai and Thovalai Maanikka Maalai 85
8.2.3. Word Test Championship 86
***9. ETHICS*** ***87***
**9.1. Values of Mahatma Gandhi and Sree Narayan Guru** 87
**9.2. Integral Humanism (Ekatm Manavvad)** 88
***10. SCHEMES IN NEWS*** ***90***
**10.1. Scheme to Promote Manufacturing of Electric Passenger Cars in India** 90
***11. PLACES IN NEWS*** ***91***
***12. PERSONALITIES IN NEWS*** ***92***

## 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.

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# 1. POLITY AND GOVERNANCE

## 1.1. 50 YEARS OF EMERGENCY

**Why in the News?**

2025 marked **50 years** since the imposition of the **National Emergency**, declared on June 25, 1975, and lasting until March 21, 1977.

**Why Emergency in 1975 was imposed?**

- **Social Unrest:** Large-scale protests, strikes, and demonstrations, notably **JP Movement led by Jayaprakash Narayan, questioned the legitimacy of Indira Gandhi's rule.** This unrest created an environment conducive to the declaration of Emergency, which the government claimed was necessary to restore order.

**Do you know**

> National Emergency has been declared three times- **1962 (Chinese aggression), 1971 (Pakistan war), 1975 (Internal disturbances)**

- **Economic crises post 1971 war:** Country was grappling with **severe economic distres s, including inflation, unemployment, and economic stagnation, exacerbated by global oil crisis.**
- **Political Factors:** Allahabad High Court had invalidated Indira Gandhi's election in the case of **State of UP vs. Raj Narain,** accusing her of electoral malpractice. Her response to this judgment and growing political unrest led to a desire to centralize power.

**Major Constitutional Amendments during Emergency:**

- **38th Amendment (1975)**: **Barred judicial review of Emergency declaration** by making **President's satisfaction to be 'final and conclusive'** under Articles 352, 356 and 360.
- **39th Amendment (1975)**: It introduced **changes in the method of deciding election disputes** relating to President, Vice President, Prime Minister and Speaker.
  - To be decided by such authority as may be **determined by Parliament.** Thus, effectively keeping these offices beyond scope of judiciary.
- **42nd Amendment (1976)**:
  - Gave primacy to **Directive Principles over Fundamental Rights** under article 31C.
  - **Curtailment of powers of Supreme Court and High Court** by various measures, like
    - **Article 32A** was inserted to deny SC power to consider the constitutional validity of State laws. **(omitted by 43rd amendment act)**
    - Deny HC power to **check constitutional validity of Central laws** (Article 131A & 226A).
  - Extended Lok Sabha term from **5 to 6 years**.
  - Gave **Parliament power to amend the Constitution** virtually unchecked by adding **clauses 4 & 5 to Article 368.**

Apart from this during emergency **civil liberties and fundamental rights were suspended** (as noted in the ADM Jabalpur case), media was censored, and **mass arrests occurred under laws like MISA.**

**Post-Emergency Reforms**

- **Shah Commission** established in **May 1977** to probe abuses like sterilisations, government employees forcibly retired, Censorship of courts & Parliament, etc.
- **Changes brought after Internal Emergency through 44th Amendment Act (1978)**:
  - **Changes under Article 352:**
    - Changed ground for imposing emergency to **"armed rebellion"** to prevent further misuse on ground of **"internal disturbance"** which has wider connotation.
    - Added safeguards like '**Union Cabinet to communicate to** President **in writing**' to prevent hasty decisions in future.
    - Mandatory **Parliamentary approval within a month by special majority** for Emergency Proclamations.
  - **Fundamental Rights:** Restricted scope of Article 359 i.e. Right to protection in respect of conviction for offences (Article 20) and right to life and personal liberty (Article 21) remain enforceable during emergency.

> It omitted **right to property as a fundamental right** and made it a **constitutional right under Article 300A.**

- **Removal of Article 257A:** It allowed Government of India to **deploy any armed force of Union or any other force to deal with any grave situation** of law and order in any State.
- **Term of Lok Sabha:** Back to 5 years from 6 years by amending Articles 83 and 172.
- **Restored judicial review:** Amendment restored the power of the judiciary to **review election disputes** concerning President and Vice-President.

**Conclusion**

Lessons of the Emergency are still very relevant today. There is always a risk that **power may be misused in the name of national interest or stability**, leading to suppression of dissent and violation of constitutional rights. It underscores the **need for constant vigilance by democratic forces** to protect constitutional safeguards and civil liberties.

**About National Emergency (Article 352)**

- **Grounds:** War, external aggression, or armed rebellion
- **Proclamation of National Emergency:** President can declare emergency after receiving a **written communication about cabinet's decision** in favour of emergency**.**
- **Approval:** Proclamation must be approved by both Houses (Lok Sabha & Rajya Sabha) **within one Month.**
  - If Lok Sabha is dissolved during this time, then **approval within 30 days of new Lok Sabha being constituted** and in meanwhile Rajya Sabha should have approved.
- **Majority Required:** Resolution for proclamation must be passed **by a majority of the total membership of that House** and by **a majority of not less than two- thirds of the members of that House present and voting** (Special Majority).
- **Duration:** Indefinite period by re promulgation. One proclamation is for **6 months period** unless revoked.
- **Revocation:** By President or Lok Sabha passing a resolution a disapproving it (and Not Rajya Sabha).

**Effect of Proclamation of National Emergency**

- **On Centre - State Relations:**
  - Centre entitled to give executive's **directions to States on 'any' matter.**
  - **Under Article 250,** Parliament can make **law on any State List** subject.
  - The President can modify **distribution of revenues** between the Centre and the State.
- **On life of Lok Sabha and Legislative Assembly:** May be extended by a law for one year at a time (for any length of time). However, cannot continue beyond six months after emergency ceased to operate.
- **On Fundamental Rights:**
  - **Under Article 358: Rights under** Article 19 are **automatically suspended** (only for Emergency imposed due to war or external aggression).(Change made by 44$^{th}$ Constitutional Amendment)
  - **Under Article 359:** Other fundamental rights (**except Article 20 and 21**) can be suspended **by President's Order**.

## 1.2. PERSONALITY RIGHTS

**Why in the news?**

Delhi high court recently protected personality rights of Sadhguru Jaggi Vasudev from being misused via AI by websites and platforms.

**More on the News**

- HC emphasized on growing misuse of AI tools that can **clone voices** with astonishing accuracy; **generate deepfakes** that mimic facial expressions etc. **thus exploiting personality rights.**
  - This poses risks not only to **reputation and privacy** but also to the **economic interests** of public figures, as their personas are **often used to endorse products or causes.**

**About Personality Rights**

- **Personality rights** refer to the right of an individual to control the unauthorized use of their personal attributes like **Name, Image, voice, Likeness and Distinctive expressions or traits.**

- These rights include **both commercial and non-commercial** aspects.

- Personality rights are **not expressly mentioned in any statute in India.**
- **Components of Personality Rights:**
  - **Right to publicity:** Right to protect one's image and likeness from **being commercially exploited without permission.**
    - It is partially and indirectly governed by **statutes like Trademarks Act, 1999 and Copyright Act, 1957.**
  - **Right to privacy:** Right to not have one's personality represented publicly without permission.
    - It is broadly governed under **Article 21 of the Constitution and** through **the Supreme Court judgment in Justice K.S. Puttaswamy (Retd.) Case (2017).**
- **Posthumous Personality Rights in India:** There is no specific statutory recognition protecting Posthumous Personality Rights.
  - However, **Emblems Act, 1950** prohibits commercial use of images of Mahatma Gandhi and Prime Minister.
  - **Deepa Jayakumar v. AL Vijay (2019) Judgment:** Personality right, reputation or privacy enjoyed by a person during his lifetime comes to an end after his or her lifetime.

**Important Judicial pronouncements on Personality rights in India**

- **ICC Development (International) Ltd. vs. Arvee Enterprises, 2003 (Delhi HC):** Any effort to take away publicity right from the individuals would be violative of Articles 19 and 21.
- **Arun Jaitley vs Network Solutions Private Limited and Ors case, 2011 (Delhi HC):** Popularity or fame of an individual will be no different on the internet than in reality.
- **Rajinikanth v. Varsha Productions (Madras HC, 2015):** Madras HC ruled that using a celebrity's name, image, or style without consent violates personality rights.

**Conclusion**

The absence of a specific legislation and inadequate protection under the IP laws constitutes a major challenge in enforcement of Personality rights. A comprehensive legal framework and empowerment of government agencies to actively monitor and block AI-generated impersonation is need of the hour.

## 1.3. NEWS IN SHORTS

### 1.3.1. CONSTITUTIONAL VALIDITY OF NARCO TESTS

The **Supreme Court recently overturned the Patna High Court's order which** allowed narco-tests on all accused and witnesses.

- The judgement was based on supreme courts observation on **Selvi v. State of Karnataka 2010 case wherein** constitutional validity **narco-analysis tests and other tests including polygraph** was considered

**About narco-analysis test**

- It is an **interrogation method** whereby a **suspect of a crime is injected with a psychoactive drug** under controlled conditions **to suppress their reasoning power** or the ability to determine what is good/bad for themselves.
- The drug used for this test is **sodium pentothal**, which is also used in **higher dosages for inducing general anesthesia in surgeries.**

**Key Highlights of the Judgement**

- **Involuntary Narco Test Contravenes Constitution:**
  - Such tests **violate Articles 20(3)** (right against self-incrimination) and **21** (right to personal liberty).
  - **Forced narco-tests** are strictly **illegal** under all circumstances.
  - Any information obtained from an **involuntary test** is **not admissible in court**.
- **Voluntary Narco-Test Cannot Be Sole Basis for Conviction:**
  - Even if done **voluntarily** and with safeguards, narco-analysis **reports cannot be used directly as evidence.**

    - This is because **subject does not exercise conscious control** over the responses during the administration of the test.
  - However, **new information** discovered through the test **can be admitted** under **the Indian Evidence Act, 1872**.
  - **In addition to selvi case this has also been reiterated by the Supreme court in Vinobhai v. State of Kerala and Manoj Kumar Soni v. State of M.P. cases.**
- **Limited Right to Voluntarily Undergo the Narco-Test:**
  - The accused **does not have an absolute right** to undergo narco-analysis.
  - However, the accused can undergo a voluntary narcoanalysis test at **an appropriate stage i.e.,** when the accused is exercising his right to lead evidence in a trial.

## 1.3.2. QUALITY COUNCIL OF INDIA (QCI)

Minister of State for Commerce and Industry **inaugurated the new unified headquarters of the Quality Council of India (QCI) at the World Trade Centre in New Delhi.**

**About Quality Council of India**

- **Genesis:** Established **as a National body for Accreditation** in 1996**.**
- **Mission:** To lead **nationwide quality movement** in India.
- **Non-Profit Organization (NPO):** It is an NPO registered under the **Societies Registration Act of 1860**
- **PPP Model:** Supported by the **Government of India and three premier industry associations** - ASSOCHAM, CII, and FICCI.
  - **DPIIT** (Ministry of Commerce) was made the **nodal agency** for **all matters connected with quality and QCI**.
- **Chairman:** Chairman of QCI **is appointed by the Prime Minister** on the recommendations of the industry to the Government.
- **Role in Swachh Bharat Mission (SBM):** Serves as the implementing agency for **Swachh Survekshan survey** to assess and rank cities on sanitation and cleanliness parameters.

The **World Accreditation Day (June 9)**, a global initiative by **International Laboratory Accreditation Cooperation (ILAC) and the International Accreditation Forum (IAF),** is celebrated **to promote the value of accreditation.**

## 1.3.3. ECINET APP

The Election Commission of India (ECI) used the new **ECINET digital platform** during recent bye-elections in **five Assembly constituencies** across **Kerala, Gujarat, Punjab, and West Bengal**.

**About ECINET app**

- **ECINET** is a new **one-stop platform for timely voter turnout reporting.**
  - Under the **Conduct of Elections Rules**, 1961, the **Presiding Officers** are required to **furnish Form 17C to booth-level agents** nominated by political parties, who are present at the polling station at the close of polls.
- **Key Features**
  - **Near Real-Time Voter Turnout Update**: Presiding officers now **update voter turnout every two hours** on polling day through the app, reducing delays.

**About Form 17C**

- Its 1st part provides information related to the number of:
  - Total number of electors assigned to the Polling Station
  - Total number of voters as entered in the Register for Voters (Form 17A)
  - Number of voters deciding not to record votes
  - Number of voters not allowed to vote
- Its 2nd part contains information like the **name of the candidate and the total votes they received.**

- **Data Accuracy Ensured:** Only **designated EC officials** can enter data to ensure accuracy.
- **Faster Index Card Publication**: Most fields in the Index Card are **auto-filled,** this allows the card to be published within **72 hours** of results, instead of taking weeks or months earlier.
  - The **Index Card** is a **non-statutory post-election report** that shares detailed **constituency-level election data** for all stakeholders, including researchers, academics, and policymakers.

## 1.3.4. ADI KARMYOGI PROGRAMME

The Ministry of Tribal Affairs launched the Adi Karmyogi Programme.

**About the Adi Karmyogi Programme**

- **Aim:** Building a **cadre of highly motivated officers** and change makers dedicated to **grassroots transformation**.
- **Objective:** To take **capacity-building** to about 20 lakh field-level stakeholders by creating a batch of trainers and master trainers at the State, district, and block levels.
- It seeks to bring a fundamental shift in the attitude and motivation of field-level officials, emphasizing **citizen-centric ideation** and **delivery**.
- **Target:** Reaching 1 lakh tribal villages and habitations.

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# 2. INTERNATIONAL RELATIONS

## 2.1. INDIA AND SHANGHAI COOPERATION ORGANIZATION (SCO)

**Why in the News?**

Recently, India has **refused** to sign a **joint declaration** at the **Shanghai Cooperation Organisation (SCO) Defence Ministers' meeting** in Qingdao, China.

**More on the News**

- Due to India's refusal the meeting concluded without a joint communique.
  - According to the **SCO Charter**, the group makes decisions by **aggreement without a vote**, and these decisions are considered **adopted if no member state raises objections**.
- India in SCO granted observer status in **2005** and elevated to **full membership in 2017.**

**Why did India refused to sign a Joint Declaration?**

- **Double Standard for Terrorism:** In the document, there was no mention of the recent Pahalgam attack but included militant activities in Balochistan.
  - India emphasized that SCO should **not hesitate to criticize nations** that promoted **cross-border terrorism.**
- **Non-Negotiable Core Principles**: India has consistently maintained that **peace** and **terrorism** cannot coexist, and this principle remains **non-negotiable** even in **multilateral forums**.

**India's Strategic Opportunities within the SCO Framework**

- **Engaging Central Asia/Geopolitical Outreach:** SCO forum can be used to improve relations with **Central Asian Republics (CARs)**.
  - This complements the **Connect Central Asia Policy**.
- **Economic and Energy Cooperation**: E.g., In 2022 Kazakhstan produced the largest share of uranium from mines (43% of world supply)
- **Promoting Regional Connectivity**: E.g. International North-South Transport Corridor (INSTC)
- **Engaging with Pakistan and China:** SCO acts as a **diplomatic channel** to maintain dialogue despite bilateral tensions.

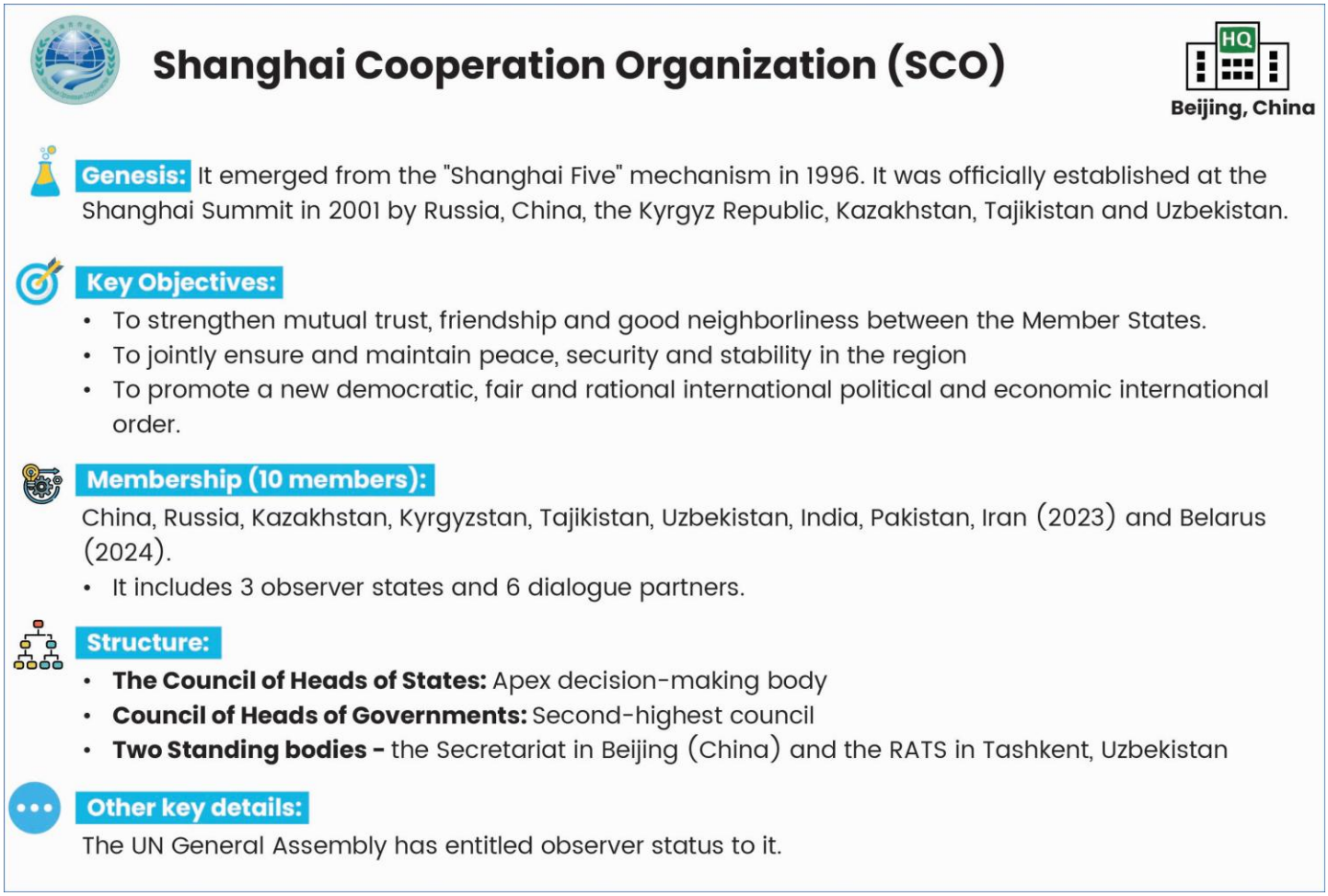
**What are India's concerns regarding SCO?**

- **China's multilateral power play:** China aims to transform the grouping into a China-led multilateral forum for regional geo-economic and strategic interests.
  - E.g., Help BRI gain regional prominence.
- **Expansion Dilemma**: Recently Belarus joined SCO; this raises its global profile but dilutes regional focus.
  - SCO was instituted **with the sole focus** on **Central Asia. Expansion could** potentially drive members to seek alternative cooperation formats.
- **SCO's Effectiveness:** The decisions of the SCO lack **the necessary executive guarantee** and as result, this organisation, like the **Non-Aligned Movement (NAM)**, has become merely a place to **discuss and announce positions and views.**
- **Perceived Anti-Western Group:** SCO is sometimes viewed as an anti-western block, especially with the ongoing geopolitical tensions involving **China**, **Russia**, and **Iran** with the **West**.

**How India balances Strategic Autonomy with multilateral engagement in the SCO?**

- **Prioritizing Strategic National Interests over Chinese Interest:** At the SCO 2023 summit in Pakistan, India refused to sign the paragraph that supported **China's Belt and Road Initiative (BRI)**.
  - This also shows how India is tackling **Pakistan-China Axis Agenda** in a group.
- **Selective Participation with Principles**: E.g., SCO's **Regional Anti- Terrorist Structure (RATS)** coordinates counter-terrorism efforts among member states.

- **Promoting Development-oriented platform:** E.g., SCO Sub-Group on Cooperation in Traditional Medicine and Startups and Innovation
  - This will ensure that SCO is **not viewed** as **anti-western block**.
- **Leveraging close Relationship with Russia**: E.g. India and Russia cooperate on core agenda items in the SCO.




**Role of SCO in Reshaping Global Multilateral Order**

- **SCO's global pivot:** Covers approximately 80% of the Eurasian landmass and represents about 42% of the global population.
- **Rising Economic Clout:** Member countries contribute around 25 % of the global GDP.
- **SCO's challenging Western Domination:** SCO is emerging as an **alternative** to **multilateral forums** established by the Western countries to fulfill their interest.
- **Filling the Security Void:** SCO addresses Afghanistan's security vacuum left by NATO alliances (led by the US), in 2021.
  - **Afghanistan Contact Group (ACG) was created by SCO in 2005** to maintain regional cooperation with Kabul.

**Conclusion**

India views the SCO as a vital platform for regional engagement, especially in Central Asia, but remains cautious of its China-centric tilt. India's balanced approach allows meaningful participation without compromising core values.

## 2.2. CHINA-LED TRILATERAL NEXUS

**Why in the News?**

**China**, **Pakistan**, and **Bangladesh** recently held their **first-ever trilateral meeting** on the sidelines of the 6th China-South Asia Cooperation Forum.

**More on the News**

- The meeting aimed to promote **regional cooperation** and **connectivity**, with China taking the lead in facilitating dialogue among them.
- This marks **China's second trilateral initiative** in India's immediate neighbourhood, following a similar engagement with **Pakistan and Afghanistan**.
  - The three sides aim to deepen cooperation in Belt and Road Initiative (BRI), promote the extension of the China-Pakistan Economic Corridor (CPEC) to Afghanistan, and strengthen the construction of regional interconnection networks.
- Also, multiple analyses point towards the emergence of a **strategic nexus involving China, Turkey, and Pakistan**, as evidenced by their coordinated responses during the Pahalgam crisis.
- These engagements challenge **India's traditional influence** in the region. **China intends to create an arc of strategic influence** spanning from **Afghanistan** to the **Bay of Bengal**.

**Factors facilitating these Trilateral Engagements**

- **Historical: Both Pakistan and China share longstanding border disputes with India. Their strategic partnership deepened significantly after the 1962 Sino-India war.**
- **China's Assertive Regional Policy**: Actively expanding geopolitical footprint in South to achieve **regional dominance** and access to **Indian Ocean trade routes**.
- **Strategic Balancing against India**: Countries like **Bangladesh** leverage ties with China to counter India's regional influence and assert greater **strategic autonomy**.
- **Infrastructure Diplomacy**: China is offering **faster** and **larger infrastructure funding** to India's neighbours.

**Rising China's Influence in South Asia**

- **Pakistan: E.g., Pakistan is dependent on China for majority of its defence import.**
- **Maldives**: E.g., China-Maldives Friendship Bridge and housing projects.
- **Nepal**: E.g., Pokhara International Airport and proposed trans-Himalayan connectivity projects.
- **Sri Lanka**: E.g., China developed the Hambantota Port and leased it for 99 years.
- **Bangladesh: E.g., China is Bangladesh's biggest defence supplier.**

**Concerns / Implications for India from Rising China's Influence**

- **Geostrategic Encirclement:** China has already established a presence at strategic ports under the **'String of Pearls' Strategy.** E.g., Hambantota Port (Srilanka).
  - Northeast India's vulnerability may be heightened if Bangladeshi territory can be used to destabilize Northeast India by **fuelling insurgent activities**.
- **Undermining India led Regional Platforms**: This could **undermine** the influence of **India-backed** groups such as the **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)**.
- **Diminishing Regional Influence**: E.g. Bangladesh expressed interest in involving China in the **Teesta River project**, which has long been a point of friction between India and Bangladesh.
- **India's Connectivity Initiatives:** Promotion of BRI Projects may impact India-led alternatives such as the BBIN (Bangladesh, Bhutan, India, Nepal) initiative and the India-Middle East-Europe Corridor (IMEC).

**Strategy to be adopted by India**

- **Counterbalance through Strategic Partnerships**: India should enhance cooperation with like-minded nations like Japan, the US, etc. to **balance Chinese influence** in South Asia. E.g. QUAD
- **Implementation of developmental projects:** The Ministry of External Affairs can set up a dedicated cell to coordinate specific projects and initiatives with neighbouring countries.
- **Development Fund**: Explore the feasibility of setting up a regional development fund for connectivity infrastructure under regional frameworks like **BIMSTEC**.
- **Bilateral and multilateral/ regional framework**: Conduct regular reviews of **multilateral/ regional framework** to align these mechanisms with changing regional dynamics.
  - India should actively work to get better outcome from its Act East policy.
- **Engagement through RIC:** China and Russia recently showed **interest in reviving RIC,** which was initiated in late 1990s by Russia, but has been dormant due to factors like 2020 Galwan Valley clashes.

**Conclusion**

The China-Pakistan-Bangladesh trilateral meeting marks a **significant development in South Asian geopolitics**. A **proactive, inclusive, and balanced foreign policy** backed by economic, strategic, and cultural outreach is essential for India to **safeguard its interests and retain its influence** in the neighbourhood.

## 2.3. ISRAEL-US-IRAN CONFLICT

**Why in the news?**

Recently, the Israel Defense Forces (IDF) launched "Operation Rising Lion", a major strike against Iranian nuclear infrastructure and ballistic missile capability.

**Key Developments of the conflict**

- **Israel's strikes:** It followed a **vote** by the **IAEA Board of Governors (35 member states)** declaring Iran in breach of a **1974 agreement—**the first such finding since **2006.**
  - Israel activated its new aerial defence system **'Barak Magen'** or **'Lightning Shield**,' against Iran's attack.
- **Retaliation by Iran**: It launched **'Operation True Promise 3**'.
- **Participation of United States**: It launched **"Operation Midnight Hammer"**, a series of **precision airstrikes** targeting **3 Iranian nuclear facilities**- **Natanz** (Iran's primary uranium enrichment facility), **Isfahan & Fordow.**
  - US used **GBU-57 Massive Ordnance Penetrators (MOP**), a **precision-guided conventional bomb** that can penetrate up to 200 feet below the surface before exploding.
- **India's response:**
  - Urged both sides to **avoid any escalatory steps and return to diplomacy**.
  - India **refrained** from participating in the **Shanghai Cooperation Organization (SCO) discussions Iran-Israel's conflict,** which condemned Israeli military strikes.

**About 'Barak Magen' or 'Lightning Shield**

- It is a **special version of Barak MX missile** defence system, built to protect navy ships from various aerial threats like **drones, cruise missiles, and ballistic missiles.**
- It complements Israel's existing systems- **Iron Dome, David's Sling, Arrow, plus future laser Iron Beam**.

**Implications of the Iran-Israel-US Conflict**

**Global Implications**

- **Rise in Nuclear Tensions:** Pre-emptive military action undermines the credibility of global nuclear non-proliferation norms, established by Treaty on the Non-Proliferation of Nuclear Weapons (NPT).
  - Iran suspended cooperation with the **IAEA** and is planning to withdraw from the NPT, signalling a **possible shift towards open pursuit of nuclear weapons.**
- **Threat to Trade and Energy Security:** Iran's Parliament has approved a proposal to close the **Strait of Hormuz** which could increase global **oil and LNG prices** and **shipping insurance and freight costs**.
  - **35%** of global seaborne oil and **20%** of LNG pass through the Strait.
- **Disruption of undersea cable infrastructure**: Several high-capacity routes like Europe India Gateway (EIG), FLAG (Fiber-Optic Link Around the Globe) etc. run through maritime corridors near Israel, Iran, and conflict-prone zones like the Red Sea, Gulf of Oman, and the Strait of Hormuz.

  - E.g., in 2024, three major cables were disrupted in the Red Sea during regional conflict escalation, leading to latency issues across Africa, the Gulf, and South Asia.
- **Power Vacuum**: A weakened Iran creates a vacuum of influence in Syria, Iraq and Lebanon, which could become the new sites of regional tension.
  - E.g., Iran exerted regional influence using its allies **in the informal Axis of Resistance**.

**Implications on India**

- **Decline in bilateral trade**:
  - **Iran**: From **$14 billion (2017)** to **$1.4 billion (2024)** after India halted oil imports under U.S. sanctions.
  - **Israel**: From **$11 billion (2022)** to **$3.75 billion (2024)** due to regional tensions.
- **Geopolitical Implications:** India maintains close ties with **both Israel and Iran**, requiring careful diplomatic balancing of interests.
  - E.g., Israel is a crucial partner in **defence and technology**, while Iran holds significance for **energy security** and as a **broader gateway to Eurasia.**
- **Infrastructure and Connectivity Projects:** India's investment in projects like Chabahar port, International North-South Transport Corridor etc. for trade and connectivity to Afghanistan, Central Asia and Eurasia will be affected.
  - E.g., Iran's missile attacks on Israel's Haifa port disrupted its role in the **India-Middle East-Europe Economic Corridor.**
- **Geopolitical Realignment:** The fall of Iran could **shift West Asia from multipolarity to US-led unipolarity**, reducing space for **non-Western powers like India.**
- **Security of Indian Nationals Abroad**: Nearly 28,000 Indians in Israel and 10,765 in Iran face heightened risk due to escalating tensions.
  - India launched **Operation Sindhu** to evacuate Indian nationals from conflict zones in Iran and Israel.

**Conclusion**

Iranian dimension in **India-Israel relations is a complex balancing act** that reflects **India's strategic autonomy** and its need to maintain parallel ties with both countries despite their adversarial relationship. With close ties to both Iran and Israel, India has the **opportunity to mediate between the two** as their confrontation continues and risks further geopolitical escalation

## 2.4. GROUP OF SEVEN (G7)

**Why in the News?**

India had participated as an Outreach Country in **51st G7 Summit (2025)** held in **Kananaskis, Canada.**

**More on the news**

- On the sidelines of the Summit, India-**Canada revived their bilateral relation** by-
  - deciding on **early return of High Commissioners;** and
  - resuming **negotiations** on **Early Progress Trade Agreement (EPTA)-** potentially setting the stage for a **full Comprehensive Economic Partnership Agreement (CEPA).**
- **Key Outcomes of 51st G7 Summit (2025) Summit**
  - **Kananaskis Wildfire Charter: Adopted a "whole of society" approach,** including Indigenous knowledge, sustainable forest management, and awareness campaigns (**endorsed by India).**
  - **G7 Critical Minerals Action Plan:** Secure sustainable and resilient supply chains for critical minerals.
  - **Key Initiatives on Artificial Intelligence (AI):** G7 GovAI Grand Challenge and a shared G7 AI Network (GAIN).

**About Group of Seven (G7)**

- **Genesis:** 1975 in response to economic and financial cooperation due to energy crisis.
- An **informal bloc of industrialized democracies** comprising: **France, Germany, Italy, the United Kingdom, Japan, the United States, and Canada**.
  - Russia was a member from **1998 to 2014**, during which the forum was called the **G8**.

- Russia's **annexation of Crimea in March 2014** led to its suspension from the group.
- **Purpose and Agenda**: Meets **annually** to deliberate on key global issues such as: Global economic governance, International security. Energy policy, etc.

**Contemporary Relevance of G7**

- **Global Security and Conflict Response**
  - **Ukraine Crisis:** The G7 coordinated sanctions against Russia & supported Ukraine with financial packages from frozen Russian assets.
  - **China Policy**: In **2025**, the **G7 condemned China's coercion toward Taiwan**, notably **dropping reference to the 'One China policy' (People's Republic of China (PRC) as the sole legal government of China)**.
    - Also, the **G7** launched The Partnership for Global Infrastructure and Investment (PGII) which aims to counter China's **Belt and Road Initiative**.
- **Influences agendas at international institutions:** Like the UN, IMF, and World Bank.
  - **Tax Governance**: It supports the **OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting** to ensure fair, stable global tax rules and **limit harmful corporate tax competition.**
  - **Anti-Money Laundering**: The **Financial Action Task Force (FATF**) was established in **1989** by the **G7** to examine and develop measures to **combat money laundering.**
- **Sustainable and Digital Governance: E.g., Global Partnership on Artificial Intelligence (GPAI)** and **the Hiroshima AI Process**, promoting ethical AI, transparency, data protection, and cybersecurity.
  - **Also**, The **G7 Climate Club** promotes global cooperation to achieve **net-zero by 2050.**
- **Engagement with the Global South**: Through outreach to Non-Members **like India, South Africa, Brazil, etc**.
- **Acts as a "club of democracies"**: It is a core alliance championing a **'rules-based international order'**, human rights, and democratic norms.
  - **E.g.**, It serves as **a collective counterweight** to authoritarian countries like China and Russia.

**Hurdles for the G7**

- **Declining Economic Dominance**: E.g., G7's share of global GDP has fallen from ~70% in the 1980s to ~44% (2021), while emerging economies (e.g., China, India) now drive growth.
- **Consensus-Based Decision that Obstructs Decisive Action:** E.g., 51st G7 failed to issue a strong statement on the Ukraine war **after resistance from US**.
- **Lack of Legal Authority**: As an informal forum without a permanent secretariat or binding legal framework, the G7's decisions lack enforceability, limiting its capacity to drive collective action effectively.
  - **E.g., 2025 Kananaskis Wildfire Charter** relies on voluntary compliance.
- **Underrepresentation of t Global South**: The absence of major emerging powers like **India, Brazil, Indonesia, and Nigeria** and blocs like **African Union (AU)**.
- **Competition from Alternative Blocs: BRICS Plus** offers **as an alternative to G7** with better represtation.

**India's Strategic Interests at the G7**

- **Strategically Balancing the West and the Global South**: India positions itself as a bridge between the industrialized West (G7) and the Global South.
- **Economic & Technological Cooperation: E.g.,** India has been a strong proponent of initiatives like the **G7's PGII,** which aims to invest in infrastructure in developing countries.
- **Democracy & Strategic Weight**: India's democratic credentials and economic growth (4th largest economy) make its voice influential within G7 dialogues.
- **Platform for Bilateral talks:** E.g., Indian PM met Canadian PM to reset the deteriorating relations.

**Conclusion**

G7 countries should be more inclusive in its approach and set up agenda which is relevant to the contemporary world order. For India, these challenges are also opportunities—to advocate for **fairer, more inclusive decision-making** and to **bridge the gap between the Global South** and industrialized nations.

## 2.5. WORLD TRADE ORGANIZATION (WTO) REFORMS

**Why in the News?**

Recently, India called for reforms to the WTO during a **high-level mini-ministerial meeting** in Paris ahead of **14th Ministerial Conference** in **Cameroon, 2026.**

**About WTO**

- **Genesis:1995** post the **Marrakesh Agreement**.
  - **Successor** to the **General Agreement on Tariffs and Trade (GATT)**.
  - **1986-94 Uruguay Round** negotiations led to **WTO's creation.**
- **Functions:** Administering **Trade Agreements**, **Forum for trade negotiations**, settling **trade disputes**, reviewing **national trade policies,** building **trade capacity of developing organisations.**
- **Members: 166** constituting 98% of World Trade. (**India** is a member since **1995).**
- **Decision Making:** Based **on Consensus.**
- **Ministerial Conference: Top-Level decision-making** body meeting **every two years.**
- **Secretariat:** Geneva.

**Key Agreements of WTO**

| Umbrella | Goods | Services | Intellectual Property |
|---|---|---|---|
| **Agreement** | **General Agreement on Tariffs and trade (GATT)** | **General Agreement on Trade in Services** | **Agreement on Trade-Related Aspects of intellectual Property Rights (TRIPS)** |
| **About** | **Binding commitments** on tariffs for goods and **combinations of tariffs and quotas** for some **agricultural goods.** | Covers all **internationally-traded services. E.g.,** Banking, telecommunications, tourism, professional services, etc. | Covers **Copyright Trademarks, Geographical indications, Industrial designs, Patents,** etc. |
| **Additional Details/ Guiding Principles** | • **Agreement on Agriculture**<br>• **Sanitary and Phytosanitary Measures Agreement**<br>• **Antidumping Agreement**<br>• **Trade-Related Investment Measures (TRIMs) Agreement** | • **Most-favoured-nation (MFN) treatment:** Favour one, favour all Principle of non-discrimination.<br>• Commitments on **market access** and **National Treatment** | • **National treatment** (treating one's own nationals and foreigners equally).<br>• **MFN treatment.** |

**Key reforms demanded by India**

- **India's 3-pronged reform agenda-**
  - **Tackling non-tariff barriers (NTBs) that restrict market access:** It includes restriction like import licensing, technical standards, complex customs procedures etc.
  - **Addressing distortions caused by non-market economies:** E.g., WTO rules are not sufficient to tackle China's state-support mechanisms which distort market competition and provide advantages to its domestic firms.
  - **Reviving the WTO's dispute settlement system**: It has been paralyzed since 2016 due to U.S. opposition to appellate body appointments.
    - > Although India is skeptical of Multi-Party Interim Appeal Arbitration Arrangement (MPIA).
- **Other key priorities:**
  - **JSIs (joint statement initiatives) (or) pluri-laterals**: These allow only a few countries to negotiate on specific issues, which can lead to unfair treatment of others not involved.

> Some countries want JSIs to become part of the broader multilateral system, but India opposes as it may **risk fragmenting the multilateral system**.
> For example, India refused to join China-led talks on **Investment Facilitation for Development.**

- **Permanent solutions for public food grain stockholding programs:** In 2013, an interim **"peace clause"** allowed developing countries to provide subsidies under public stockholding programmes without being legally challenged in the WTO's dispute settlement system.
- **Concerns of overfishing and indiscriminate fishing:** Agreement on Fisheries (2022) is in deadlock as it has not received acceptance from two-thirds of WTO members to come into effect.
  - India is not **part of the agreement, raising concerns like-**
    > **25-year transition period:** For developing countries under **Special and Differential Treatment (SDT)**.
    > **'Polluter pay principle'** and **'common but differentiated responsibilities':** More obligation to prohibit subsidies on members historically granting huge subsidies, and engaged in large-scale industrial fishing.

**Know the term**

- **Special and Differential Treatment (SDT):** It offers **non-negotiable right, flexibility** and **preferential treatment** to developing nations, recognising their **structural vulnerabilities.**
  - WTO relies on members to **self-declare** their developing status for **Special and Differential Treatment (SDT).**

**Other Contentious issues at WTO**

- **No Objective Measures of 'Development status':** India strongly **opposes any attempts** to reform SDT while USA opposes claims of countries like China as developing.
- **Emerging Issues:**
  - **Regulatory Shifts**: E.g., EU's **Carbon Border Adjustment Mechanism** will impact Low-Middle-Income countries disproportionally increasing complexity and compliance cost.
  - **Geopolitical Shifts and Protectionist Patterns**: E.g., USA-China tariff war.
  - **Newer Concepts**: New set of concepts on **data privacy, cross-border data flows,** and **taxation of digital services, climate change,** etc., requires international cooperation.

**Way Forward**

- **Ensuring developing countries have a say in decision-making processes** along with addressing their concerns over issues like **cultural subsidies, intellectual property, etc.**
- **Strengthen monitoring and notification systems for NTBs** to improve transparency and reduce misuse.
- **Develop clear rules to prevent fragmentation** caused by plurilateral agreements and ensure they do not undermine the multilateral system.
- **Explore alternative interim dispute resolution models**.
- **Address trade distortions** arising from state-owned enterprises and industrial subsidies, ensuring a level playing field.
- **Guiding Principles** like the Paris Agreement's **"Common but Differentiated Responsibilities"** should be adopted to **prevent unjust application** of **trade obligations** on the developing countries.

**Conclusion**

While the WTO has been instrumental in expanding and regulating international trade through a rules-based system, its effectiveness is currently undermined by issues **like non-tariff barriers, trade distortions, and stagnated dispute settlement system.** India's call for reforms encapsulates the aspirations of many developing and least-developed countries seeking a fair, transparent, and inclusive multilateral trading system**.**

## 2.6. ECONOMIC COMMUNITY OF WEST AFRICAN STATES (ECOWAS)

**Why in the News?**

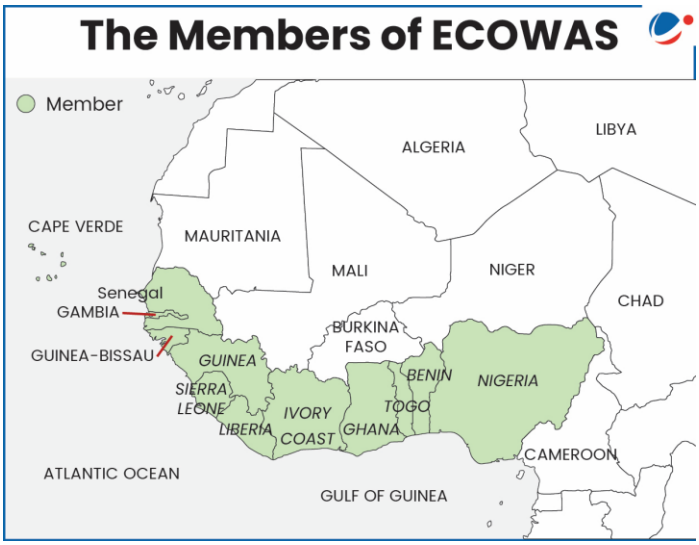
ECOWAS marked its 50th anniversary this year.

**About ECOWAS**

- **Established**: Established on **28 May 1975 by 15 West African countries** through the **Treaty of Lagos**.
- **Headquarter:** Abuja, **Nigeria**.
- **Regional Bloc:** ECOWAS comprises 12 West African countries (June 2025).
  - **Its** member countries include **Benin, Cabo Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Nigeria, Senegal, Sierra Leone, and Togo.**
- **Aim:** To promote cooperation and integration for an **economic union in West Africa**, improving living standards, ensuring economic stability, strengthening member relations, and contributing to Africa's development.
  - ECOWAS established its free trade area in 1990 and adopted a common external tariff in January 2015.

**India–ECOWAS Relations**

- **Diplomatic Relations:** India became an **Observer** to ECOWAS in 2004.
  - ECOWAS supports India's bid for **permanent UN Security Council** membership.
- **South–South Cooperation:** India supports regional development of western Africa. E.g. MoU between **ECOWAS Centre for Renewable Energy and Energy Efficiency and India's International Solar Alliance (ISA)** for renewable energy cooperation.
- **Economic Cooperation:** In 2006, India gave the grouping a line of credit (LoC) worth USD 250 million to supplement **Focus Africa Programme.**
  - India launched an **integrated programme 'Focus Africa'** from the **year 2002-03** to increase interactions between India and Africa by identifying the areas of bilateral trade and investment.




**Conclusion**

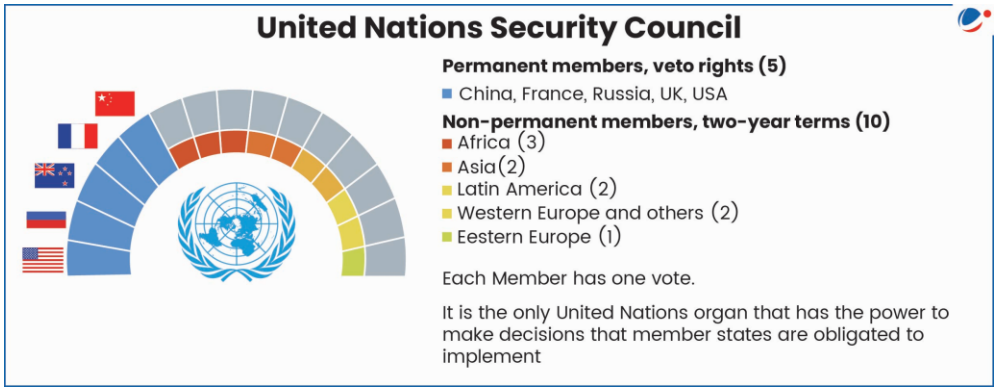
As ECOWAS enters its sixth decade, it stands at a historic crossroads. While its legacy of integration, peacekeeping, and human development is commendable, internal fragmentation, political instability, and citizen disconnect threaten its future relevance.

## 2.7. NEWS IN SHORTS

### 2.7.1. UN SECURITY COUNCIL (UNSC)

5 countries were **elected to serve as non-permanent** members of the **United Nations Security Council (UNSC).**

- These countries are **Bahrain, Colombia, the Democratic Republic of Congo, Latvia, and Liberia.**




**About UNSC**

- **Genesis:** Established in 1945 through the UN Charter as one of the 6 principal organs of the UN.
- **Purpose:** Maintaining international peace and security.
- **Members:** 5 permanent members (P5) and 10 non-permanent members (refer to the infographic).

**UNSC Reform Proposal (2024)**

- **Proposed by: G4 Nations (India, Brazil, Germany, Japan)**
- **Need:**
  - **Misuse of veto power** by permanent members
  - **Poor regional representation**
  - **Does not reflect current global realities**
- **Key provisions of proposed reforms**
  - **Expanded Membership**:**11 permanent** and **14–15 non-permanent** members
  - **Equitable Regional Representation**: 6 new permanent seats to be distributed among **Africa, Asia-Pacific, Latin America & Caribbean, and Western Europe/Other States.**
  - **No veto for new permanent members initially:** This provision to be reviewed **15 years** after reforms are implemented.

**Related news**

Pakistan has been elected as the **Chair of the UNSC's Taliban Sanctions Committee** and V**ice-Chair of the Counter-Terrorism Committee** for 2025.

**Taliban Sanctions Committee (TSC)**

- **Genesis:** Created under **UNSC Resolution 1988 (2011)**
- **Key Function:** To monitor and enforce **sanctions against individuals, groups, and entities linked to the Taliban** in constituting a threat to the peace, stability and security of Afghanistan

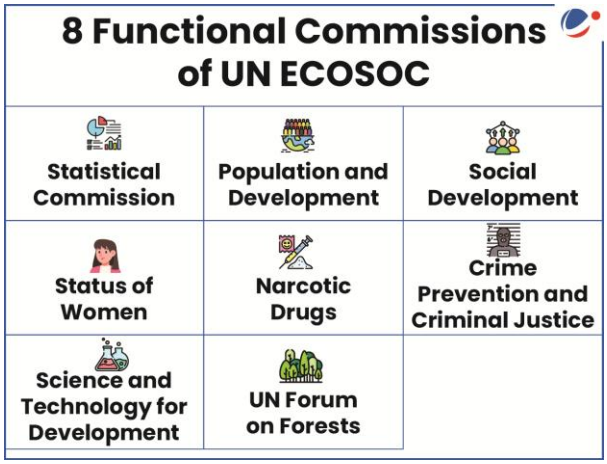
**Counter-Terrorism Committee (CTC)**

- **Genesis: Established a**fter the 9/11 attacks, through **UNSC Resolution 1373 (2001) which is** binding on all UN member states
- **Members**: All **15 Security Council** members
- **Key Functions:** Monitor countries' efforts to fight terrorism by ensuring they c**riminalize terror financing, freeze funds** linked to terrorists, s**hare intelligence** with other countries, etc.

## 2.7.2. UN ECONOMIC AND SOCIAL COUNCIL (ECOSOC)

India has been elected to the **UN Economic and Social Council (ECOSOC)** for the term **2026–2028**.

- **Membership** in ECOSOC is region-based and divided among five geographic groups Africa, Asia-Pacific, Eastern European, Latin American & Caribbean, and Western European and other States.
- India is elected under the **Asia-Pacific group**, alongside **China, Lebanon, and Turkmenistan** (4 seats available)




**About UN Economic and Social Council (ECOSOC)**

- **Headquarter:** New York (USA)
- **Genesis:** Established in 1945 as one of the six main organs of the United Nations.
- **Members:** 54 (elected by the UN General Assembly for a 3-year term; 18 elected each year)
- **Key Role:**
  - **Advance the three dimensions of sustainable development: economic, social and environmental**
  - **Coordinates** work of **UN bodies and specialized agencies**
  - Issues **policy recommendations** to the UN system and member states

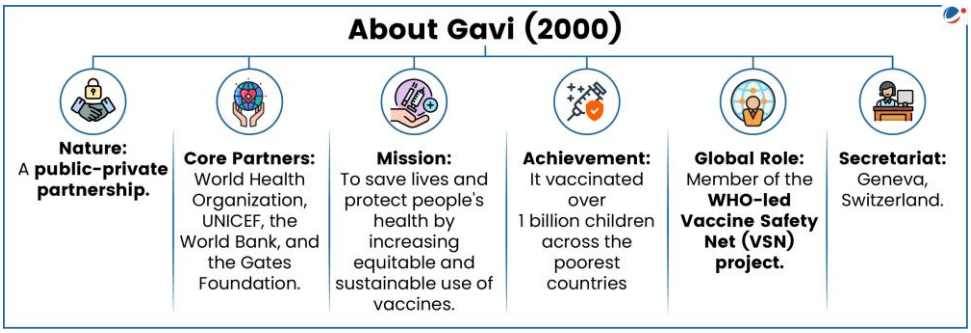
## 2.7.3. US PULLS FUNDING FROM GAVI, THE VACCINE ALLIANCE

The US has accused Gavi, along with the World Health Organisation (WHO), of silencing dissenting views and legitimate questions about vaccine safety.

- The US has long been one of biggest supporters of Gavi.

**Rising trend of US withdrawal from Global Alliance**

- In recent years, the United States has exhibited a rising trend of withdrawing from key global alliances and institutions such as the **WHO**, the Paris Climate Agreement, **UN Human Rights Council**, UN Relief and Works Agency (UNRWA), etc.




- As a global superpower, the U.S.'s withdrawal carries far greater implications for international governance.

**Impact of US Withdrawing from Global Alliances**

- **Weakening of Multilateralism/Rule-Based Order**: E.g. Israel withdraws participation from UN Human Rights Council.
- **Undermine Climate Actions**: 2024 was recorded as the hottest year and the USA stands as the world's second-largest greenhouse gas emitter behind China.
- **Shortage of Funds for Health**: US exit could leave institutions with fund crunch. E.g., In 2024, US-funded about 15% of WHO's total funding.
- **Other**: It creates a leadership vacuum that can be filled up by China (it may reduce India's influence in global organisations' decision-making), etc.

## 2.7.4. INTERNATIONAL ORGANISATION FOR MEDIATION (IOMED)

China formally established the **IOMed** as a global **alternative to** traditional institutions such as the **International Court of Justice (ICJ) and the Permanent Court of Arbitration.**

**About IOMed**

- **Purpose:** dedicated to resolving international disputes through mediation.
- **Members:** Over 30 countries joined as founding members including **Indonesia, Pakistan, and Belarus.**
  - Most founding members are from **Asia, Africa, and the Caribbean**, highlighting its **non-Western orientation**.
- **Scope:**
  - Disputes between states,
  - Disputes Between a state and nationals of another country,
  - International commercial disagreements

## 2.7.5. INDIA-KYRGYZSTAN BILATERAL INVESTMENT TREATY (BIT)

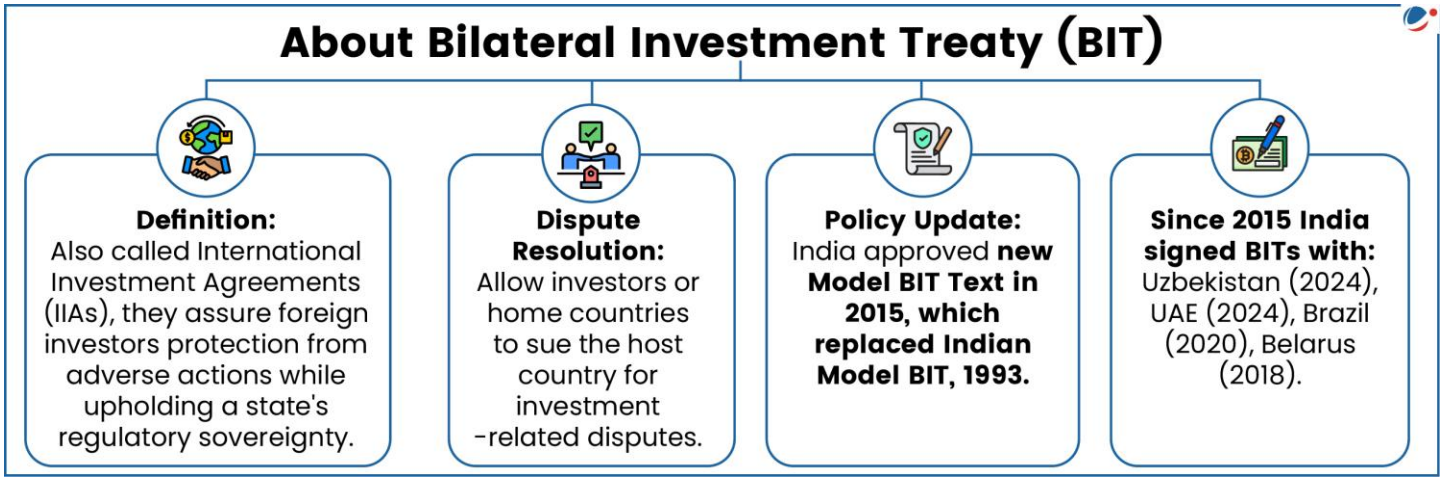
The Bilateral Investment Treaty (BIT) signed in **June 2019, entered into force with effect from 5th June 2025.**

- This new BIT **replaces the earlier agreement enforced in 2000**, ensuring continuity in the **protection of investments between the two nations.**

**India-Kyrgyzstan Bilateral Investment Treaty (BIT)**

- The BIT balances the investor rights with the sovereign regulatory powers of both countries and reflects a shared commitment to create a resilient and transparent investment climate.
- **Key Features of the BIT**
  - **Definition of Assets**: **Enterprise-based definition** with an inclusion and exclusion list & clarifies investment characteristics: capital commitment, profit expectation, risk assumption, etc.

- **Exclusions for Policy Space**: Excludes local government, government procurement, taxation, compulsory licenses, etc.
- **Removes the Most Favored Nation (MFN) clause:** Which previously allowed investors to selectively import favorable provisions from other treaties signed by the Host State.
  - This removal will ensure more consistent treatment.
- The BIT contains General and security exceptions: The attempt is to carve out a policy space for the State.
  - **General exceptions E.g.,** Protection of environment, ensuring public health and safety, etc.
- **Revised dispute resolution mechanism**: Requires investors to first use local remedies before international arbitration, promoting alternative dispute resolution.




***To know more about India's Bilateral Investment Treaty (BIT), refer to Article 2.1. Bilateral Investment Treaty (BIT) in March 2025 Monthly Current Affairs Magazine.***

## 2.7.6. INTERNATIONAL ORGANIZATION FOR MARINE AIDS TO NAVIGATION (IALA)

India participated in **2nd Session of IALA Council as Vice President in Nice, France.**

- India will also be hosting the **3rd IALA General Assembly in December 2025** and the **21st IALA Conference in 2027,** both to be held in Mumbai, Maharashtra.

**About IALA**

- **Genesis:** ESTABLISHED IN **1957** AS AN NGO **as the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA).**
  - In **2024**, IALA became an **Intergovernmental Organization (IGO)** to strengthen its global role in maritime safety and standard setting.
- **Purpose: TO FOSTER THE SAFE, ECONOMIC AND EFFICIENT MOVEMENT OF VESSELS**, through improvement and harmonisation of aids to navigation worldwide.
- **Mandate:**
  - Harmonise global maritime navigation systems
  - Promote maritime safety initiatives
  - Collaborate with member states, international organizations, and industry stakeholders to address emerging challenges in maritime safety and environmental protection.

## 2.7.7. ZANGEZUR CORRIDOR

Türkiye urged **Armenia and Azerbaijan take steps to open the Zangezur Corridor.**

- The two countries have been in conflict over **Nagorno-Karabakh** (Artsakh) since 1917. The region is **internationally part of Azerbaijan**, but **mainly ethnic Armenians** live there.

**About Zangezur Corridor**

- **Location:** It is a **proposed 43-kilometer transport route** through **Armenia's Syunik Province.**

- **Objective:** Connecting **Azerbaijan's Baku Port in Caspian Sea** to the **Nakhchivan Autonomous Region**, a western exclave of Azerbaijan separated by Armenian territory, and further to **Turkey.**
- **India's concerns:** It can undermine India's investments in **Chabahar Port** and **International North South Corridor (INSTC)** by offering a competing pathway, reducing India's regional leverage.

## 2.7.8. E-PASSPORT

Ministry of External Affairs rolled out e-Passport and Passport Seva Programme 2.0.

**About e-Passport**

- An ePassport is a **combined paper and electronic passport** with a **Radio Frequency Identification (RFID) Chip and an antenna embedded as an inlay of passport** that contains the personal particulars and biometric information of the passport holder.
  - The underlying technology supporting the security of the ePassport is the **Public Key Infrastructure (PKI)** solution.
- ePassport **safeguards the passport from forgery and potential fraudulent activities** like fake passports while confirming the genuineness at border controls.

QUIZ

**SMART QUIZ**

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

# 3. ECONOMY

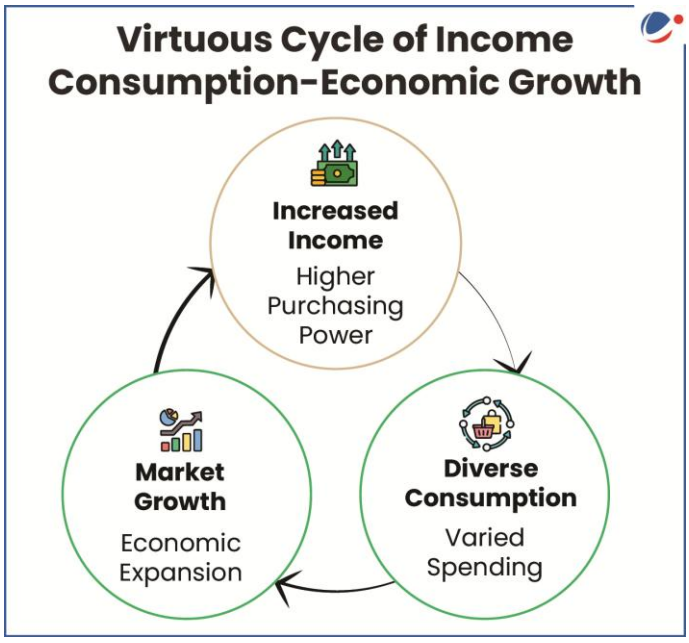
## 3.1. RURAL INDIA: THE NEW ENGINE OF INDIA'S CONSUMER MARKET

**Why in the News?**

In the context of **robust growth** seen in the **rural consumer market**, the Union Minister for Finance urged the FinTech companies to **widen** their **perspective** towards **rural India** from a **social responsibility** to an opportunity to **"create new markets"**.

**Rural India: The new engine of India's consumer market**

- **Growing Rural markets: Rural consumer demand** is outpacing urban demand. E.g., Growth of **Fast-Moving Consumer Goods (FMCG) sector** (Dabur etc.) in rural India is faster than cities.
  - The average estimated **Monthly Per Capita Consumption Expenditure (**MPCE) in **rural** India **rose 9.2%** in 2023-24 from the previous year, **higher than urban** areas, with **8.3% rise. (Household Consumption Expenditure Survey (HCES) 2023-24)**
  - It is significant because India is a predominantly **domestic consumption-driven economy** with about **2/3rd** of India's GDP coming from **household and government consumption.**
- **Declining Rural-Urban consumption inequality**: The urban-rural gap in **MPCE** declined to 69.7% in 2023-24 from 71.2% in 2022-23.
- **Urbanization of consumption patterns**: **Rural and semi-urban** markets are tending towards **mimicking urban consumption patterns**.
  - E.g., **Non-food items dominating** average monthly expenses across the country with increase in expenditure on **communication, education, and medical services**.




**Reasons for growth of rural consumer market**

- **Rising Disposable Incomes: Non-farm diversification** (e.g., MGNREGA, rural entrepreneurship, remittances) is making rural incomes more **resilient and discretionary**.
- **Reduced Rural Poverty:** Rural poverty fell to less than **5%** for the first time in **2023-24** from **25.7% in 2011-12.** (SBI Report)
- **Role of Government Initiatives**: Targeted government initiatives like **Direct Benefit Transfers (DBT)** and **PM-KISAN** have injected liquidity and fostered financial stability for rural population, leading to increased consumption expenditure**.**
- **Infrastructure Development:** Development of **physical and digital connectivity infrastructure** leads to better **market access, facilitating digital payments, e-commerce, and access to online services**.
  - **Physical connectivity**: Helps in **strengthening supply chains** and **movement** of people and goods. E.g., **Pradhan Mantri Gram Sadak Yojana, etc.**
  - **Digital Connectivity**: It reduces **information asymmetry. Rural internet subscriptions** have seen a remarkable **200% increase** between 2015 and 2021, outpacing urban growth (158%). **E.g., Bharat Net initiative.**
- **Financial inclusion:** The expansion of financial services in rural India has been a cornerstone of its consumer market growth, **empowering households** with greater **economic agency.**
  - **E.g., UPI, PM-Jan Dhan Yojana** (67% of bank accounts opened in rural or semi-urban areas and 55% by women.)

**What are the concerns with the current rise in rural consumption?**

- **Intra-rural inequality**: Shows rural income growth is **not uniformly distributed**, prevalence of socio-economic disparities and **rise of a rural affluent class** driving discretionary spending.
  - E.g., Top 5% of rural consumers reportedly spending more than six times what the poorest consume on average.
- **Infrastructure gaps**: Inadequate **last-mile connectivity and logistics bottlenecks**, fragmented supply chains, limited and skewed internet penetration, etc.
  - **Inadequate Cold chains & storage**: For perishable goods and pharmaceuticals, rural supply chains often lack the infrastructure for safe delivery.
- **Digital Divide**: Low rural **digital literacy**, language barriers, prevailing lack of trust and **cybersecurity** concerns form barrier to the widespread adoption of e-commerce and digital payments in rural areas.
- **Climate vulnerabilities**: Climate events can cause **income shocks**, derailing consumption. E.g., erratic monsoons impacting farm and allied incomes.

**What needs to be done?**

- **By Government:**
  - **Reduce intra-rural inequality** through targeted investments in aspirational districts.
  - **Convergence of schemes** for **rural skilling** (such as PM Kaushal Vikas Yojana) and **entrepreneurship** (such as Deen Dayal Antyodaya Yojana – National Rural Livelihood Mission), especially among women and youth.
  - Ensure **multi-modal rural infrastructure** (roads, internet, warehousing).
- **By Private Sector:**
  - **Localize marketing and products**—adapt to cultural and language diversity.
  - Promote **rural micro-entrepreneurship** (e.g., **HUL's Project Shakti**: 1.6 lakh women entrepreneurs).
  - Use **low-cost tech** like IVR, vernacular AI chatbots, or WhatsApp commerce to connect.

**Conclusion**

Rural India can no more be seen from a myopic lens of social responsibility. It is set to be the **engine for growth in the consumer-led growth trajectory of India.** Continued investment in **robust infrastructure,** alongside **targeted programs** to enhance digital and financial literacy, build trust in digital platforms, and foster inclusive income growth, will be paramount for **sustaining the growth of the rural consumer market.**

## 3.2. QUICK COMMERCE IN INDIA

**Why in the news?**

According to a **report by consulting firm Kearney**, while India's quick commerce sector is expected to witness significant growth, however it is bringing changes in consumer behaviour.

**What is Quick Commerce?**

- It refers to **the instantaneous or rapid delivery of goods and services,** preferably **within an hour or less.**
  - E-commerce generally takes 3-4 days for the delivery of goods and services.
- **Benefits:** 24*7 operation, **reduces role of middlemen, improves marketing and supply chain management** by hyper-local sourcing.

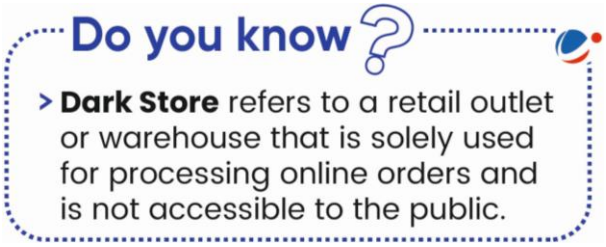
**Status of Quick Commerce**

- **Growth Rate:** India's quick commerce to grow 75-100% year on year basis ( report by Bernstein).
- **Size:** Expected to reach US$5 billion by 2025 and US$9.94 billion by 2029
- **Dominant Players:** Zepto, Blinkit, Swiggy's Instamart.

**Growth Drivers of Quick Commerce**

- **Increased penetration of Internet and smartphones**: It allows consumers to shop online from mobile applications anywhere, at any time.
  - Moreover, the **COVID-19 p**andemic accelerated the adoption of quick commerce by boosting demand for contactless deliveries.
- **Rise of social media**: E.g. Brands now cater to large audiences through platforms such as **Instagram, TikTok, YouTube** and **influencer marketing.**

- **Consumer Behaviour: E.g.** Younger generations are more **tech-savvy** and prioritize online shopping due to its convenience, affordability and speed.
- **Technological Advancements:**
  - **Advanced Algorithms** predicts **consumer demands improving** overall efficiency of **supply chain.**
  - **Automation and Robotics** enhance the **speed and accuracy of warehouse operation** with use of real-time tracking and automated warehouses.
- **Favourable Government Initiatives:**
  - **Unified Payments Interface (UPI), Bharat Net and RuPay** have made payments convenient and hassle-free.
  - **Open Network for Digital Commerce (ONDC)** has increased the reach of India's quick commerce ecosystem.




**Unintended Consequences of Quick Commerce**

- **Instant Gratification:** Demographic preference for **instant gratification** has increased, **leading to frequent and impulsive buying.**
  - Moreover, websites uses cookies to track purchasing behaviour and target customer to **trigger their psychology** to buy more and more.
- **Social security concerns of gig workers:** E.g. Instances such as **10-minute delivery promises** raise ethical challenges related to the safety of delivery partners, impact on road safety, etc.
- **Environmental Sustainability:** E.g. **increased congestion on roads** due to the use of motorbikes may increase the **carbon footprint** by emission of **greenhouse gases**.
- **Health Implications:** Freshness of online grocery items remains a concern. **E.g. Poor handling of dairy, eggs can pose serious health risks.**
- **Impact on Retail Businesses and Kirana Stores:** It has reduced footfall in malls, supermarkets, and small stores.
  - Retailers are facing challenges related to the shrinkage of sales and profit margin, especially in urban areas.

**Striking the Right Balance**

- **Social Security Net**: Rigid safety standards for delivery partners, including **insurance for delivery partners, prompt medical assistance** in case of accident, should be undertaken.
- **Strengthen Hygiene Practices for Improved Health Outcomes:** E.g. Recently, FSSAI directed e-commerce platforms to step up food safety protocols, warning of strict action for lapses.
- **Collaboration and Integration with existing industries:** E.g. **Building partnerships with local and kirana stores** can enhance inventory availability and also aid in distribution efficiency.
- **Regulatory Intervention:** As the market expands, government can intervene to encourage competition, discourage monopolistic behaviour, and safeguard consumer interests. **E.g. data protection, labour rights for delivery personnel**.
- **Environmental Resilience:** Focus should be on **electrification of delivery vehicles**, **usage of drones for short-distance deliveries** and **optimization of deliveries by harmonizing addresses**.
  - **Declogging the Urban Traffic:** E.g. the use of mobile warehouses, collection points can help in vehicle load optimization on the urban roads.

**Conclusion**

While quick commerce has enhanced consumer convenience, it has simultaneously fuelled unsustainable consumerism and raised concerns regarding the social security of gig workers. Thus, it becomes necessary to implement measures so as to ensure the protection of gig workers and simultaneously promote awareness among consumers to curb impulsive and unsustainable spending habits.

***To know more about impact of social media on consumer behaviour refer to Article 9.1. Social Media Influencer and Consumer Behavior in April 2025 Monthly Current Affairs Magazine.***

## 3.3. AVIATION SAFETY

**Why in the News?**

Recently, **the Aircraft Accident Investigation Bureau (AAIB)** released a preliminary report of the investigation into the fatal plane crash in Ahmedabad.

**More on News**

- It provided details on the timing of the **MAYDAY call made by the pilot.**
  - Mayday call signals a life-threatening emergency requiring immediate assistance.
  - **The frequencies 121.5 MHz and 243 MHz** are designated as emergency frequencies in aviation.
- Also, **Black Boxes** were retrieved and their data downloaded from **the Aircraft Accident Investigation Bureau (AAIB) Lab.**
  - A Black Box comprises of two critical flight recording devices: Flight data recorder (parameters like speed, altitude, engine performance, etc.) and Cockpit Voice recorder.
  - **It is bright orange in colour** to ensure high visibility and made up of strong substances **(steel or titanium).**

### Status of Aviation Sector in India

- **Rank:** India is the **third-largest aviation market** globally in terms of passenger traffic (Passengers >350 million)
- **Gender Equality:** 15% of the pilots in India are women (global average is 5%).
- **Growth: 10-12% of annual growth** in domestic air passenger traffic.
- **Capex:** ₹91,000 crore under National Infrastructure Pipeline (NIP) during FY 2019-20 to FY 2024-25.
- **Green Transition:** 81 airports have switched over to 100% green energy usage.
- **Maintenance, Repair & Overhaul (MRO):** A uniform 5% Integrated GST rate for aircraft parts to promote India as a competitive global MRO hub.

**Institutional Frameworks for Aviation Security in India**

- **Directorate General of Civil Aviation (DGCA)**
  - **Regulatory body in the field of Civil Aviation**, primarily dealing with safety issues.
  - **Responsibility**: Regulation of air transport services to/from/within India and for the enforcement of civil air regulations, air safety, and airworthiness standards.
    - Also coordinates all regulatory functions with the **International Civil Aviation Organisation (ICAO).**
- **Airports Economic Regulatory Authority of India (AERA)**
  - **Established** in 2009 under the **Airports Economic Regulatory Authority of India Act, 2008.**
  - **Objective**: To regulate tariffs for aeronautical services, determine other airport charges for services rendered at major airports and monitor the performance standards of such airports.
- **Bureau of Civil Aviation Security (BCAS)**
  - Initially set up as a cell in the **DGCA in 1978** and later reorganised into an independent department under the Ministry of Civil Aviation in 1987.
  - **Major Responsibility**: It lays down **Aviation Security Standards** per **Annexe 17 to the Chicago Convention** of ICAO.
    - **Annexe 17 is for** Safeguarding International Civil Aviation Against Acts of Unlawful Interference**.**
- **Aircraft Accident Investigation Bureau**
  - It was established in 2012 as an attached office under the Union Ministry of Civil Aviation.
  - It facilitates investigation and administrative work of the Court or Assessors appointed by the Central Government under the **Aircraft (Investigation of Accidents and Incidents) Rules, 2017.**

- **Authority:** Mandated for **immediate and unrestricted access to all relevant evidence from any agency/**organisation **without seeking prior consent from judicial bodies** or other Government authorities.
- All Accidents and Serious Incidents involving aircraft with an **All-up Weight (AUW) of more than 2250 kg or Turbojet aircraft are investigated by AAIB.**
  - Investigations into occurrences involving an aircraft of **maximum mass of 2250 Kg or less**, which are classified as **Serious Incidents**, are carried out by DGCA.

**About International Civil Aviation Organization (ICAO)**

- **Genesis:** In **1944 by Convention on International Civil Aviation (Chicago Convention).**
- **About: United Nations agency** which helps countries to cooperate together and share their skies to their mutual benefit.
- **Members:** 193 (India is a Member)
- **Mandate:** Assist governments with the development of mutually recognized technical standards and global plans.

**Issues and recommendations of aviation security by the Parliamentary Standing Committee on Transport, Tourism and Culture**

| Domain | Challenges | Recommendations |
|---|---|---|
| **Imbalanced capital outlay** | **DGCA receives ₹30 crore (~50% of aviation capital budget)** raising concerns about security infrastructure and accident investigation capabilities. | **Balanced allocation across aviation bodies** to address critical gaps in security and investigative resources. |
| **Acute manpower Shortage** | Vacancies in **DGCA, BCAS and AAI are 53.8%, 34.7% and 17% respectively** | **Expedite Recruitment Process** and **adopt a long-term workforce planning strategy** to fill vacancies. |
| **UDAN Expansion** | **Reduced allocation in UDAN by 32%** in budget (2024-25) even when expansion in hilly and North Eastern regions will require enhanced security protocols. | **Assess fund adequacy to strengthen security infrastructure under modified UDAN scheme** to develop proportionate infrastructure. |
| **Regulatory Oversight Mechanism** | **High dependence on general budgetary allocations and lack of sustainable funding mechanism** for aviation oversight functions at both national and regional levels | **Establish Integrated Safety Mechanism to** promote collaboration between **DGCA, BCAS, and other bodies** for multi-modal transport safety standards and sustainable funding mechanisms**.** |
| **Navigation Systems** | Severe flight disruptions due to **bad weather conditions induced by smog.** | Installation of **Instrument Landing System (ILS)** at all airports at the earliest |
| **Poor aircraft cabin safety standards** | **Concerns related to premature deterioration of seating materials,**and technological obsolescence plaguing multiple airlines. | **Establish Aviation Interior Quality Commission** for enforcing ergonomic, safety, sustainability, and accessibility standards across all carrier |

**Conclusion**

India has aligned its regulations with ICAO's global standards and has also been appreciated by ICAO's safety audit. Adoption of the Delhi Declaration at the Asia-Pacific Ministerial Conference (2024) is a testament to India's strong commitment to Open Skies and global connectivity. Incidents like the recent crash must be thoroughly investigated to prevent such recurrence and make the aviation sector safe and secure.

## 3.4. ASSET MONETIZATION

**Why in the News?**

National Highway Authority of India has outlined its **strategy to monetize assets** to unlock value and increase public-private participation for developing road infrastructure in India.

**More on the News**

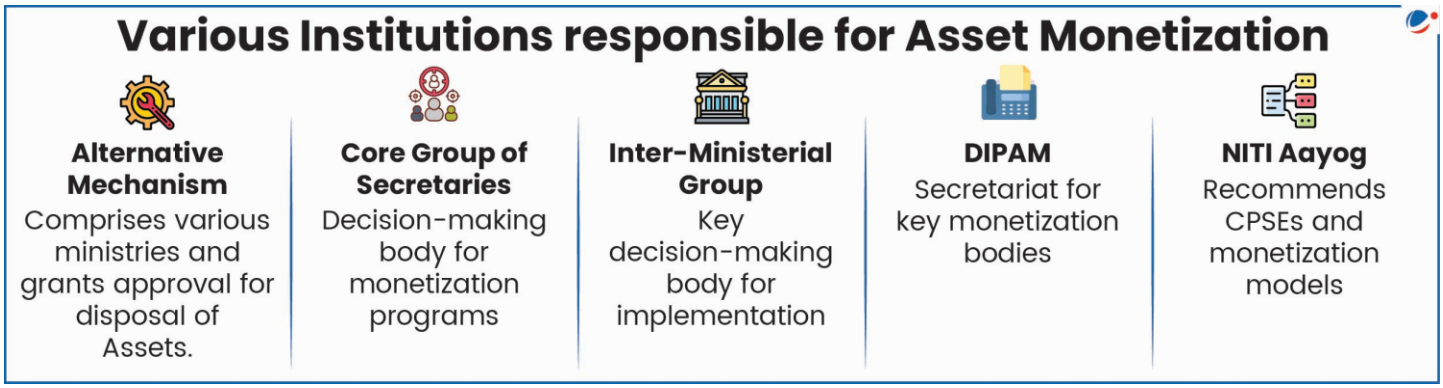
- The strategy presents a structured framework to mobilise capital through mechanisms such as Toll-Operate-Transfer (ToT), Infrastructure Investment Trusts (InvITs), and securitisation models.
- These instruments have helped NHAI raise over ₹1.4 lakh crore across more than 6,100 km of National Highways under National Monetization Pipeline.

**What is meant by Asset Monetization?**

- It is the process of **creating new/alternative sources of revenue** by unlocking the economic value of underutilised public assets. It is also known as asset or capital recycling. **It does not necessarily mean disinvestment of the asset.**

**Need for Asset Monetization**

- **Bridging Investment Gaps:** Development of infrastructure requires massive investments. With limited fiscal space, monetization helps in mobilization of non-tax revenue.
- **Overcoming Public Sector Inefficiencies:** It helps in **enhancing** managerial and operational efficiency through participation of private sector.
- **Unlocking Value from Brownfield Assets: It focuses on brownfield de-risked assets with stable revenue streams and** makes them attractive to investors.
- **Enhancing Global Competitiveness:** High-quality infrastructure attracts foreign investments in the form of better FDI inflow, logistics and increased market access. It also leads to improving India's integration with the global value chain.




**Models of Asset Monetization in India**

- **Toll, Operate & Transfer (TOT)**: It aims to attract private capital for management of completed assets in exchange for toll collection rights. The concessionaire pays a lump sum amount in the beginning and undertakes Operations and Maintenance obligations.
- **Design-Build-Finance-Operate- Transfer (DBFOT):** Concessionaire has responsibility of designing, building, financing and operating the facility before transferring the project to government after expiry of specified period.
- **Infrastructure Investment Trusts (InvITs):** It is a pooled investment vehicle that raises funds from investors by issuing units. It offers stable and predictable cash flows, and diversification and tax benefits. It is regulated by SEBI.
- **Real Estate Investment Trusts (REITs)**: They are pooled investment vehicles like mutual funds. However, they invest in real estate.
- **Project-based Financing:** It allows sectors to raise long-term finance from banks by securitizing user fee receipts. **E.g. Toll Plazas**
- **Long Term Lease:** Lessor confers to the lessee the right to use an asset for an agreed period in return for a payment or series of payments.
- **Asset Concession:** It consists of mining assets, real estate transactions and other monetisation projects such as station redevelopment and airport concessions.

**Initiatives for Asset Monetization in India**

- **National Monetization Pipeline:** It aims to generate (~Rs. 6 lakh crore) by leasing out public infrastructure assets over the course of four years, from 2022 to 2025.

- **National Land Monetization Corporation (NLMC):** It is a 100% government owned company under administrative control of the Department of Public Enterprises to carry out monetization of non-core assets of CPSEs.
- **Asset Monetisation dashboard**: It tracks progress and provides visibility to investors.

**Asset Monetization in India: Impediments versus Strategic Interventions**

| Domain | Impediments in Asset Monetization | Strategic Interventions Required |
|---|---|---|
| **Transparency & Governance** | • Allocation of Assets for monetization is vulnerable to favoritism towards selected corporates, political influence and cronyism.<br>• Lack of advance disclosure leads to uncertainty among investors | • **Public Disclosure of Future Monetization Pipeline** to enhance investor visibility, predictability, and trust.<br>• Adopt **transparent bidding frameworks.** |
| **Sectoral Issues** | • It remains concentrated in highways and ports while urban infra, railways remain neglected. **E.g. Recently government core group has pulled up railways for poor monetization.** | • **Broaden and Bundle Monetization:** Bundle smaller assets across under-invested sectors to make them commercially viable and attractive. |
| **Valuation Discovery & Competitive Bidding** | • **Risk of undervaluation** of assets due to **poor bid design.**<br>• Limited participation of bidders due to **capital intensive nature may lead to private monopolies.** | • **Adopt De-risked Models** (e.g TOT adoption by NHAI) and **foster competition through innovative models (E.g. InvITs).** |
| **State-Level Readiness** | • **Negligible private participation in state infra sectors** and **lack of financial incentives** to monetize assets. | • **Unlock potential in state assets** such as state highways through toll roads, terminals etc**.**<br>• Use of **interest free loans to states for 50 years under the Capital Expenditure Scheme** is a right step. |
| **Consumer & Public Interest** | • Over exploitation by private players may lead to price hikes. | • Adopt **"Monetize rights, not ownership"** model**.**<br>• Ensure strict **contractual obligations** and **service standards.** |
| **Institutional Fragmentation** | • **Involvement of multiple ministries lead to** poor coordination and absence of centralised planning. | • **Form an Infrastructure Ministry** to align national and state priorities, supported by NITI Aayog. |
| **Regulatory Uncertainty** | • Lack of **clarity between monetization vs disinvestment** in certain sector. (E.g Telecom) | • **Develop sector-specific monetization guidelines.**<br>• **Independent evaluation and contract monitoring mechanisms.** |
| **Fiscal Utilization & Public Trust** | • **Historical misuse of disinvestment proceeds for management of fiscal deficit** leading to trade-off between one-time capital gains versus recurring public revenues. | • **Use of funds for PSU's restructuring** and explore leasing/rental models for sustained non-tax revenue streams. |
| **Monitoring & Performance Tracking** | • Weak post-monetization oversight leads to inefficiencies. | • Define clear **Key Performance Indicators (KPIs)** for revenue, efficiency, compliance. |

**Conclusion**

Asset Monetization Strategy is not just a financial tool but a transformative approach that aligns with the broader goals of economic growth and sustainable development. By unlocking the value of existing assets and reinvesting in new projects, asset monetization can pave the way for a robust and resilient infrastructure network that will support India's growth for years to come.

## 3.5. FOREIGN DIRECT INVESTMENT (FDI)

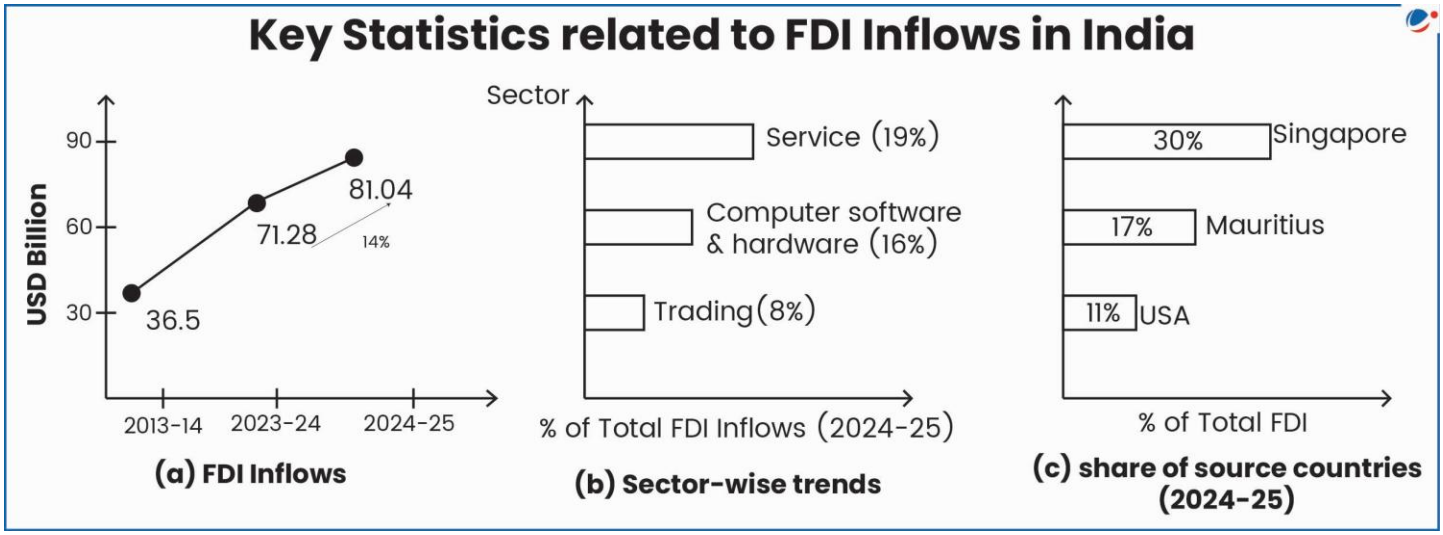
**Why in the News?**

As per RBI Bulletin (June 2025), India's **net FDI inflows fell by 96%** in FY25 in comparison to FY24 despite rise in its **gross FDI inflows**.

**About Foreign Direct Investment (FDI)**

> **Do you know**
>
> > **~90% of FDI** in India is now under the automatic route.

- It refers to the investment through **equity instruments** by a person resident **outside India** in an **unlisted Indian company**; or in **10% or more** of the **post issue paid-up equity capital** on a **fully diluted basis** of a **listed Indian company.**
- **Governance and Regulation:** Consolidated Foreign Direct Investment Policy (2020); Foreign Exchange Management (Non-Debt Instruments) Rules, 2019.
- **Gross and Net FDI**:
  - **Gross FDI:** Total investment made by foreign entities directly into the productive assets of India.
  - **Net FDI**: Difference between inward FDI flows and outward FDI flows (Repatriation by foreign firms + Outward FDI by Indian firms).
- **Entry Routes:**
  - **Automatic Route:** Prior approval of the **RBI** or the **Central Government** is not required.
    - **Example of sectors with 100% FDI Through automatic route:** Agriculture & Animal Husbandry; Coal and Lignite; Exploration of Oil and Natural Gas; Airports (Greenfield and Existing); Industrial Parks; Telecom Services; Trading etc.
  - **Government Route: Prior Government approval** required, and foreign investment shall conform to the **conditions** stipulated by the **Government in its approval.**
- **Examples of FDI Prohibited Sectors in India:** Lottery Business including Government/private lottery, online lotteries; Gambling and Betting including casinos etc.; Chit funds; Nidhi company; Activities/sectors do not open to private sector e.g. Atomic Energy, Railway Operations etc.




**Significance of growing FDI inflows**

- **Capital Investment:** It is a major **non-debt financial resource** infusing long term **sustainable capital** contributing to technology transfer, strategic sector development, etc.
  - E.g., India attracted significant **greenfield investments,** with projected capital expenditure rising **~25%** to **USD 110 billion** in 2024. (UNCTAD's World Investment Report (WIR), 2025)
- **Exchange Rate Stability:** As on May 2025, India's forex reserves can cover 11+ months of imports and 96% of external debt. (RBI Bulletin June 2025)

- **Sustainable Finance:** E.g., India is by far the largest carbon credit issuer in the Verra Registry (UNCTAD's WIR, 2025)
- **Supports Competition and Innovation:** Brings in new market entrants, best practices, managerial and technological know-how, and generates employment.

**Reasons for Fall in Net FDI in India**

- **Rising Outward Indian investment:** Ministry of Finance's **Monthly Economic Review (April 2025)** noted that **Indian direct overseas investment** rose to **12.5 billion in FY25**.
- **Liberalised policy:** E.g., liberalised **Overseas Direct Investment (ODI)** guidelines, 2022 allows Indian entities and individuals to invest in foreign entities with greater ease and fewer restrictions.
- **Increase in Repatriations**: RBI held that it is indicative of **maturing market** where foreign investors can enter and exit smoothly**.**
- **Other risks to FDI**:
  - **Global Economic Uncertainty**: Rising trade tensions particularly tariff hikes by the USA.
    - Global FDI declined by 11% (YoY) in 2024 (UNCTAD's WIR 2025).
  - **Maturing investment cycle**: Several older FDI inflows are entering the harvest phase, with foreign companies withdrawing parts of their investments after realising growth and profitability targets.
  - **Weak Global Demand impacting export**: According to S&P Global Manufacturing Purchasing Managers Index, April 2025 marked the steepest export decline since 2012.

**Initiatives taken to boost FDI in India**

- **Sectoral Reforms:** Reforms in the FDI policy were taken in various sectors like **Defence, Insurance, Petroleum and Gas, Telecom, Space, etc.**
  - **E.g., Union Budget 2025** announced the increase of **FDI sectoral cap** for insurance sector from **74% to 100** for companies that invest the entire premium in India.
- **Investor Friendly Environment: Jan Vishwas (Amendment of Provisions) Act, 2023** decriminalized 183 provisions across **42 Central Acts** from **19 Ministries/Departments**.
- **Promotion agreements:** E.g., India signed **Bilateral Investment Treaty** with Kyrgyzstan (2019), UAE (2024), Uzbekistan (2024) and **Trade and Economic Partnership Agreement (TEPA)** with European Free Trade Association (EFTA).
- **Competitive Cooperative Federalism: Business Reforms Action Plan (BRAP) 2024** rankings and **Logistics Ease Across Different States (LEADS) 2024** nudge states to promote healthy competition to attract investment including FDI.
  - Union Budget 2025 announced an **Investment Friendliness Index of States.**
- **Institutional mechanism:** To **fast-track investments** through **Project Development Cells (PDCs),** in all concerned Ministries/ Departments of Government of India.
- **Government Schemes:** Make in India, Start-up India, PM Gati Shakti, National Industrial Corridor Programme, Production Linked Incentive (PLI) Scheme, etc.

**Way Forward**

- **Undertaking Policy Reforms:** Stable policies in **taxations** along with regulatory and judicial reforms would improve the ease of doing business resulting in **higher FDI.**
  - E.g., **Vietnam** implements 10-year economic plans to specifically offer guidelines for **investment** and **market liberalisation process.**
- **Strengthening Digital Economy:** Advancing **Multilateral Dialogues** to shape coherent and development-oriented rules on investment in the digital economy.
  - Digital economy was a key driver of **global FDI**, with investments rising by 1**4% in 2024** (UNCTAD's WIT 2025).
- **Investment Incentives:** They can be used to attract and steer capital through **fiscal incentives** like tax breaks, grants and subsidies.
- **International Cooperation:** Reforming **International Financial System** (lending through hybrid capital, etc.), **multilateral cooperation** to manage global risks, promoting fair investment, etc.

**Conclusion**

The recent decline in net FDI is seen as a temporary result of shifting investments, not a sign **of long-term problems in the economy.** To retain its position as the largest FDI recipient in South Asia, India must focus on **smarter capital** which is long-term, inclusive and aligned with sustainable development.

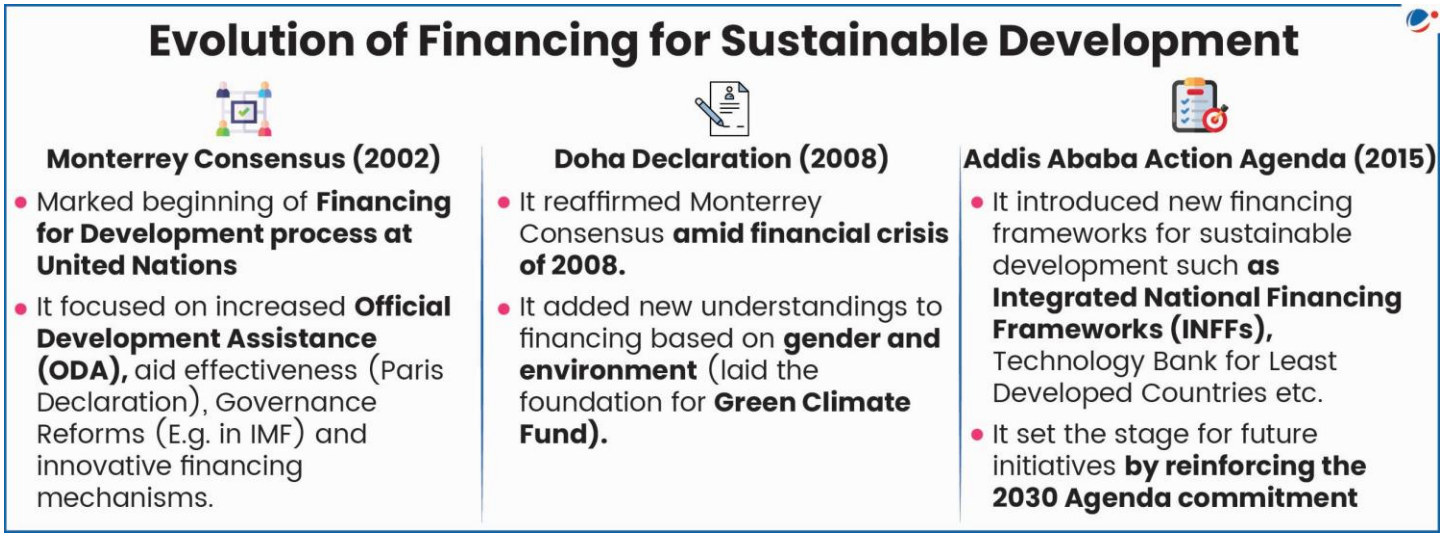
## 3.6. FINANCING FOR SUSTAINABLE DEVELOPMENT

**Why in the News?**

Recently, the 4th International Conference on Financing for Development (FFD4) adopted the final outcome document Compromiso de Sevilla, also known as Seville Commitment, to address the SDG financing gap in developing countries.

**More on News**

- **The Sevilla Commitment** is adopted by **consensus,** lays out a path to close the **$4 trillion annual SDG financing gap in developing countries.**
  - It is built upon the earlier frameworks (Infographic)
- **The United States** decided to exit the process entirely.
- The Indian Finance Minister also proposed a **Seven-point strategy to boost private investment** for sustainable development.
  - It **includes** strengthening multilateral banks, improving credit rating methods, and developing domestic financial markets, Unlocking capital at the Grassroots Level, scaling blending financing, etc.




**Requirement** for **Financing for Sustainable Development'**

- **SDG Financing Gap: The** Gap between SDG aspirations and financing has continued to widen. E.g. It has reached **4 trillion US dollars annually** (UN estimates).
- **Investment in Climate Finance**: E.g. In case of enhanced nationally determined contributions scenario, energy-related investment is expected to grow by **40% between 2022 and 2030 (OECD,2025)**
- **Wealth Inequality:** E.g. Wealthiest 1% own more wealth than 95% of the total global population combined**. (Oxfam 2024)**
- **Tax Disparity:** E.g. Wealth of richest 1% has **surged $33.9 trillion since 2015** enough to **end annual poverty 22 times** yet billionaires only pay **around 0.3% in real taxes**. **(Oxfam,2025)**
- **Debt Trap**: Over 40 per cent of people living in extreme poverty live in countries with severe debt challenges. **{Financing for Sustainable Development Report (FSDR) 2023}.**

**Impediments to Financing for Sustainable Development**

- **Shrinking Fiscal Space:** E.g. 46 developing countries (3.4 billion people) spend more on interest payments than on either health or education. **(UNCTAD)**

- **Unequal Special Drawing Rights (SDR) Allocation:** E.g. of total SDR allocations, developed countries receive 66%, Africa receives only 5.2% while the least developed countries receive just 2.5%. (FSDR Report,2023).
  - The SDR is an **international reserve asset** created by the International Monetary Fund. It is not a currency, but its **value is based on a basket of five currencies.**
- **Geo-economic Fragmentation:** Geo-economic fragmentation is replacing globalisation worldwide. **E.g.** >24000 new restrictions were imposed on trade and investment between 2020 to 2024 **(Economic Survey 2024-25)**
- **Illicit financial flows:** It reduce the availability of resources **for financing the SDGs** and recovery from global shocks such as COVID-19, undermining domestic resource mobilisation.
- **Gender Gap: E.g.** Women represent <40% of employment in manufacturing. Moreover, they are overrepresented in sectors with lower profit margins, low technology intensity and **low wages.**

**Steps Taken**

The Sevilla Commitment focuses on three key areas i.e. **Catalysing investment for sustainable development, addressing the debt crisis, and reforming the international financial architecture.** New financing mechanisms were announced under the Seville Commitment: -

- **To address debt challenge**
  - **Debt-for-Development Swap Programme:** It is a deal between a government and its lenders to cancel or reduce debt in exchange for the government agreeing to spend money on a development goal.
    - **E.g., Italy** will convert 230 million Euros of debt obligations of African countries into investments in development projects
  - **Debt "Pause Clause" Alliance:** Aims to include "pause clauses" in lending to suspend debt service payments during crises.
  - **Debt Swaps for Development Hub** (led by Spain and the World Bank): To enhance collaboration to scale up debt swaps and lower debt service burdens.
  - **Sevilla Forum on Debt:** To help countries learn from one another and coordinate their approaches in debt management and restructuring, with a UN entity serving as its secretariat, with support from Spain.
- **To catalyse investment with development impact**
  - **Scaling Blended Finance: E.g. Blended finance platform, SCALED** has been launched to scale up blended financing to create scalable blended finance instruments.
    - Blended finance is a financing method that strategically **combines public, philanthropic, and private capital to fund sustainable development initiatives.**
  - An **Effective Taxation of High-Net-Worth Individuals initiative (led by Brazil and Spain):** To ensure high-net-worth individuals pay their fair share**.**
  - **Coalition for Global Solidarity Levies (led by France, Kenya and Barbados):** Aims to **tax premium-class flying and private jets** to raise funds for climate action and sustainable development.
- **To support architecture reform at the national and global levels**
  - **Enhancing Local Currency Lending:** E.g. FX EDGE Toolbox (Inter-American Development Bank) and Delta Liquidity Platform (European Bank for Reconstruction and Development) for local currency lending.
  - **A coalition led by the UK and the Bridgetown Initiative:** To scale-up pre-arranged financing from 2% to 20% of total disaster financing by 2035.

**Conclusion**

Creating the right environment for private investment, strengthening public development banks, and reforming the multilateral system are essential to align finance with the SDGs. Key reforms include fiscal incentives, long-term funding, and updates to WTO rules and investment treaties to reflect current global needs.

## 3.6.1. SUSTAINABLE DEVELOPMENT REPORT (2025)

**Why in the News?**

For first time, India has entered **top 100 in SDG Index**, ranking 99$^{th}$ out of 167 countries in **Sustainable Development Report (2025).**

**More on the News**

- **India's Performance:** India has steadily improved its standing from 120th (2021) to 99th (2025), with a score of 67 out of 100.
- **Global Ranking:** Finland has been ranked first with a score of 87, followed by Sweden and Denmark.
- **Regional comparison:** Bhutan is ranked 74th (70.5), Nepal 85th (68.6), and the Maldives 53rd. Sri Lanka stands at 93rd, while Bangladesh and Pakistan lag behind at 114th and 140th, respectively.
- **New indicator:** On **'Minimum dietary diversity among children aged 6 months to 23 months'** has been incorporated into dataset under **SDG 2 (Zero Hunger).**
- According to 2025 SDR, **none of the 17 Global Goals** are on track to be fully achieved by 2030.

**About SDG Index**

- SDG Index is released as part of the annual Sustainable Development Report by the **United Nations Sustainable Development Solutions Network (UNSDSN)** since 2016.
- Established in 2012, **UNSDSN operates under the auspices of the UN Secretary-General.**
  - It works at **maximizing SDG achievements across global, regional, national, and local levels** in partnership with international organizations and national governments.
- Index measures **overall progress toward achieving 17 SDGs** adopted by all UN member states in 2015.
- SDG Index score is presented on a **scale of 0 to 100** and with a score of 100 indicating **full achievement of all goals.**

| Key Indicators of India's Performance (As per 2025 SDR) | |
|---|---|
| **SDG1 (No Poverty)** | Poverty headcount ratio at $3.65/day is **5.5%** |
| **SDG2 (Zero Hunger)** | Prevalence of undernourishment- **13.7%** |
| **SDG3 (Good Health and Well-Being)** | Maternal mortality ratio (Per 100,000 live births) is **80.5** |
| **SDG4 (Quality Education)** | Net primary enrollment rate - **99.9%** |
| **SDG5 (Gender Equality)** | • Ratio of female-to-male labor force participation rate - **43%**<br>• Seats held by women in parliament - **14%** |
| **SDG6 (Clean Water and Sanitation)** | Population using at least basic drinking water services - **93%** |
| **SDG7 (Affordable and Clean Energy)** | • Population with access to electricity - **99%**<br>• Population with access to clean fuels and technology for cooking - **74%** |
| **SDG9 (Industry, Innovation and Infrastructure)** | • Rural population with access to all-season roads - **99%**<br>• Population using the internet - **56%** |
| **SDG10 – Reduced Inequalities** | Gini coefficient in India is 34.8. |

## 3.7. ATAL MISSION FOR REJUVENATION AND URBAN TRANSFORMATION (AMRUT)

**Why in the News?**

The Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme has completed a decade since its launch.

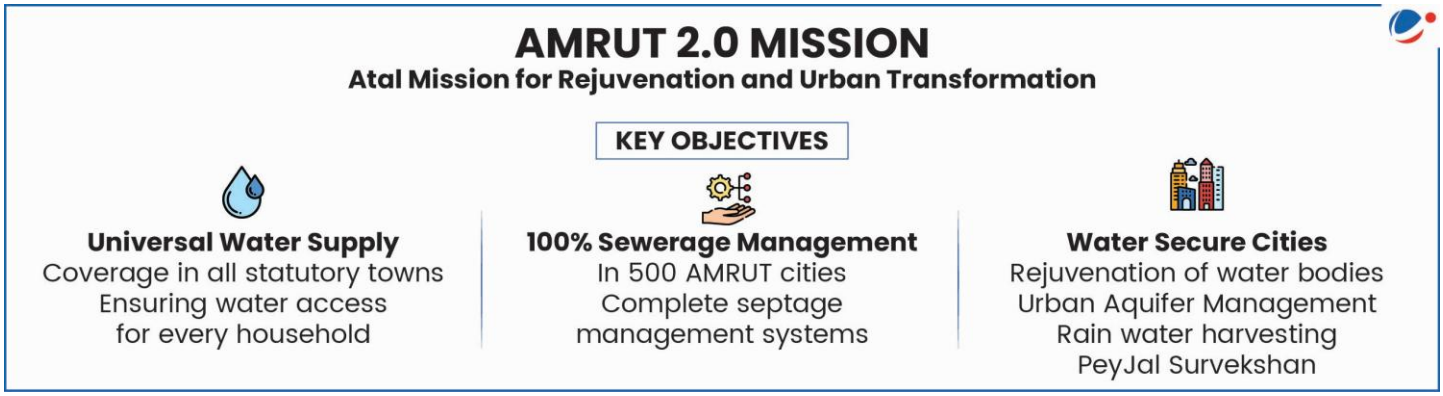
**About AMRUT**

- **Ministry:** Ministry of Housing and Urban Affairs
- **Type:** Centrally Sponsored Scheme

- **About:** Launched in selected **500 cities and towns,** focusing on the development of basic infrastructure in the sectors of Water supply, Sewerage and septage management, Storm water drainage, green spaces and parks, and non-motorised urban transport.
- AMRUT was **subsumed in AMRUT 2.0** in 2021, with the urban transport component excluded from its scope.

**AMRUT 2.0**

- AMRUT 2.0 focuses only on **water and sewerage** and aims to provide **tap water to all households** in statutory towns and **improve sewerage management** in 500 AMRUT cities.
- **Major Components:**
  - **Pey Jal Survekshan:** It is a challenge-based assessment in cities to evaluate service level benchmarks for water supply, reuse, sewerage, and water body conservation.
  - **Behaviour Change Communication:** To promote water conservation and improve water use efficiency.
  - **Technology Sub-Mission**: Promotes start-up ideas and private entrepreneurship through expert-screened pilot projects.




- **Other Features:**
  - **Public Private Partnership (PPP) projects:** Mandatory in **cities with over 1 million people.**
  - **Outcome-Based Funding:** Cities must submit **roadmap** to achieve set targets.
  - **Community Participation: with** emphasis on **women's self-help groups**
  - **Promote circular economy of water:** By focusing on recycle/reuse of treated sewage, rejuvenation of water bodies and water conservation.
- **Monitoring:**
  - **National Level:** An **Apex Committee (AC)** chaired by the Secretary, MoHUA.
  - **State Level: State High Powered Steering Committee (SHPSC)** chaired by Chief Secretary of State.

**Key Achievements Under AMRUT**

- **Water and Sewer Connections:** Over the last 10 years, **2.03 crore tap connections** and **1.50 crore sewer connections** provided under **AMRUT & AMRUT 2.0.**
- **LED Streetlights: 99 lakh LED streetlights installed**, saving 666 crore kWh power and reducing 46 lakh tonnes of $CO_2$ annually.
- **Green Spaces and Parks**
  - **Over 6,800 acres of green space** developed.
  - **Nearly 3000 parks** created.

**Limitations in implementation of AMRUT**

- **Inadequate Health Outcomes:** India faces severe issues with **water, sanitation, and hygiene,** leading to an estimated 200,000 deaths annually.
- **Environmental Concerns Unaddressed:** Despite AMRUT 1.0's aim to reduce air pollution, worsening air quality led to the launch of the National Clean Air Programme in 2019.

- **Implementation Delays:** Some states, like Bihar and Assam, have not completed projects or fully utilized the Private-Public Partnership (PPP) model despite regular fund releases.
- **Limited Coverage and Scope:** AMRUT initially covered only 500 cities, leaving out numerous smaller towns.
- **Overlap with Other Schemes:** AMRUT may overlap with Smart Cities and Swachh Bharat Missions, causing fragmented funding and duplication of efforts.

**Conclusion**

Marking a decade, AMRUT has strengthened urban infrastructure, especially in water and sanitation. Going forward, it must adopt a holistic, people-centric approach, improve governance through ULB capacity building, expand to smaller towns, and integrate climate-resilient, nature-based solutions for sustainable urban development.

**Scan the QR code to know more about building Inclusive, Resilient, and Sustainable Urbanscapes**

**WEEKLY FOCUS #103**

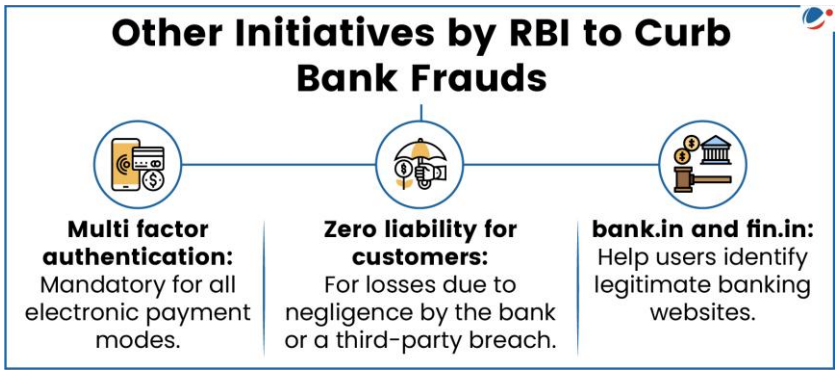
**Investing in Future Cities: Building Inclusive, Resilient, and Sustainable Urbanscapes**

## 3.8. NEWS IN SHORTS

### 3.8.1. DIGITAL PAYMENT INTELLIGENCE PLATFORM (DPIP)

DPIP will be developed as a **Digital Public Infrastructure (DPI)** under the supervision and guidance of the RBI.

- **DPI refers to foundational digital systems** that are accessible, secure, and interoperable, supporting essential public services e.g., **Aadhaar**, **Unified Payment Interface (UPI)** etc.




**About DPIP**

- It seeks to **bolster fraud risk management by facilitating real intelligence sharing and gathering by harnessing** advanced technologies**.**
- It will also strengthen existing fraud detection systems by **enabling coordination among banks.**
- A **committee under Chairman Shri A.P. Hota constituted** to examine various aspects of setting up of DPIP.
- **The Reserve Bank Innovation Hub (RBIH)** has been assigned to build a prototype of DPIP in consultation with 5-10 banks.
  - **Both Private and Public banks** will be consulted.
- **Need of DPIP**
  - **As per RBI's annual report, fraud cases in the banking sector** saw a significant increase.
  - The total value of frauds jumped to **₹36,014 crore in FY25, compared to ₹12,230 crore in FY24.**

### 3.8.2. PRIORITY SECTOR LENDING (PSL) NORMS FOR SMALL FINANCE BANKS (SFBS)

The **New Rule** were issued by the Reserve Bank of India (RBI) under **Section 22(1)** of the **Banking Regulation Act, 1949.**

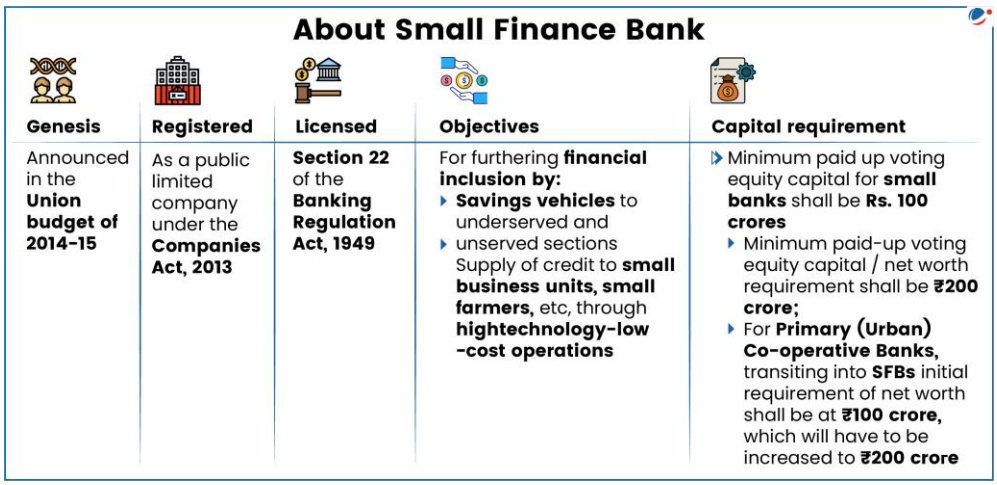
**Key Change in PSL Requirements for SFBs**

| Earlier Rule | New Rule (Effective FY 2025-26): |
|---|---|
| • SFBs had to lend **75% of ANBC to Priority Sector Lending (PSL) sectors.** | • Total **PSL reduced to 60% of ANBC.**<br>  ○ **40%:** Still mandatory for PSL sectors. |

| | |
|---|---|
| ○ **40%:** Mandatory allocation to PSL sectors (e.g., agriculture, microenterprises).<br>○ **35%:** Flexible allocation (could choose PSL sectors of competitive advantage). | ○ **20%:** Flexible (can now be used for non-PSL secured loans). |

**About Priority Sector Lending (PSL)**

- **Established:** In the 1970s.
- **Concept:** PSL framework, initiated by RBI, mandates banks to allocate a specific percentage of their Adjusted Net Bank Credit ("**ANBC**") to priority sectors.
  - **ANBC Comprises**: Net Bank Credit (NBC), Bank's investments in non-statutory liquidity ratio (non-SLR) bonds, etc.
- **Categories under Priority Sector**: Agriculture; Micro, Small and Medium Enterprises; Export Credit; Education; Housing; Social Infrastructure; Renewable Energy; Others.
- **Applicability:** Commercial Bank [including Regional Rural Bank (RRB), Small Finance Bank (SFB), Local Area Bank (LAB)] and Primary (Urban) Co-operative Bank (UCB) **other than Salary Earners' Bank.**

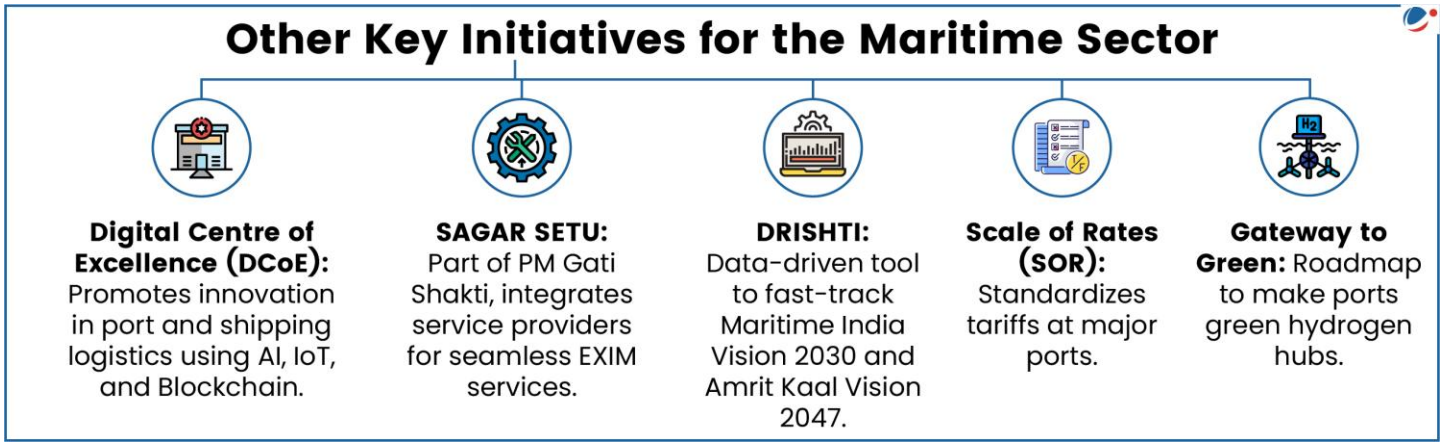



***To know more about Priority Sector Lending, refer to Article 3.4. Priority Sector Lending in March 2025 Monthly Current Affairs Magazine.***

## 3.8.3. SAGARMALA FINANCE CORPORATION LIMITED (SMFCL)

SMFCL is **India's first Non-Banking Financial Company (NBFC) in the maritime sector.**

- Formerly known as **Sagarmala Development Company Limited, SMFCL is a Mini Ratna, Category-I, Central Public Sector Enterprise (under Ministry of Ports,Shipping and Waterways).**
- It is now formally registered as an **NBFC with the Reserve Bank of India (RBI).**
- It will offer **tailored financial products to a diverse range of stakeholders,** such as port authorities and shipping companies.
  - It will also support **strategic sectors like shipbuilding, renewable energy, cruise tourism, and maritime education.**



## 3.8.4. INDIGENOUS POLAR RESEARCH VESSEL (PRV)

India is aiming to build first indigenous Polar Research Vehicle (PRV).

- To achieve this, an MoU was signed between **Garden Reach Shipbuilders and Engineers Limited (GRSE)** and **Norway's** Kongsberg Oslo marking an important **milestone** for **India's shipbuilding sector.**
  - **GRSE (Kolkata),** is a premier Warship building **Mini Ratna Category I** company under **Ministry of Defence.**

**Polar Research Vehicle (PRV)**

- **About:** It is a **ship** that serves as a platform for **research in the polar regions** (around the **North and South Poles).**
- **Purpose:** Equipped with the **latest scientific equipment**, enabling exploration of the **oceans' depths** and **study of marine ecosystems.**

**Significance of the Indigenous PRV for India**

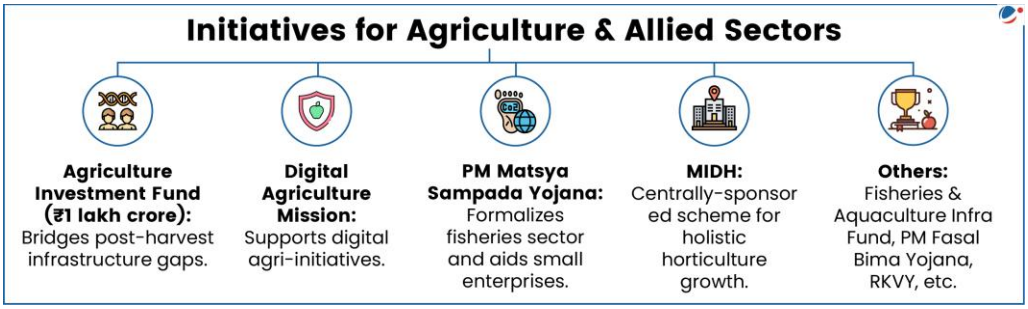
- **Indigenous Needs:** PRV would serve the requirements of **National Centre for Polar and Ocean Research (NCOPR), Goa, who** will use it for research activities.
- **Support Existing Scientific Missions:** In **Antarctica (Maitri [1989] and Bharati [2011]** and in the **Arctic (Himadri, 2008).**
- **Cater to Geo-political and Geo-economic dynamics of the region:** Significant for India to assert its **presence** and **interests** in the region.
- **Complements Existing Maritime Visons:**
  - **SAGAR (Security and Growth for All in the Region)** that leverages India's vast coastline, strategic location, and maritime heritage and **MAHASAGAR (Mutual and Holistic Advancement for Security Across the Regions)** for holistic maritime engagement.
  - **Sagarmala 2.0,** Under **Ministry of Ports, Shipping and Waterways**, which is a key pillar of the **Maritime Amrit Kaal Vision 2047 (MAKV),**
    - MAKV seeks to place India among the **top five shipbuilding nations** by **2047.**
- **Others:** Climate research, oceanography, and polar logistics.

## 3.8.5. REPORT ON VALUE OF OUTPUT FROM AGRICULTURE AND ALLIED SECTORS (2011-12 TO 2023-24)

The National Statistics Office (NSO) released a report offering a comprehensive overview of India's agricultural performance over the past decade.

**Key Highlights**

- **Gross Value Added (GVA)** in agriculture and allied sectors **rose by ~225%** (current prices), while **Gross Value of Output (GVO)** grew by **54.6%** (constant prices) from 2011–12 to 2023–24.
- **Crop sector:** Largest contributor to total agriculture GVO in 2023-24 with **54.1%.**
  - **Uttar Pradesh** is the top cereal-producing state.
  - **Paddy & wheat** constitute approximately **85%** of GVO of all cereals in 2023-24.
- **Floriculture:** GVO nearly **doubled** from 2011-12 to ₹28.1 thousand crore in 2023–24.
- **Condiments & Spices: Madhya Pradesh (19.2%)** is the top contributor, followed by Karnataka (16.6%) & Gujarat (15.5%).
- **Fishing & Aquaculture:** Contribution increased from **4.2% in 2011-12 to 7.0% in 2023-24**.
  - **The share of inland fish has decreased** to 50.2%, whereas the **share of marine fish has increased** from 2011-12 to 2023-24.



**Importance of Agriculture and Allied Sector**

- **Contribution to GDP: ~16% of the country's GDP** for FY24 **(Economic Survey 2024-25).**
- **Livelihood:** It supports **~46.1% of the population.**
- **Challenges:** Low Agricultural productivity per unit of land, low farmer income, Overexploitation of Water Resources, climate change, & extreme weather events, etc.

## 3.8.6. MODIFIED INTEREST SUBVENTION SCHEME (MISS)

Recently, Union Cabinet approved the continuation of the **Interest Subvention (IS)** component under the **Modified Interest Subvention Scheme (MISS)** for **2025-26.**

**About MISS**

- **Type:** Central Sector Scheme
- **Ministry:** Ministry of Agriculture & Farmers Welfare
- **Aim:** Ensuring the availability of **short-term credit** to farmers at an **affordable interest rate** through **Kisan Credit card (KCC).**
- **Implementation:** Reserve Bank of India (RBI) and National Bank for Agriculture and Rural Development (NABARD).
- **Key Features**
  - **Variant of Interest Subvention Scheme (ISS) (**2006-07): which offers KCC loans at **7% interest.**
  - **Short-term Loans: Up to ₹3 lakh** through **KCC** at a **subsidized interest rate of 7%**, with **1.5% interest subvention** provided to eligible lending institutions.
  - **Prompt Repayment Incentive (PRI):** Up to **3%** effectively to farmers repaying loans promptly **reducing their interest rate on KCC loans to 4%.**
  - **Loans exclusively for animal husbandry/fisheries: Interest benefit** is applicable up to **Rs.2 lakh.**

**About KCC**

- **Objective:** To provide farmers with **credit** for agriculture inputs and production needs.
  - KCC scheme, introduced in 1998, was expanded in **2019 to include animal husbandry, dairying, and fisheries.**
- **Eligibility:** Owner cultivators, tenant farmers, oral lessees, sharecroppers, and Self-Help Groups/Joint Lending Groups.
- **Activities Supported:** Cultivation and post-harvest activities; Marketing loans; Household consumption needs; Working capital for farm assets; Investment credit for allied activities (Agriculture Husbandry, dairying, fisheries and other agricultural extensions).
- **Calculation of Credit Limits:** Based on **cropping patterns** and **purpose.**
- **Issued by:** Public Sector Banks, Private Sector Scheduled commercial Banks, Small Finance Banks, PACS ceded with SCBs, RRBs, and Rural Cooperative Banks.
- **Duration of KCC:** 5 years and undergoes periodic review.
- **Kisan Rin Portal (KRP)** enhanced transparency and efficiency.

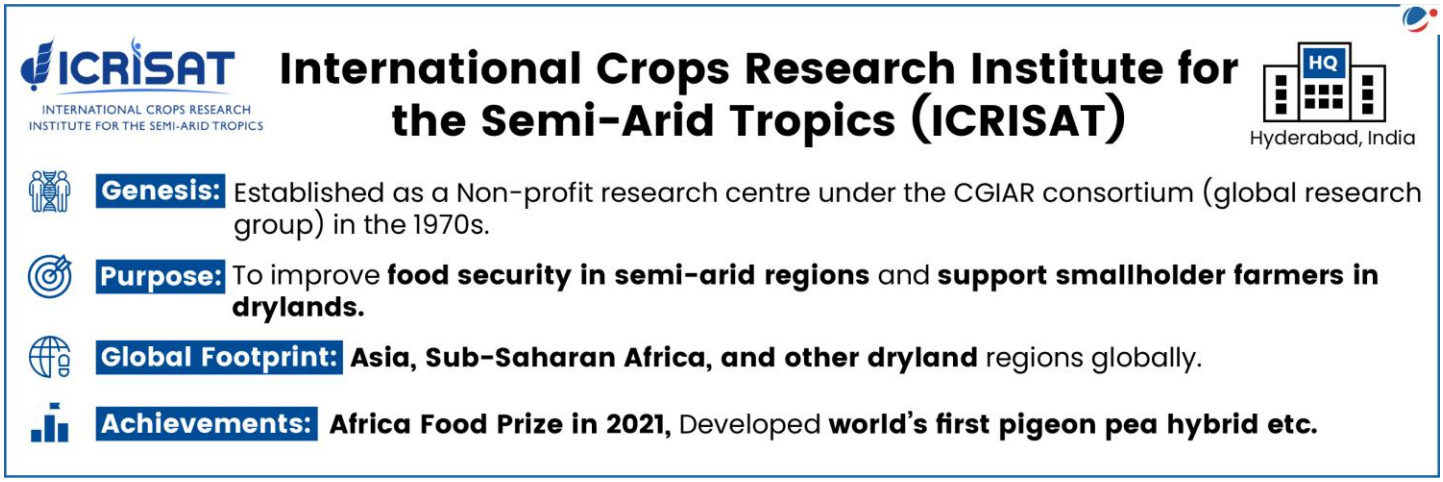
## 3.8.7. INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS (ICRISAT)

ICRISAT, in collaboration with the **Research and Information System for Developing Countries (RIS),** launched the ICRISAT **Centre of Excellence for South-South Cooperation (ISSCA).**

- ICRISAT also signed an MoU with **DAKSHIN** (Development and Knowledge Sharing Initiative), which is India's initiative for strengthening **South-South cooperation through capacity building and development partnerships.**
- **RIS** is a New Delhi-based **autonomous policy** research institute.

**About ISSCA**

- **Premier platform** dedicated to accelerating agricultural innovation, collaboration, and knowledge exchange among countries of Global South.
- **It is also aligned** with India's **DAKSHIN initiative** (A government-backed program for development and knowledge sharing among Global South countries).

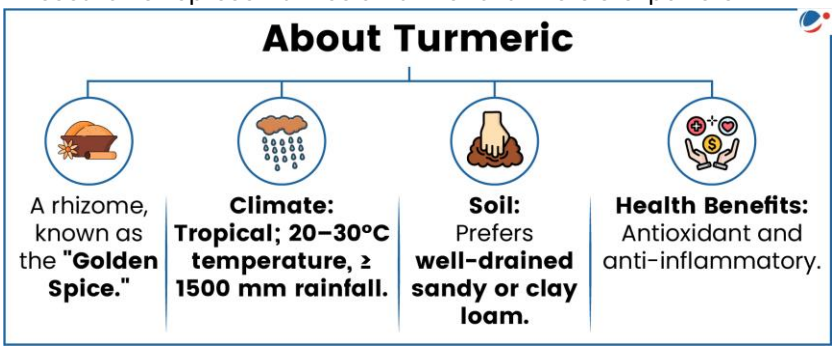



## 3.8.8. NATIONAL TURMERIC BOARD

Headquarters of National Turmeric Board was inaugurated in Nizamabad, Telangana.

**About the National Turmeric Board**

- **Aim:** To provide leadership on turmeric related matters, augment the efforts, and facilitate greater coordination with Spices Board and other Government agencies in development and growth of the turmeric sector.
- **Ministry:** Ministry of Commerce & Industry
- **Composition**:
  - **Chairperson** to be appointed by the Central Government
  - Members from the Ministry of AYUSH, Departments of Pharmaceuticals, Agriculture & Farmers Welfare etc.
  - Senior State Government representatives from three states (on rotation basis),
  - Select national/state institutions involved in research & representatives of turmeric farmers & exporters
  - A Secretary to be appointed by the Department of Commerce.
- **Role:** Promotes **R&D**, **value addition** for exports, **awareness** of turmeric's benefits, yield improvement, and **supply chain enhancement** to expand markets.




**Turmeric production in India**

- India is the **largest producer, consumer** & **exporter** of turmeric.
- About **30 varieties** of Turmeric are grown in **over 20 states** in the country.
- **Production:** 70% of global turmeric production.
  - **Telangana, Maharashtra, Tamil Nadu,** & **Andhra Pradesh** together contribute **63.4%** of domestic production.
- **Export**: More than **62% share** of world trade.
  - The l**eading export markets** for India are **Bangladesh, UAE, USA & Malaysia**.
- **Turmeric in India with GI Tag: Sangli Turmeric** & **Waigaon Turmeric** (Maharashtra**)**; **Erode Manjal/Turmeric** (Tamil Nadu); **Lakadong Turmeric** (Meghalaya).

## 3.8.9. NANO FERTILIZERS

Indian Farmers Fertilizer Cooperative Limited (**IFFCO**) to set up its first overseas nano fertiliser plant in Brazil.

- IFFCO had launched world's first **'Nano Liquid Urea'** fertiliser in 2021 & then Nano-DAP in 2023.

**About Nano Fertilizers**

- Nano fertilizers are nutrients that are **encapsulated or coated within nanomaterial** (measuring 100 nanometres or less).
- It enables **controlled release** and its subsequent **slow diffusion into the soil**.

**Benefits**

- **Promotes sustainable farming:** Reduces soil and water contamination.
- **Cost Effectiveness:** Improves nutrient absorption, reduce nutrient wastage and lower application frequency provide, etc.

***To know more about application of nanotechnology in Agriculture, refer to 7.4.1. Nanotechnology in Agriculture in May 2024 Monthly Current Affairs Magazine.***

QUIZ
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.

AHMEDABAD | BENGALURU | BHOPAL | BHUBANESWAR | CHANDIGARH | CHENNAI | CHHATARPUR (MP) | DEHRADUN | DELHI - KAROL BAGH | DELHI - MUKHERJEE NAGAR | GHAZIABAD
GORAKHPUR | GURUGRAM | GUWAHATI | HYDERABAD | INDORE | JABALPUR | JAIPUR | JAMMU | JODHPUR | KANPUR | KOLKATA | KOTA | LUCKNOW | MUMBAI | NAGPUR | NOIDA
ORAI | PATNA | PRAYAGRAJ | PUNE | RAIPUR | RANCHI | ROHTAK | SHIMLA | THIRUVANANTHAPURAM | VARANASI | VIJAYAWADA | VISAKHAPATNAM

# 4. SECURITY

## 4.1. FIFTH-GENERATION FIGHTER JET AMCA

**Why in the News**

The Defence Minister has approved an **execution model** for India's indigenous **5th-generation fighter jet** named **Advanced Medium Combat Aircraft (AMCA).**

**AMCA Programme Overview**

- **Background:** Received approval from the Cabinet Committee on Security (CCS) in **2024.**
- **Purpose:** To manufacture the **indigenous 5th generation fighter jet aircraft** AMCA**.**
- **Timeline:** Prototype expected by 2028-29; induction targeted by 2034-35
- **Variants:** AMCA Mk1 with GE-F414 engines; Mk2 planned with indigenous engines.
- **Lead Agency:** Aeronautical Development Agency (ADA) under DRDO.
- **Industry tie-up:**
  - The ADA will implement the AMCA programme through **industry partnerships**.
    - **Until now,** state-run Hindustan Aeronautics Ltd (HAL) **has served as the default domestic production agency for combat aircraft.**
  - Both **private and public sector companies** can bid independently, as joint ventures, or consortia on a **competitive basis**.
  - All entity/bidders must be **Indian companies** compliant with the national laws and regulations.

**Do you know**

> Cabinet Committee on Security, **India's apex body for national security decisions, is headed by the Prime Minister** and typically comprises the **Home Minister, Defence Minister, Finance Minister and External Affairs Minister** as members.

**About the 5th Generation Fighter Jet**

- The concept of fighter jet generations emerged in the 1990s and has been applied retrospectively to earlier jets.
  - **The first-Generation** fighter jets are Introduced in the late stages of **World War II**, these early jets were **faster** than piston-engine planes but still flew **mostly at subsonic speeds**.
- However, there is **no strict definition** of each generation — the idea mainly helps understand broad technological leaps.
  - A new generation begins when **a major innovation can't be added** to older jets through upgrades.
- The **5th Generation Fighter Jet are most advanced** in service today. They offer:
  - **Twin-engine powered:** Provides **higher level of air safety** in the event of failure of one engine especially at night.
  - **Stealth Capabilities**: They have **Low-Probability-of-Intercept Radar (LPIR)** and are harder to detect by enemy radar.
  - **Agile Airframes with Super cruise**: High manoeuvrability and the ability to fly at supersonic speeds without afterburners.
  - **Advanced Avionics:** High-tech electronic communication, targeting, and control systems.
  - **Integrated Computer Systems**: Enables networking with other systems, giving pilots a 360-degree battlefield view without manoeuvring.
  - **Extremely expensive** to develop and maintain
  - **Examples:** Only the **US (F-22 and F-35), Russia (Sukhoi Su-57), and China (Chengdu J-20) have developed** operational fifth generation aircraft.

- Several countries such as the **US, China, Russia, the UK, Japan, Italy, France, Germany, and Spain** have **announce**d the development of sixth-generation fighters.
    - It is expected to have **Artificial Intelligence (AI) integration, Hypersonic capabilities, Unmanned capabilities, etc.**

**Strategic Importance of 5th Generation Fighter Jet AMCA**

- **IAF Modernisation:** Fills critical capability gap post-MiG-29/Mirage phaseout, helps restore IAF's depleted squadron strength (31 vs. approved 42).
- **Regional Threat Dynamics:** Counters China's J-20 and Pakistan's J-10C (procured from China) deployments.
- **Technological Sovereignty:** Reduces dependency on foreign platforms, enhances long-term defence autonomy through Make in India.
- **Atmanirbhar Bharat:** The project will give a significant push towards enhancing India's indigenous defence capabilities and **fostering a robust domestic aerospace industrial ecosystem.**

**Conclusion**

To ensure the successful execution of the AMCA programme, a **multi-pronged strategy** is essential. The government must create an enabling ecosystem by easing **land acquisition norms**, investing in **defence-specific industrial infrastructure**, and supporting private sector capability by **leveraging HAL's experience.** A framework of investment and IPR laws to facilitate technology transfers specific to this programme is also essential.

## 4.2. NEWS IN SHORTS

### 4.2.1. SILVER NOTICE

The **INTERPOL** has issued the **first silver notice on India's request.**

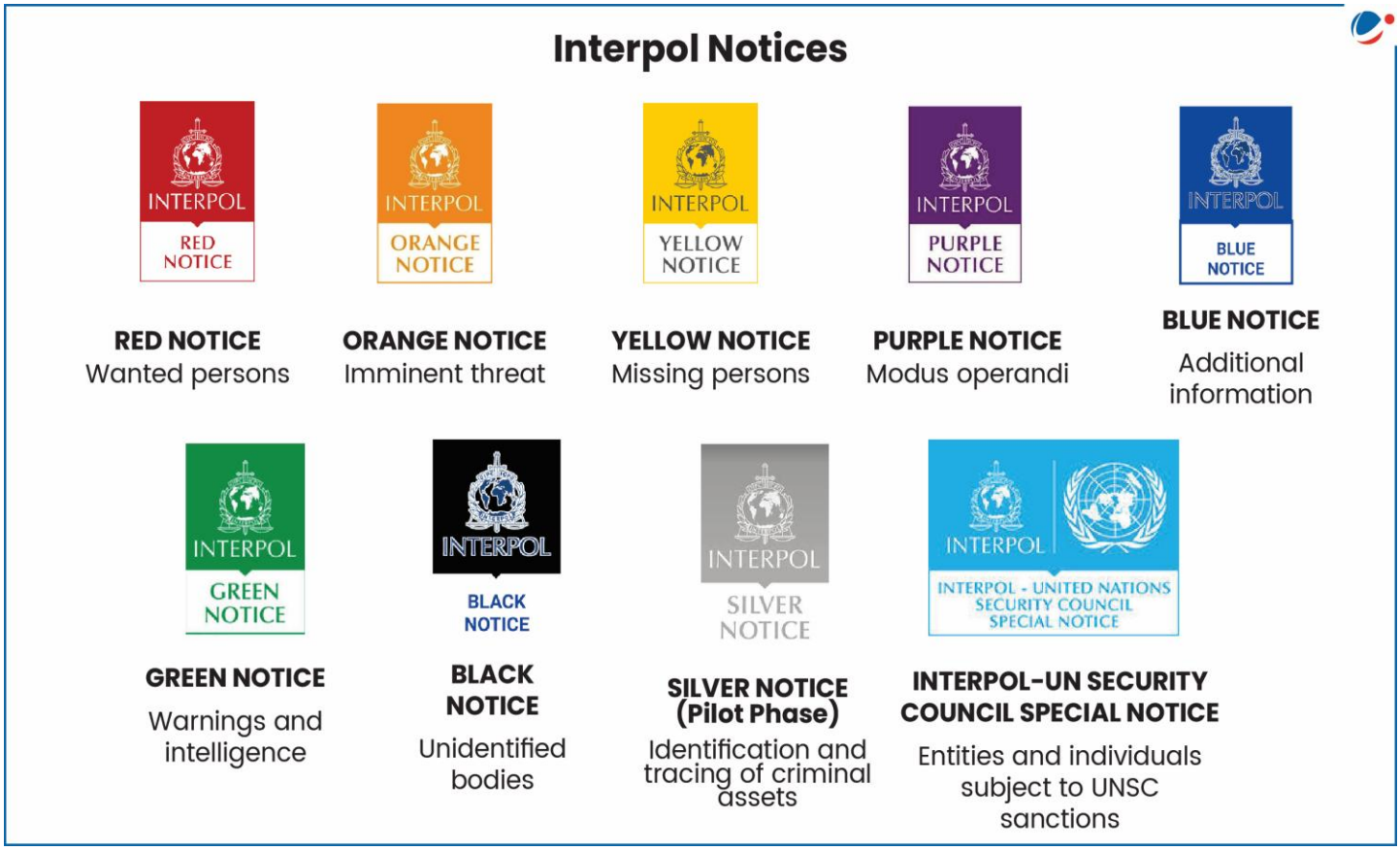
- **It was issued to track the global assets of former French Embassy officer** Shubham Shokeen, who is **wanted in connection with a visa fraud.**

**About Silver notice**

- Silver Notice is the **newest addition to the INTERPOL's colour-coded Notices.**
    - INTERPOL's **colour-coded notices** are **international requests for cooperation or alerts** allowing police in member countries to share critical crime-related information **(refer to the infographic)**
- **Purpose**: Allows tracing and gathering information on assets of fugitives and key accused, even if the assets are in foreign countries.
- **Global Collaboration**: India is one of 51 countries participating in the first phase of this Interpol pilot project, running at least until **November 2025**.
- **First Use**: The **first Silver Notice** was issued in **January** on behalf of **Italy**.
- **Limit**: Each country can request up to **9 Silver Notices** during the pilot phase.

**About INTERPOL**

- **Headquarters:** Lyon, France.
- **Genesis:** Established as **International Criminal Police Commission (ICPC)** during 2nd International Police Congress in Vienna in **1923** and e**stablished as INTERPOL in 1956**
- **Members:** 196 countries (India a founding members).
- **National Central Bureau (NCBs):** Established by member countries as a **point of access for INTERPOL affairs.**
    - **CBI is India's NCB** to the INTERPOL, and it has also developed **Bharatpol portal for better coordination**
- **Governing Bodies:** The General Assembly and Executive Committee.




***To know more about Interpol, refer to 4.1. INTERPOL in January 2025 Monthly Current Affairs Magazine.***

## 4.2.2. SUCCESSFUL TRIAL RUDRASTRA CONDUCTED AT POKHRAN, RAJASTHAN

Hybrid Unmanned Aerial Vehicle (UAV) **Rudrastra** demonstrated **vertical takeoff and landing (VTOL) capabilities, extended flight range, real-time surveillance, and accurate target engagement over a range of 50 kilometres**.

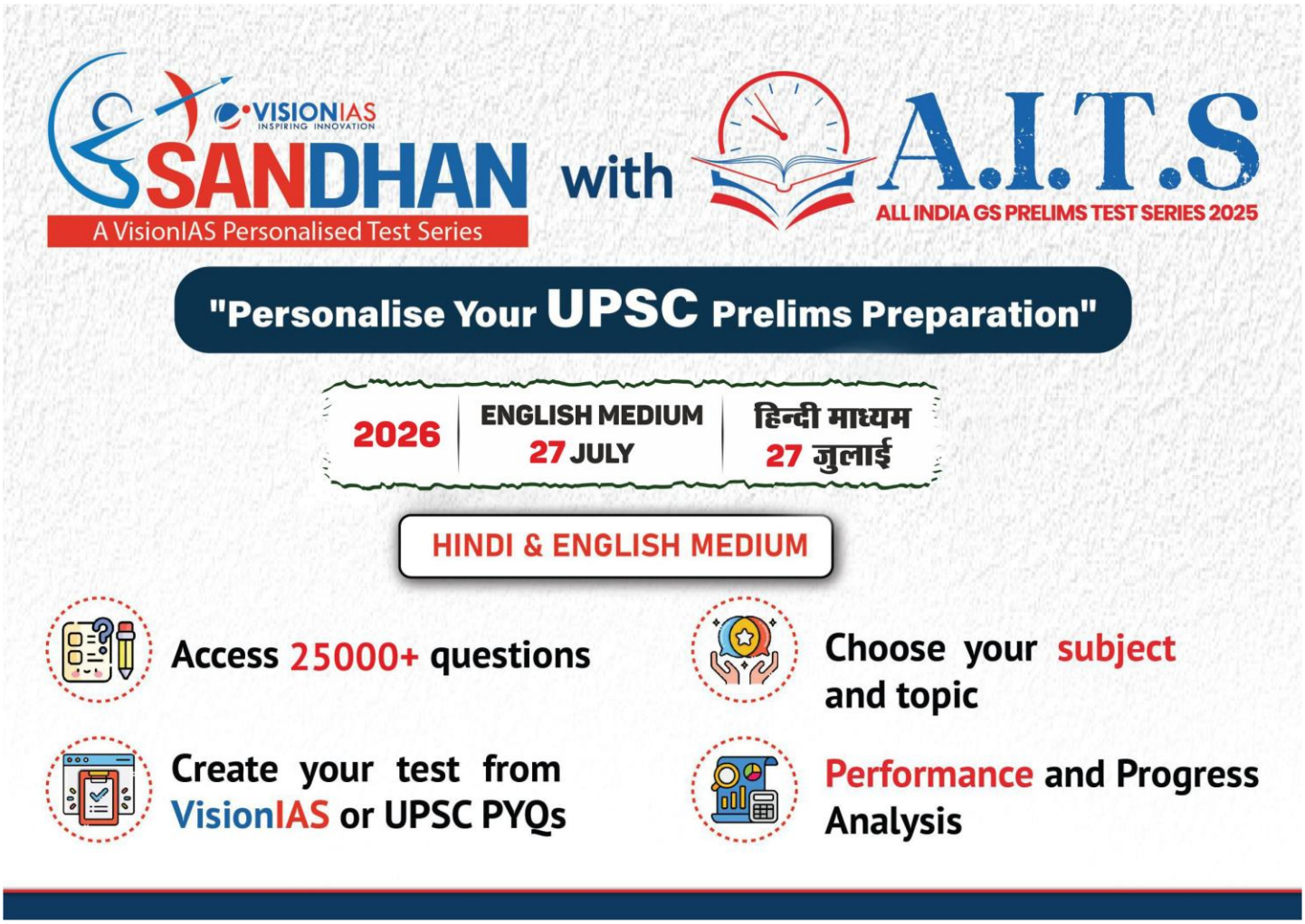
**About Rudrastra**

- It is a **Hybrid Vertical Take-Off and Landing (VTOL) UAV** manufactured by **Solar Defence and Aerospace Limited (SDAL).**
- **Features:**
  - **Total range (**including loitering over the target) is **170 km,** with an estimated **endurance of 1.5 hours.**
  - Equipped with **precision-guided anti-personnel warheads** with mid-altitude release capability.
  - Can relay back **live video** and **return** to the launch position in **automated mode.**

***To know more about role of Drones in Internal Security, refer to Article 4.1. Drones and Internal Security in September 2024 Monthly Current Affairs Magazine.***

## 4.2.3. EXERCISES IN NEWS

| | |
|---|---|
| **Exercise Khaan Quest** | Indian Army contingent reached Ulaanbaatar, Mongolia for the **22nd Multinational Military Exercise Khaan Quest**.<br><br>**About Exercise Khaan Quest**<br><br>• **Genesis:** Bilateral initiative between the United States and Mongolia in 2003.<br>  ○ **First multilateral exercise KHAAN QUEST: 2006.**<br>• **Objective:** To prepare Indian Armed Forces for peacekeeping missions under **Chapter VII of the United Nations Charter.**<br>  ○ **Chapter VII** of the United Nations Charter mentions **Action with Respect to Threats to the Peace, Breaches of the Peace**, and **Acts of Aggression**. |
| **PASSEX** | PASSEX, a **joint naval exercise** between the Navies of **India** and the **UK,** is being held in the northern Arabian Sea. |



# 5. ENVIRONMENT

## 5.1. AGROFORESTRY

**Why in the News?**

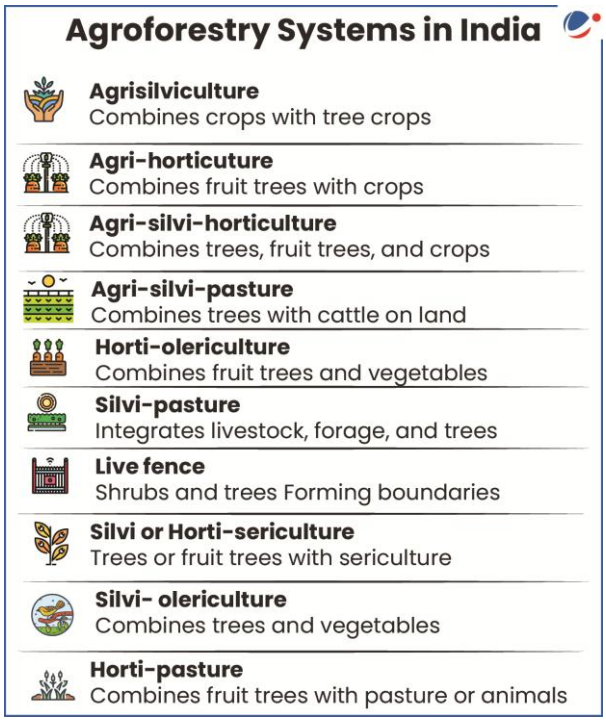
The Government has issued **Model Rules 2025 for the felling of trees on agricultural land** in a bid to promote agroforestry.

**More about the News**

- The **Model Rules include**:
  - The procedures for the registration of land for agroforestry.
  - The felling of trees under agroforestry.
  - The certification/transit of timber produced from agroforestry.

**About Agroforestry in India**

- According to National Agroforestry Policy 2014, "Agroforestry is defined as a **land use system which integrates trees and shrubs** on farmlands and rural landscapes to enhance productivity, profitability, diversity and ecosystem sustainability."
- The 2014 policy **aims to encourage tree planting on farmland** in a way that **complements crops and livestock.**
- India's agroforestry plantations occupy **approximately 8% of India's geographical land area**.




**Significance of Agroforestry** (EAC-PM Working Paper on AGROFORESTRY)

- **Agricultural Growth:** It can help achieve the **4% sustained growth in agriculture.**
- **Diverse Impact**: It **provides almost half of the demand for fuelwood**, **60% of raw material for paper and pulp**, and **9 to 11% of India's green fodder requirement** of livestock.
- **Food Security**: It **increases agricultural yield (by an average of 51 percent**) and check crop failure.
  - It will improve **nutrition, health, stabilization and improvement of communities**.
- **Sustainable Development:**
  - **Carbon sequestration**: It can sequester between **13.7 to 27.2 tonnes of $CO_2$ per hectare per year**.
  - **Soil Health**: It improves **soil's organic carbon content (SOC) concentration.** E.g. **From 0.62% of wheat and green gram to 1.14% under the poplar trees.** It also reduces soil salinity.
  - **Climate Smart Agriculture**: It can withstand extreme weather events, such as floods, etc.
  - **Environmental:** It will reduce pressure on natural forests, more **efficient recycling of nutrients**, and better **protection of ecological systems** and reduction of surface run-off, nutrient leaching and soil erosion.
  - **Trees Outside Forest:** Agroforestry can significantly contribute to increase in Trees Outside Forest.
- **Others:** Employment generation, reduction in imports and promote self-reliance for furniture and construction industry.

**Challenges to develop Agroforestry**

- **Gaps in the policy:**
  - There is **lack of information** on the selected trees due to absence of Agroforestry tree manual for farmers.
  - There is less emphasis on **unique and hi-tech agroforestry** systems like **aqua forestry.**
- **Restrictive Regulations**: Cumbersome process in obtaining permit, imposition of taxes at various stages of processing.
- **Underutilization of India's National Transit Pass System (NTPS):** An online transit passes generation system for inter-state and intra-state transportation of timber, bamboo, etc.

- **Herein, 82% applications have been received only from 3 states/UTs i.**e West Bengal, Telangana and Jammu and Kashmir.

- **Availability of High Variety seeds:** There is **shortage of superior planting material** and improved seed varieties.
- **Bottleneck in Previous Policies**: This resulted in **over emphasis on few species** like Poplar, Eucalyptus, Kadam etc. which were not much suitable to India's climate and soil. For instance, Eucalyptus is highly water intensive.
- **Others:** Absence of marketing infrastructure, lack of institutional finance and insurance coverage, etc.

**Conclusion**

There is a need for simplification of laws, better utilization of NTPS and introduction of Next Generation Systems to balance profitability, production and environmental footprint.

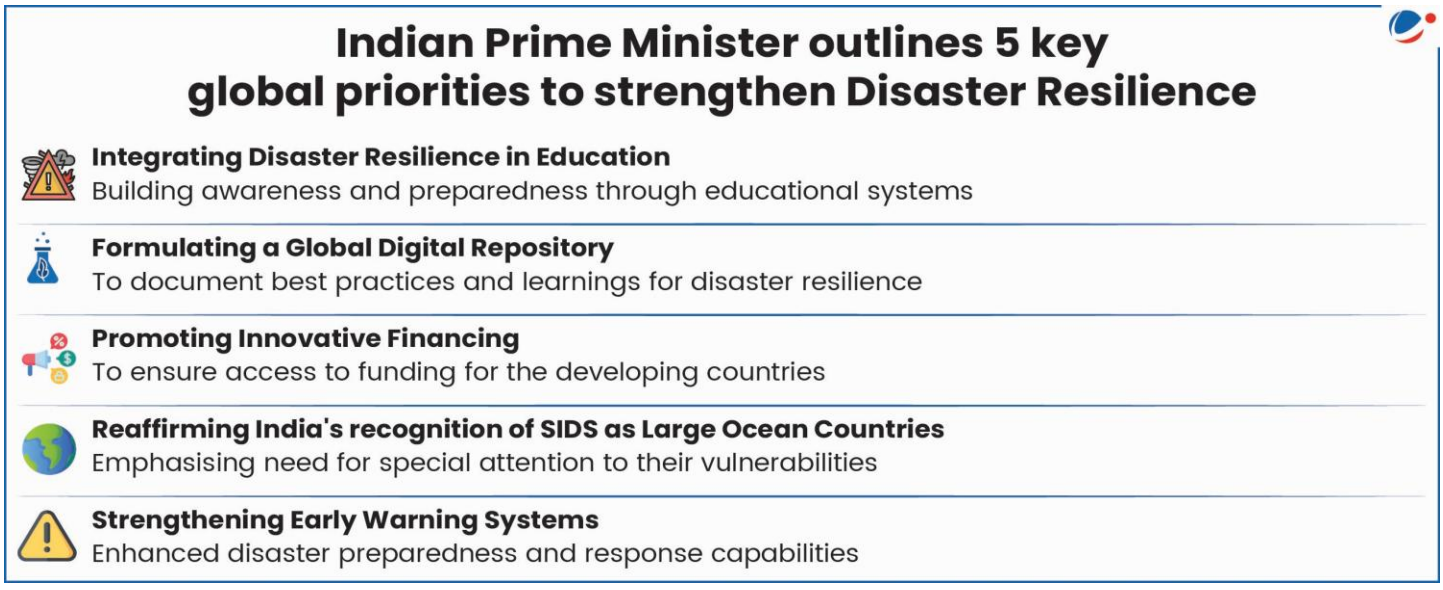
## 5.2. INTERNATIONAL CONFERENCE ON DISASTER RESILIENT INFRASTRUCTURE 2025

**Why in the News?**

Recently, the African Union joined India's Coalition for Disaster Resilient Infrastructure at the 7th International Conference on Disaster Resilient Infrastructure (ICDRI) in France.

**More on News**

- **ICDRI 2025** has launched a **call to action for coastal resilience in SIDS** (Small Island Developing States).
  - ICDRI is a platform under the Coalition of Disaster Resilient Infrastructure (CDRI) to drive discussions and actions on **climate adaptation, coastal resilience, and sustainable development.**
- This year's conference is the first to be held in Europe and is being **co-hosted by the CDRI and the Government of France**.
  - The **theme** of the conference is **shaping a Resilient Future for Coastal Regions.**




**Vulnerability of Coastal Regions**

- **Risk to Human life and Property:** Coastal regions globally are highly vulnerable to hazards, with o**ver 60% of the world's population and two-thirds of its large cities** located in coastal zones.
  - Nearly **250 million people** live within the area of 50 km from the coastline of **India.**
- **Climate change:** It is projected to increase threats in coastal regions by **increasing the intensity and frequency of hazards** like sea level rise, floods, and storms.
- **Economic losses**: E.g., Cyclone Fani caused ~US$1.2 billion power infrastructure damages in Odisha (2019). (Global Assessment Report (GAR), 2025)

- **Threat to Ecosystems and biodiversity:** For example, **half of the world's mangroves could face severe risks by 2100 due to increased cyclone frequency and sea level rise,** according to risk index for mangroves.
- **Social Vulnerability:** Coastal hazards are expected to **worsen existing inequities** for socially vulnerable populations in coastal areas, including the elderly, Indigenous fishing communities, etc.
- **Severe coastal hazards are:**
  - **Tsunamis:** For example, **the 2004 Indian Ocean Tsunami** claimed over 230,000 lives, displaced millions, and devastated coastal regions across 14 countries, including India**.**
  - **Cyclones:** For example, **Cyclone Remal** struck India and Bangladesh in 2024.
  - **Storm Surges: For example, an** estimated storm surge of height 2-2.5 m above astronomical tide inundated the low-lying areas of Kutch and Morbi districts in 2023. (IMD)
  - **Coastal Erosion:** For example, **33.6% of India's coastline** is threatened by erosion (MoEFCC).

**About Coalition for Disaster Resilient Infrastructure (CDRI)**

- **Launched:** At **United Nations Climate Action Summit** in 2019 by India.
- **About:** It is a global partnership of **national governments, UN agencies, multilateral development banks** and the private sector.
- **Objective: To promote the resilience of infrastructure systems** to climate and disaster risks ensuring sustainable development.
- **Members: 56 members** with its **secretariat at New Delhi** (India).
- **Reports:** Global Infrastructure Resilience Report
- **Governance:** Governing Council is co-chaired by representatives of two national governments, with India being the permanent co-chair.
- **Initiatives**
  - **Infrastructure for Resilient Island States (IRIS):** To promote resilient, sustainable and inclusive infrastructure in Small Island Developing States (SIDS).
  - **Infrastructure Resilience Accelerator Fund:** Established with support of UNDP and UNDRR, to support global action on disaster resilience of infrastructure systems.

**Indian Initiatives for Mitigating Coastal Vulnerabilities**

- **Coastal Regulation Zone (CRZ) Notification (2019):** It aims to conserve and protect coastal stretches, marine areas and to ensure livelihood security to the fisher and other local communities.
- **Integrated Coastal Zone Management Project (ICZMP):** Implemented in states like Odisha and West Bengal, and aims to protect and conserve coastal and marine environments through sustainable practices.
- **Coastal Vulnerability Index (CVI):** The Indian National Centre for Ocean Information Services (INCOIS) has developed the CVI to assess and map the vulnerability of different coastal regions based on various parameters.
- **Multi-Hazard Vulnerability Maps:** INCOIS has developed detailed maps to identify areas vulnerable to coastal hazards.
- **Coastal Management Information System (CMIS):** It is a data collection activity carried out to collect near-shore coastal data, which can be used in planning, design, and construction of site-specific coastal protection structures.
- **National Action Plan on Climate Change (NAPCC):** The plan includes missions like the National Water Mission, which indirectly supports coastal resilience by promoting sustainable water and forestry management practices.

**Conclusion**

Coastal regions and island nations face rising threats from sea level rise, cyclones, erosion, and extreme weather. India, through the CDRI and its initiatives, is driving efforts to build resilient and inclusive infrastructure. As climate risks grow, global action grounded in local needs and innovation is vital to safeguard coastal communities and ecosystems.

## 5.2.1. DISASTER RISK REDUCTION (DRR) FINANCING

**Why in the News?**

**United Nations Office for Disaster Risk Reduction (UNDRR)** released the **Global Assessment Report (GAR)** on titled "**Resilience Pays: Financing and Investing for our Future**".

**More on the News**

- Also, recently India showcased the **World's Largest Disaster Risk Reduction Financing System** at the 8th session of the **Global Platform for Disaster Risk Reduction (GP2025).**
- **GPDRR** was established in 2006 to assess and discuss progress on the implementation of the **Sendai Framework for DRR**.

**What is Disaster Risk Reduction (DRR)?**

- It refers to the steps taken to prevent new and reduce existing **disaster risk** and **manage risk retention (aka residual risk)**, thereby strengthening resilience and sustainable development.
  - E.g., New hazard-resilient infrastructure.

## Existing Financing Mechanism of DRR

| United Nations and Multilateral Funds | Multilateral Development Banks (MDBs) | National-Level | Bilateral Aid and Partnerships | Other |
|---|---|---|---|---|
| • E.g. **Green Climate Fund (GCF)** supports DRR | • **E.g. World Bank's** Disaster Risk Financing and Insurance (DRFI) Program | • Including DRR into national and local budgets.<br>• **Climate Finance** (e.g. National Adaptation Plans (NAPs)), etc. | • E.g., USAID supports various DRR programs | • Private Sector and **Blended Finance** (e.g., Corporate social responsibility) |

**Why there is a need for financing Disaster Risk Reduction? (GAR 2025)**

- **Limited aid**: Just 2% of development aid goes to DRR.
- **Mounting Economic Burden of Disasters:** Financial losses from disasters have doubled in the past two decades.
- **Higher Vulnerability of Developing Countries**: As of 2023, only 49% of Least developed Countries (LDCs) had multi-hazard early warning systems.
- **Breaking 3 negative spirals of unsustainable disaster risk management:**
  - **Decreasing income, increasing debt spiral:** By 2050, global incomes could decline by 19% due to climate-related hazards, with lower income countries suffering disproportionately
  - **Unsustainable risk transfer spiral:** E.g., India continues to have very low insurance penetration, with coverage below 1%, limiting the ability to share disaster risk.
  - **Respond-repeat spiral**: Every $1 invested in DRR saves $15 in averted future disaster recovery costs.

**What are the key Challenges in mobilizing adequate DRR Financing?**

- **Absence of dedicated international financial mechanism:** To support the establishment of DRR financing systems.
- **Low integration with financial decision-making**: Governments, businesses, financial institutions don't incorporate hazard considerations in financial decisions.

## United Nations Office for Disaster Risk Reduction (UNDRR)

UNDRR — HQ: Geneva, Switzerland

**Genesis:** Originally established as UNISDR in 1999 to facilitate the implementation of the **International Strategy for Disaster Reduction (ISDR).**

**About:** Lead agency within the **UN system** for the coordination of DRR.

**Mission:** To provide leadership and support to **accelerate global efforts in disaster risk reduction** to achieve inclusive sustainable development and the goal of the **Sendai Framework (2015-30).**

- It is a 15-year **non-binding agreement** having **7 targets,** and is an improved version of **Hyogo Framework for Action** (2005-15).
- It was adopted at **3rd United Nations World Conference on Disaster Risk Reduction (DRR),** held in 2015 in Sendai (Japan).

- **Data** and **evidence** to incorporate relevant hazard risk analysis into financial decisions may be limited in certain geographies and for certain hazards.

- **Considered as politically risky:** Financing DRR seen as spending on uncertain events with non-immediate benefits.
- **Other**: Weak Institutional Capacity in Developing Countries, Lack of national DRR strategies etc.

**India's Disaster Risk Reduction (DRR) Financing System**

- **DRR Finance Mechanism:** India follows pre-determined, rule-based allocations flowing from national to state and district levels, supported by **the Disaster Management Act of 2005**.
  - This transformation ensured that disaster financing is structured and **predictable** rather than **reactive**.
- **Current Allocations**: Under the **15th Finance Commission**, the allocation exceeds INR 2.32 trillion (~USD 28 billion).
- **Four key principles India's DRR financing approach**
  - **Dedicated financial windows** for **preparedness**, **mitigation**, **relief**, and **recovery**.
  - Prioritization of the **needs of affected people** and **vulnerable communities**.
  - Accessibility of **financial resources across all government levels**—central, state, and local.
  - **Accountability**, **transparency**, and **measurable outcomes** guide all expenditures.

**Way Forward**

- **Overhaul regulatory environment**: E.g. National governments and regulators need to create **Standards** and **taxonomies** (e.g., define **sustainable**, **disaster resilient investments**, etc.).
- **Tracking Finances**: E.g. **Tracking financing flows** in risk prevention and fiscal data to identify the volume of investment utilized out of budgeted allocation.
- **Adopting Innovative Financial Approaches**: E.g., Blended finance, Debt-for-resilience swaps, Integrating disaster risks into credit ratings, Green bonds, Catastrophe bonds (transfer risk to global investors and provide additional financial protection beyond traditional insurance), etc.
- **Promoting layered financing**: For example, low-cost, high frequency events might be covered through national reserves or contingent credit lines, while rarer, more severe disasters require insurance or other risk-transfer solutions.

**Conclusion**

DRR financing is not just a development necessity but a strategic investment for sustainable futures. To break the cycle of disaster and recovery, the global community must shift from reactive spending to proactive risk management, ensuring resilience is at the heart of financial and policy decisions.

## 5.3. MARITIME DISASTERS

India has urged **International Maritime Organization** (IMO) for Comprehensive Investigation and **Global review of recent Maritime Incidents.**

**More on the News**

- Due to rise in number of incidents of **vessel sinking and fires off the Indian coast,** India has requested **IMO** to enhance container safety and cargo disclosure regulations at **IMO's Maritime Safety Committee (MSC).**
- It also drew IMO's attention towards **improving global standards around packaging, declaration, and monitoring of lithium-ion batteries** and other dangerous goods categorized under **International Maritime Dangerous Goods (IMDG) Code.**

**Maritime Disasters**

- Maritime disasters encompass a wide range of incidents, **including shipwrecks, collisions, groundings, fires, explosions, and oil spills.**
  - **New types of risks include** transport of hazardous **chemical products, dangerous cargo, nuclear wastes, submarines and weapons, etc.**

- **Recent Maritime Incidents:**
  - **Sinking of Liberian-flagged vessel MSC ELSA 3 (Kochi coast):**
    - After the accident, **Tiny plastic pellets, known as 'nurdles',** were found in large numbers along the coast of Thiruvananthapuram.
      - ✓ Classified as primary microplastics, these pellets (Between from 1 mm to 5 mm in diameter) **can** lead to **habitat contamination** and breaking into micro and nano plastics and entering food chain.
  - **Fire aboard MV Wan Hai 503 (Kerala Coast):** Cargo of ship included calcium carbide, plastic pellets, heavy fuel oil etc. raising serious environmental concerns.
- **Consequences**
  - **Environment:** Marine pollution such as oil spills, plastic nurdles, loss of biodiversity, ballast water contamination, etc.
  - **Health:** Toxic exposure from chemicals/oil can cause long-term health issues for cleanup workers and locals, etc.
  - **Economic loss and safety**: Devaluation of the shores, beach cleanup operations, loss of coastal livelihoods, deteriorating tourism, etc.

**Challenges in handling Maritime Incidents/Disasters**

- **Inadequate Transparency in Cargo Declaration:** Shippers often fail to **properly disclose or even misdeclare the nature of goods**, making it difficult for authorities to assess and mitigate risks.
- **Improper Handling of Hazardous Materials:** Mishandling of hazardous items increases **fire and environmental risks.** Further, the lack of standardized practices in packaging and storage exacerbates the problem.
- **Complex ship ownership and management structures**: (e.g., Liberia-flagged, German-owned, Cyprus-managed) dilute responsibility and weaken accountability.
- **Delayed Global Response and Regulatory Action:** There is no urgent global mechanism to investigate such incidents and revise safety protocols. Regulatory reform is reactive rather than preventive.
- **Insurance Claims:** Maritime insurance policies can be complex, and disputes may arise regarding coverage, liability, and the apportionment of costs.

**Role of the IMO in Maritime Safety and Environment Protection**

- **Convention on International Trade in Dangerous Goods at Sea (IMDG Convention) - It contains regulations on the marking, packaging, loading and transportation of hazardous goods to ensure the safety of navigation and the prevention of accidents.**
- **International Convention for the Safety of Life at Sea (SOLAS), 1974: Establishes minimum safety standards for ships, fire protection, navigation, operational safety.**
- **International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) and OPRC-HNS Protocol (2000): Requires countries to develop contingency plans and establish cooperation for oil spill response.**
- **International Convention on the Control of Harmful Anti-fouling Systems on Ships (AFS Convention): Regulates the use of harmful anti-fouling systems (substances used to prevent marine organisms from attaching to ships' hulls).**
- **Ballast Water Management Convention: Prevent the spread of harmful aquatic organisms and pathogens and preventing introduction of invasive species into new marine environments.**
- **The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (Hong Kong Convention): Ensures that recycled ships do not pose unnecessary risk to human health and safety or to the environment.**

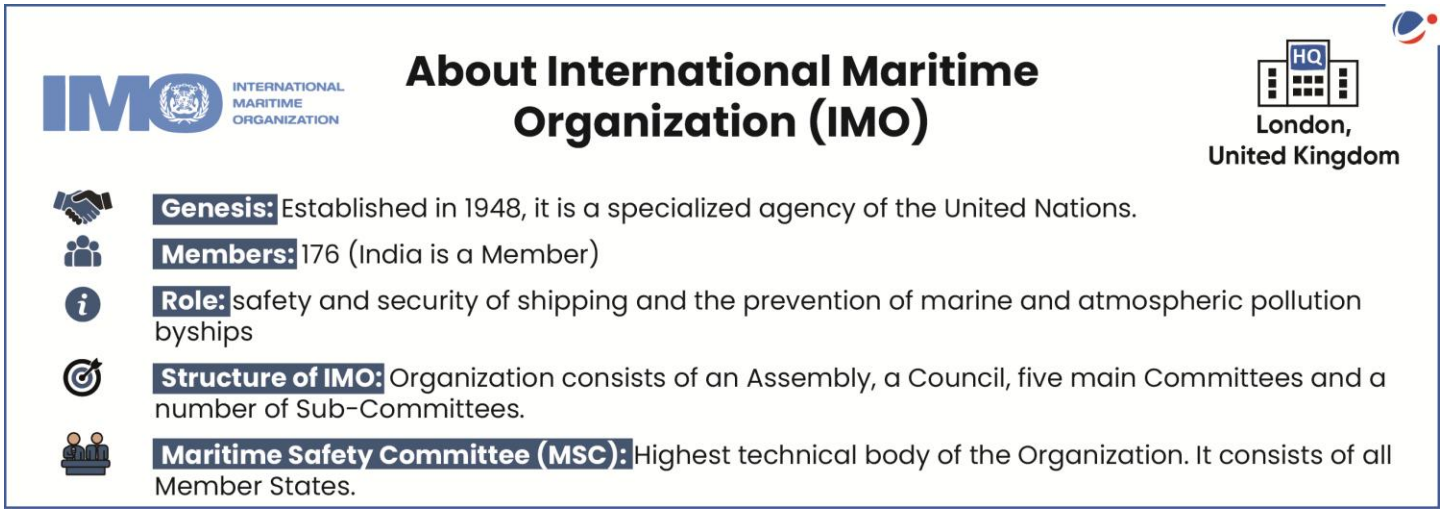
**Legal Mechanism related to Maritime Disaster in India:**

- **Merchant Shipping Act, 1958:** For maritime safety, ship registration, crew welfare, pollution prevention, and maritime liabilities.
- **Environmental (Protection) Act, 1986:** Used to enforce environmental safeguards against marine pollution, including oil spills and discharge of hazardous substances.

- **National Oil Spill Disaster Contingency Plan (NOS-DCP):** Administered by Indian Coast Guard, Provides operational protocols for responding to oil and hazardous chemical spills in the marine environment.
- **Admiralty (Jurisdiction and Settlement of Maritime Claims) Act, 2017: T**his Act provides a framework for handling maritime claims, including those arising from accidents and collisions, and defines the jurisdiction of courts in such matters.

**Way Forward**

- **Prevention Strategies**
  - **Strict Regulation of Shipping:** Strict enforcement of **SOLAS convention and MARPOL regulations** at the global level; monitor Indian waters more effectively as per the **Merchant Shipping Act** provisions.
  - **Risk Mapping & Zoning**: Identify ecologically sensitive zones (e.g., CRZ, mangroves) and restrict oil transport nearby.
  - **Role of Technology & Transparency in cargo management:** Electronic cargo tracking systems, Real-time monitoring of dangerous goods & Blockchain-based disclosures.
- **Reforms in IMO Regulations:** Mandating full disclosure of beneficial ownership, enhanced flag state obligations, and clearer delineation of managerial versus operational control responsibilities.
- **Detection and Early Warning:**
  - Use coastal radars, drones, and satellites like ISRO's RISAT for surveillance.
  - Mandate **Automatic Identification Systems (AIS)** on vessels to track movement in Indian waters.
- **Polluter Pays Principle:** Implement liability rules under Indian and international laws to hold ship owners accountable.
- **Out of the court settlements and maritime negotiation and arbitration:** To resolve maritime dispute expeditiously.
- **Training & Awareness:** Capacity-building programs for port authorities and fishermen.




## 5.4. CROWD DISASTER MANAGEMENT

**Why in the News?**

**Stampede outside Chinnaswamy stadium** where people gathered to celebrate Royal Challengers Bangalore's (RCB) IPL victory resulted in several fatalities and injusries.

**About Stampede**

- Stampede (**a type of crowd disaster**) or crushing is **the surge of individuals in a crowd**, in response to a **perceived danger or loss of physical space. [United Nations Office for Disaster Risk Reduction (UNDRR)]**

**Do you know**

> Historically, **compressive asphyxia** has been the most common reason for deaths in crowd disasters.
- **Compression force enough to bend steel** can be generated by **just 6/7 people pushing in a single direction.**

**Crowd Management Failures and Triggers**

- **Crowd Control Failures:**
  - **Overcrowding**: E.g., Chinnaswamy stadium, 2025 2.5 lakh crowd gathered as against the 34,600 capacity.
  - **Lack of Stakeholder Coordination:** E.g., RCB's social media announced free entry passes at stadium gates without proper coordination with Police.
- **Crowd Behaviour Triggers:**
  - **Panic an structural issues: E.g.,** Elphinstone Road Station, Mumbai (2017), panic triggered by a rumour of bridge collapse on an overcrowded, slippery footbridge during heavy rain.
  - **Fire/Electricity related:** E.g., In Dabwali Fire Tragedy, Haryana (1995), stampede was triggered due to fire in a tented venue and narrow exit.
  - **Tussle to catching a glimpse of a celebrity**: **E.g.,** stampede at the "Pushpa 2" premiere in Hyderabad (2024).

**National Disaster Management Authority (NDMA) Guidelines on Planning for Crowd management**

**Preparedness**

- **Risk Assessment and Planning:** Conducting **Failure Mode and Effect Analysis (FMEA)-** rating every possible hazard on the dimensions of Severity, Frequency of Occurrence, and Difficulty of detection.
  - **E.g.,** learning from Mumbai's efficient handling of the 2024 T20 World Cup roadshow.
- **Crowd Density Norms**: Specify permissible crowd per square metre and evacuation triggers (**e.g.,** barricade breach).
  - > **Model Example**: New York mandates trained crowd control managers for events with 1,000+ attendees.
- **Infrastructure Development: E.g**., Stadiums, ghats, temples must be re-engineered with multiple wide entry/exit points; Multilingual signage and public address systems, etc.
- **Facilities and Emergency Medical Services:** E.g., Maha Kumbh 2025 had articulating water towers (AWT) to prevent and tackle fire incidents**,** water ambulance, multi-disaster response vehicle etc.

**Response**

- **Information System: E.g.,** Mobile updates, loudspeakers, Signage, digital boards etc. for crowd guidance and informing public about delays, diversions, and hazards instantly.
- **Safety and Security measures:** E.g., Watch towers at all vantage locations with reserve with wireless communication net wor, CCTV monitoring etc.

**How Technology Can Prevent Stampedes in India?**

- **RFID & IoT for Crowd Tracking:** They can help can track visitor movements, ensuring no area exceeds safe capacity.
  - **E.g., Kumbh Mela & Vaishno Devi pilgrimages** have tested RFID tagging for crowd control.
- **Surveillance & Real-Time Crowd Monitoring**
  - **AI-driven CCTV cameras and drones** can analyze crowd density, detect potential bottlenecks and panic movements and guide emergency responses.
    - > **E.g., Hajj pilgrimage** uses AI-based crowd monitoring to prevent stampedes.
  - **Drones with thermal imaging** can monitor large gatherings from above.
  - **Live aerial feeds** help command centers make real-time decisions.
- **AI models:** All major events can be logged for identifying crowd patterns, evacuation performance, and logistical gaps to train AI models and improve preparedness in future.
  - > **Predictive analytics** can forecast overcrowding and alert authorities before a crisis occurs.

**Conclusion**

Effective crowd management is a **multidisciplinary responsibility** requiring meticulous planning, inter-agency coordination, stakeholder engagement, and the integration of modern technology. As public gatherings in India increase in size and frequency, strict adherence to NDMA guidelines—including risk-based planning—is essential.

## 5.5. BHARAT FORECAST SYSTEM

**Why in the News?**

Ministry of Earth Sciences unveils Bharat Forecast System (BFS), one of the world's first indigenously developed high-resolution weather forecast systems.

**About Bharat Forecast System**

- **Developed by:** Indian Institute of Tropical Meteorology (IITM), Pune, an autonomous institute of the Ministry of Earth Sciences.
- **Role:** It **enhances India's weather prediction resolution from 12 km to 6 km**, enabling every village in India to access more precise and location-specific forecasts.
- **Data Sources:** Integrates real-time inputs from 40 Doppler Weather Radars, improving accuracy of localised forecasts and nowcasts.
    - **Doppler Radar** is a specific type of radar that uses the **doppler effect** (Change in frequency of wave emitted by a source moving relative to the observer) to gather velocity data from particles that are being measured.

**Significance of BFS**

- **Improved accuracy and speed**: Delivers 64% better accuracy in high-risk zones and produces forecasts within 4–6 hours, especially for extreme events like heavy rainfall and cyclones.
    - Earlier weather forecasting models required around 12 to 14 hours to produce predictions for a specific area.
- **Global Leadership**: Positions India ahead of countries like the US, UK, and EU by achieving 6 km resolution (compared to 9–14 km in global models).
- **Support for Disaster Management & Agriculture**:
    - Enables tailored short-range and nowcasts at village and block level.
    - Assists farmers, coastal communities, and disaster management agencies in crop planning, irrigation scheduling, and early warning.
- **Economic Benefits**: Helps reduce climate-related losses in sectors such as agriculture, infrastructure, and water management.
    - Powered by **High-Performance Computing (HPC) systems** – Arka (IITM Pune) and Arunika (National Centre for Medium Range Weather Forecasting, Delhi) – to deliver faster simulations
- **Regional Forecast:** It allows for more accurate forecasting of tropical disturbances, including monsoons, cyclones, and extreme rainfall events hazards that disproportionately impact low- and middle-income countries.

**Conclusion**

The Bharat Forecast System reflects India's growing self-reliance in critical scientific infrastructure. As climate risks intensify, such advancements highlight the role of science in ensuring resilience and inclusive development.

***To know more about Hyperlocal Weather Forecasting, refer to Article 5.2. Hyperlocal Weather Forecasting in October 2024 Monthly Current Affairs Magazine.***

## 5.6. NEWS IN SHORTS

### 5.6.1. INTERGOVERNMENTAL SCIENCE-POLICY PANEL ON CHEMICALS, WASTE AND POLLUTION ESTABLISHED

Its creation follows a **United Nations Environment Assembly (UNEA) resolution in 2022** that called for the establishment of such an intergovernmental body.

- The negotiations were convened by the **UN Environment Programme (UNEP),** which will now also host the panel.
- The New panel will provide nations with **Independent, policy-relevant scientific advice** on issues related to chemicals, waste and pollution prevention.
- It **completes a global scientific trifecta,** alongside the **Intergovernmental Panel on Climate Change (IPCC)** and the **Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).**

**Need for the Panel**

- **To reduce the impact of the triple planetary crisis:** The crisis of climate change, the crisis of nature and biodiversity loss, and the crisis of pollution and waste.
- **To reduce the impact of Chemicals, Waste and Pollution as**
  - **Chemicals used daily in modern life have increased** and there can be unintended negative impacts.
  - Municipal solid waste generation is predicted to grow from **2.1 billion tonnes in 2023 to 3.8 billion tonnes by 2050.**
  - Death from modern forms of pollution have risen by **66% over the past two decades.**

## 5.6.2. ILO CONVENTION ON BIOLOGICAL HAZARDS

International Labour Organization's (ILO) member states have adopted the first ever **international convention on biological hazards at work**.

**About the Convention (ILO Convention 192)**

- It calls on Member States to **formulate national policies and adopt measures** on occupational safety and health that include–
  - the prevention and **protection against biological hazards**, and
  - the development **of preparedness and response measures** to deal with accidents and emergencies.
- **India's Concerns:**
  - The **blanket application across all sectors and enterprise sizes**, regardless of exposure level, may **place greater burden on MSMEs and informal enterprises** in developing countries.
  - Concerns about the **definitions used in the instrument as they are too broad**, possibly leading to their application outside the actual workplace, leading to over-regulation.

**About Biological Hazards (Biohazards)**

- **Biohazards are of organic origin** or conveyed by biological vectors, including pathogenic microorganisms (virus, bacteria. Fungi, etc.), toxins and bioactive substances.
  - People working in **healthcare, agriculture, and laboratory settings** are at greatest risk.
- **Factors driving biohazards' development** are shifts in atmospheric and weather conditions, heat-related risks, and overuse of antimicrobials.
- **Measures taken:** ILO Conventions 155 and 187, and India's Occupational Safety, Health and Working Conditions Code, 2020.

**Other Key Highlights of the Conference**

- **First standard-setting discussion on decent work in the platform economy:**
  - Related to fundamental principles and rights at work, fair remuneration, social security, occupational safety and health etc.
  - The platform economy refers to economic activities that occur on digital platforms, which are online marketplaces connecting suppliers and consumers eg. Uber, Amazon etc.
- **Adopted a Resolution to reduce informality and support the transition to formal work**.
  - It calls for urgent action to improve working conditions, extend social protection, and create decent jobs.
- **Amendments to the Code of the Maritime Labour Convention, 2006 (MLC, 2006).**
  - To address **violence and harassment on board, reinforce the right to shore leave and repatriation**, and call for recognizing seafarers as key workers.

- The Code establishes **minimum working and living standards for all seafarers** on those ships.
  - It is also an essential step toward ensuring fair competition and a level-playing field for quality ship owners.
  - **India ratified it in 2015.**

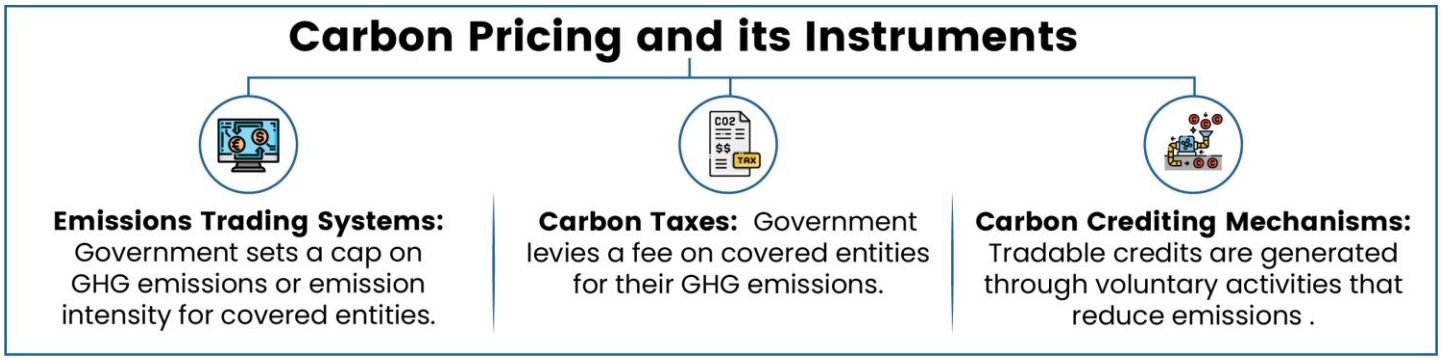
## 5.6.3. STATE AND TRENDS OF CARBON PRICING 2025

State and Trends of Carbon Pricing 2025 Report is released by the World Bank Group.

- As per the report, number of operational **Carbon Pricing (CP**) instruments has grown, from **5 (2005) to 80 presently**, with **India,** Brazil, and Türkiye actively developing them.

**Key Highlights of the Report**

- **Coverage:** CP covers around **28% of global Greenhouse Gas (GHG) emissions**, with **43 carbon taxes and 37 Emission Trading Systems (ETSs).**
- **Revenue Generation:** Globally, ETSs and carbon taxes continued to generate over **USD 100 billion (2024)** for public budgets.
- **Sector Wise Coverage: Power** followed by **industry sector** have the highest coverage.
  - **Agriculture** and **Waste** remains largely uncovered.
- **Carbon Credit Supply Vs Demand:** Supply continued to outstrip demand, with almost **1 billion tons** of unretired credits in 2024, globally.




**Key Provisions on CP**

**Global**

- **Article 6 of Paris Agreement (CoP 21, UNFCCC):** Provides basis for **facilitating international recognition** of cooperative carbon pricing approaches.
  - **COP29** (Baku, Azerbaijan), **UNFCCC (United Nations Framework Convention on Climate Change)** adopted the final rules for **Article 6.2 (cooperative approaches)** and **Article 6.4 (the Paris Agreement Crediting Mechanism).**
- **Carbon Border Adjustment Mechanisms (CBAMs): Imposes Carbon price** at the **border** on emissions from **imported goods. E.g., EU's CBAM.**

**India**

- **Carbon Credit Trading Scheme (2023):** Provides two mechanisms,
  - **Compliance Mechanism: Obligated entities** complies with prescribed GHG emission reduction norms.
  - **Offset mechanism: Non-obligated entities** registers projects for GHG emission reduction/ removal/ avoidance for **Carbon Credit Certificates.**

## 5.6.4. STATE OF THE CLIMATE IN ASIA 2024

**World Meteorological Organization releases State of the Climate in Asia 2024 Report**

- WMO is a **specialized agency** of the United Nations.

**Key Findings**

- **Hottest Year:** 2024 was Asia's warmest or second warmest year on record, with temperatures 1.04°C above the 1991–2020 average.
- **Rapid Warming:** Asia is warming **twice as fast** as the global average.
- **Glacial Loss:** Reduced snowfall and extreme heat drove glacier melt in the **Central Himalayas and Tian Shan.**
- **Record Sea Temperatures:** Highest sea-surface temperatures recorded. **Decadal warming rate** is almost **double the global average**.

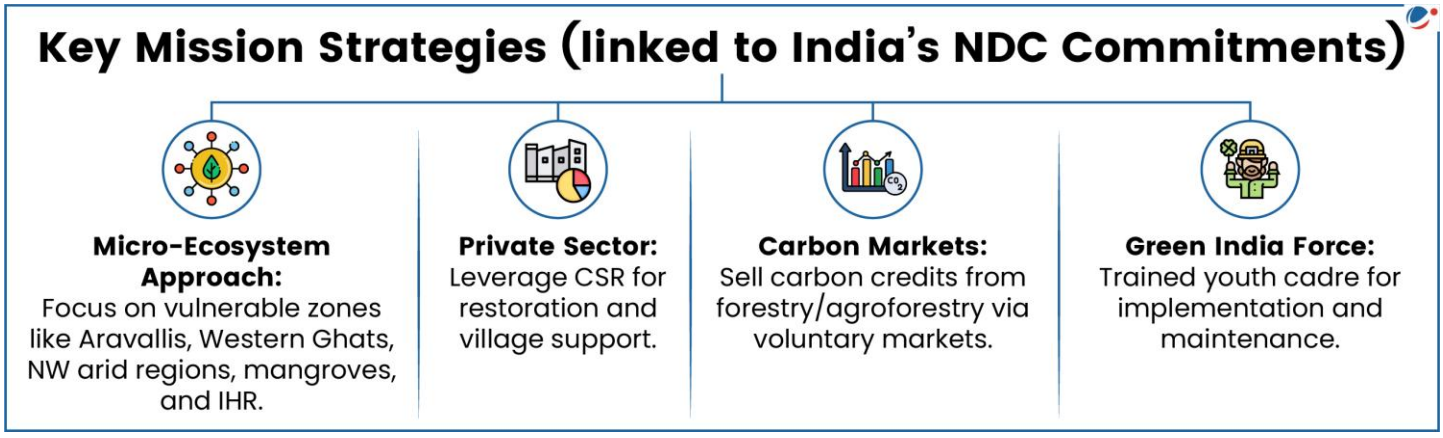
## 5.6.5. NATIONAL MISSION FOR A GREEN INDIA

Revised mission document of the National Mission for a Green India (or Green India Mission (GIM) was unveiled.

- **Ministry of Environment, Forest and Climate Change (MoEFCC)** unveiled the document on the occasion of **World Day to Combat Desertification and Drought** (June 17).

**About Green India Mission**

- **Genesis**: Launched in 2011. It is one of the **eight missions** under the **National Action Plan on Climate Change (NAPCC)**.
- **Objectives:**
  - Increase forest and tree cover on forest/non- forest lands (Afforestation over 24 million hectares will be taken up)
  - Improve ecosystem services including carbon sequestration
  - Creation of an additional **carbon sink** of 2.5 to 3.0 billion tonnes of $CO_2$ equivalent by 2030, etc.
- **Three Sub-Missions**
  - Improve forest quality and ecosystem services
  - Increase forest/tree cover and restore ecosystems
  - Enhance and diversify incomes of forest-dependent communities.
- **Funding**: Part of the funding will come from Mission's allocation and the rest from the **National CAMPA (Compensatory Afforestation Fund Management and Planning Authority) Fund**.
- **Timeline**: 10 years (2021-2030)
- **Implementation**: Follows a **bottom-up model** with **Joint Forest Management Committees (JFMCs)** as key implementers.




## 5.6.6. GLOBAL DROUGHT OUTLOOK, 2025 RELEASED

The report has been released by the **Organisation for Economic Co-operation and Development (OECD)**.

**Key findings**

- **Increase in severity: 40%** of the world's land area faces increasingly frequent and severe droughts.
  - Some of the recent examples of major droughts include **Europe** (2022), **California** (2021), **Horn of Africa** & **Somalia**, etc.

- **Economic impact: 3% - 7.5%** annual increase in the economic cost of an average drought episode.
  - Countries like India, Australia, etc. may face water-related disruptions in the operations of hydroelectric power stations.
  - Inland water transport is impacted (E.g. recent drought in panama canal).
  - Crop yields can **decline by up to 22%**.
- **Ecological**:
  - **Reduction in soil moisture:** Since 1980, 37% of global land has experienced significant soil moisture decline.
  - **Groundwater decline:** Groundwater levels are falling globally, with 62% of monitored aquifers in decline.
- **Other**:
  - Droughts are responsible for 34% of **disaster-related deaths** (World Meteorological Organization (WMO), 2021) and exacerbate **poverty, inequality** and **displacement.**

## 5.6.7. GLOBAL OCEAN DARKENING THREATENS UNDERWATER ECOSYSTEMS

A study done by researchers from a UK University found that **21% of the global ocean had become darker** between 2003 and 2022, especially in the Arctic, Antarctic, and Gulf Stream region.

**What is the Darkening of the Ocean?**

- It refers to a **reduction in light penetration** into the global oceans, **shrinking the photic zone.**
  - The photic zone is the **sunlit layer** (**about 200 meters in depth)** where most marine life (nearly 90%) thrives.
- As per the study, the current darkening of the oceans could be due to **ecological shifts,** potentially driven by **phytoplankton and zooplankton blooms.**

**Reasons behind darkening of the Ocean**

- **In Coastal Oceans:** Combination of **nutrient, organic material and sediment loading** near the coasts, caused by factors such as **agricultural runoff and increased rainfall.**
- **In Open Oceans:** Driven by **warming of the surface oceans** (leading to algal bloom) and climate-driven changes in the **ocean circulation patterns.**

**Impact of the Ocean Darkening**

- **Marine ecology and productivity:** Ocean darkening **limits light-dependent processes** such as **growth, communication, reproduction, photosynthesis,** etc., thus, limiting ocean productivity.
- **Fisheries industry**: Fish stocks decline due to habitat compression and disrupted reproductive cycles.
- **Regulation of climate:** hampers carbon absorption and oxygen production, affecting climate regulation.

## 5.6.8. BLUE NATIONALLY DETERMINED CONTRIBUTIONS (NDC) CHALLENGE

Brazil and France Launch launched the **Blue NDC Challenge**.

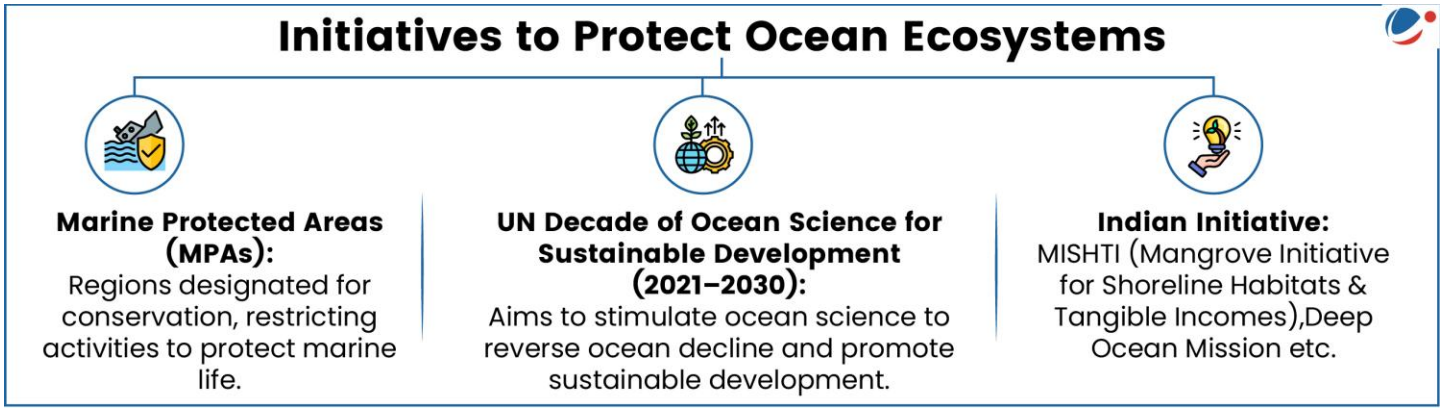
- An inaugural group of eight countries – Australia, Fiji, Kenya, Mexico, Palau, and Seychelles – has already joined the initiative.

**About Blue NDC Challenge**

- It calls on all countries to place the ocean at the heart of their NDCs ahead of COP30.
- **Supported by**: Ocean Conservancy, the Ocean & Climate Platform, and the World Resources Institute through the Ocean Resilience and Climate Alliance (ORCA).

**Role played by Ocean in addressing the climate crisis**

- **Carbon Dioxide Absorption**: The ocean absorbs approximately 30% of global carbon dioxide emissions, acting as a significant carbon sink.
  - Coastal habitats like mangroves and seagrasses sequester carbon at rates up to four times higher than terrestrial forests
- **Heat Regulation**: It captures about 90% of the excess heat generated by greenhouse gas emissions.
- **Renewable Energy:** Offshore wind energy has the potential to meet over one-third of global electricity needs.




## 5.6.9. THIRD UNITED NATIONS OCEAN CONFERENCE (UNOC3)

The third **United Nations Ocean Conference (UNOC3)** concluded with the adoption of the **Nice Ocean Action Plan**.

- UNOC3 was held in Nice, France.
- It was co-hosted by France and Costa Rica.

**Key Highlights of Action Plan**

- A global roadmap adopted to support the achievement of **SDG 14**, focused on conserving and sustainably using oceans, seas, and marine resources.
  - Declaration recognized that **SDG 14** is the least funded of all SDGs.
- Reaffirms commitment to develop an international legally binding instrument on plastic pollution.
- Called for coordinated global action to **reduce climate and acidification** impacts on oceans and coastal communities reliant on them.

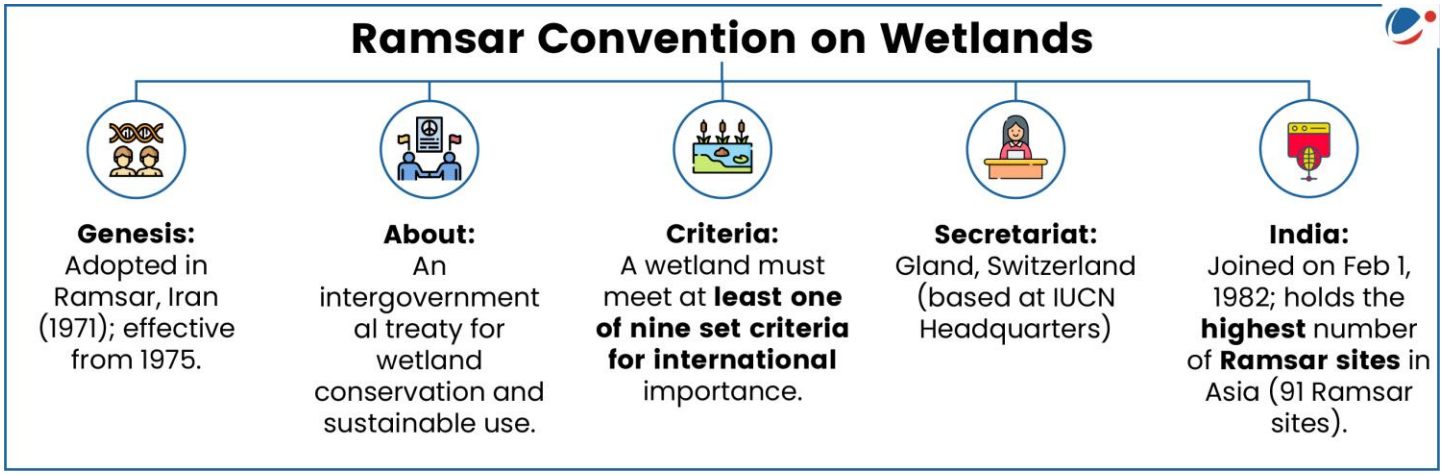
## 5.6.10. NEW RAMSAR SITES IN RAJASTHAN

India added two more wetland into Ramsar list of Wetlands of International Importance.

- **Khichan and Menar wetlands** in Rajasthan were **declared Ramsar Sites** on world environment day 2025, raising India's total count to 91.
- World Environment Day is celebrated **annually on 5th June (Since 1973)** led by the UN Environment Programme. The theme for 2025 is **Beat Plastic Pollution.**
- With the addition of these wetlands, **Rajasthan now has four Ramsar sites**, including **Sambhar Salt Lake** and **Keoladeo Ghana** National Park in Bharatpur.

| About New Ramsar Sites | |
|---|---|
| • **Khichan Wetland** | • **Location:** Northern Thar Desert, Phalodi District (Rajasthan)<br>• **It comprises** two water bodies, **Ratri nadi (river) and Vijaysagar talab (pond),** riparian habitat and scrub land.<br>• The site hosts large wintering flocks of migratory **demoiselle cranes (Anthropoides virgo).** |
| • **Menar Wetland Complex** | • **Location**: Menar and Kheroda village,Udaipur District(Rajasthan).<br>• It is a **freshwater monsoon** wetland complex formed by **three ponds** (Braham talab, Dhand talab and Kheroda talab).<br>• **Notable bird species** are the critically endangered **white-rumped vulture (Gyps bengalensis) and long-billed vulture (Gyps indicus).** |

| | |
|---|---|
| | • **Over 70 plant species** are found, including **mango trees** (Mangifera indica) around Braham talab that host a large colony of **Indian flying fox (Pteropus giganteus).** |




## 5.6.11. GREATER FLAMINGO SANCTUARY

Tamil Nadu notified Greater Flamingo Sanctuary at Dhanushkodi to preserve a critical stopover point along the Central Asian Flyway for thousands of migratory wetland birds.

**About Greater Flamingo (Phoenicopterus roseus):**

- **IUCN Status:** Least Concern
- **Distribution:** Africa, western Asia (India), and southern Europe.
- **Habitat:** Breeds in shallow wetlands that are either saline or alkaline.
- **Features:** This species has a great dispersal capacity outside of the breeding season, but it is highly philopatric (to return to or remain near a particular site or area).
- **The Kachchh Desert Wildlife Sanctuary in the Great Rann of Kachchh (GRK) in Gujarat State**, is a unique Protected Area, that supports **South Asia's only breeding ground of Greater Flamingos,** internationally renowned as the **"Flamingo City".**

## 5.6.12. IBAT ALLIANCE

**IBAT Alliance doubled its investment in biodiversity data from 2023 to 2024**

- Increased investment will support three key global biodiversity datasets i.e., **World Database on Protected Areas**, **IUCN Red List** and **World Database of Key Biodiversity Areas.**

**About IBAT Alliance**

- **Headquarter:** The UK
- **Genesis:** Founded in 2008
- It is a **coalition of four** of the world's largest and most influential conservation organisations.
- **These four organizations are: Birdlife** International, Conservation International, The International Union of Conservation for Nature (IUCN), The United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC)
- **Mission:** To provide **data, tools and guidance** that help organisations act on **biodiversity-related risks** etc.

## 5.6.13. INTERNATIONAL BIG CAT ALLIANCE (IBCA)

The **1st assembly of the IBCA** convened in **New Delhi**, endorsed the India's **Union Minister of Environment, Forest & Climate Change, Shri Bhupender Yadav, as the President of IBCA**.

- The Assembly of the IBCA serves as its apex decision-making body and is convened annually/biannually.

**About IBCA**

- It is a **multi-country, multi-agency coalition of** 95 big cat range countries, non-range countries with an interest in **big cat conservation**.
  - These Big Cats include **Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar & Puma. (refer to table)**
- **Genesis: Launched in April 2023** (occasion of **50 years of India's Project Tiger**)
- **Main Goal:** To **foster collaboration and synergy by establishing a platform** dedicated to **sharing best practices** in big cat conservation.
- **Founding Members (16):** Armenia, Bangladesh, Bhutan, Cambodia, Egypt, Ethiopia, Ecuador, **India**, Kenya, Malaysia, Mongolia, Nepal, Nigeria, Peru, Suriname, & Uganda.
- **India** is the **host country** & **Secretariat** for the IBCA.

**Conservation Status of Big Cat Species**

| Big Cat Species | IUCN Status | CITES Status | Wildlife Protection Act |
|---|---|---|---|
| **Tiger** *Panthera tigris* | Endangered | Appendix I | Schedule 1 |
| **Lion** *Panthera leo* | Vulnerable | Appendix I | Schedule 1 |
| **Leopard** *Panthera pardus* | Vulnerable | Appendix I | Schedule 1 |
| **Snow Leopard** *Panthera uncia* | Vulnerable | Appendix I | Schedule 1 |
| **Cheetah** *Acinonyx jubatus* | Vulnerable | Appendix I | Schedule 1 |
| **Jaguar** *Panthera onca* | Near Threatened | Appendix I | Not Found in India |
| **Puma** *Puma concolor* | Least Concern | Appendix I | Not Found in India |

## 5.6.14. REVISED GUIDELINES ON NATIONAL BIOENERGY PROGRAMME

The Ministry of New and Renewable Energy (MNRE) has updated the guidelines on '**Waste to Energy**' and '**Biomass**' components of the **National Bioenergy Programme.**

- **Bioenergy:** It is a form of renewable energy generated when we burn biomass fuel which comes from organic material such as harvest residues, crops and organic waste from our homes, etc.

**What is the National Bioenergy Programme?**

- **Launched**: In 2022
- **Implementation**: Two phases with a total budget of Rs. 1715 Crore; **Phase-1 (2021-22 to 2025-26)**.
- **Objective**: Utilize **surplus biomass** (primarily from rural areas) for **power generation,** while providing **additional income for rural households.**
- **Central Financial Assistance (CFA):** To be provided to project developers based on various aspects of projects.
  - For **special categories** like the North East Region, hilly states, SC/ST beneficiaries, etc., **20% more CFA** will be provided.
- **There are 3 components of the programme**
  - **Waste to Energy Programme:** Support projects for **generating Biogas, BioCNG, Power, or Syngas** from urban, industrial, and agricultural waste/residues.
  - **Biomass Programme:** Support Biomass Briquette/Pellet manufacturing plants and Biomass (non-bagasse) based cogeneration projects.
  - **Biogas Programme:** Support biogas plants for clean cooking fuel, small power needs, improved sanitation, women empowerment, etc.
    - > **Biogas is 95% methane ($CH_4$) and $CO_2$, with traces of $N_2$, $H_2$, $H_2S$, and $O_2$**

| Key Features of Revised Guidelines | |
|---|---|
| **Waste to Energy Programme**<br>• **Simplified Processes: E.g.,** easier approvals for MSMEs and industry.<br>• **Improved CFA Disbursal**: Two-Stage Release:<br>  ○ **50% CFA** after consent from the **State Pollution Control Board**, with bank guarantee.<br>  ○ Remaining CFA **after 80% capacity achievement** or maximum limit. (lower of two).<br>• **Other: Streamlined inspections,** flexible & performance-based funding, etc. | **Biomass Programme**<br>• **Simplified Processes: E.g.,** no clearance documents needed for briquette/pellet plants.<br>• **Tech Integration: E.g.,** enabling the use of IoT-based monitoring solutions.<br>• **Stubble Burning Support:** Pellet producers in NCR and nearby states can choose MNRE or Central Pollution Control Board (CPCB) scheme.<br>• **Other**: Flexible market access, performance-based subsidy, etc. |

***To know more about Biofuels, refer to Article 5.1. Biofuels in March 2025 Monthly Current Affairs Magazine.***

## 5.6.15. ENERGY TRANSITION INDEX (ETI), 2025

**World Economic Forum (WEF)** recently released Energy Transition Index (ETI), 2025.

**Key Findings**

- Sweden ranked first followed by Finland, Denmark and Norway
- India's rank dropped from rank **63 in 2024 to rank 71 in 2025.**

**About ETI**

- It ranks countries on their progress towards energy transition from fossil fuels to clean energy.
- It takes into account **two main aspects to put together the Index:**
  - System Performance (energy security, equity & sustainability)
  - Transition Readiness (regulation, infrastructure, investment etc.)
- The I**ndex uses 43 indicators** under these broad categories using **data from multiple sources and scores countries on a scale of 0 to 100.**

## 5.6.16. THIRSTWAVE

Researchers have **coined a new term to describe extended periods of atmospheric thirst** called Thirstwaves.

**About Thirstwave**

- A thirst wave **has at least three consecutive days when daily evaporative demand** is greater than its historical **90th percentile value for that period.**
  - **Evaporative demand is a measure** of how thirsty the **atmosphere is**.
- A combination of factors drives **evaporative demand, including temperature, wind speed, humidity, and sunshine.**
- Studying these 'thirstwaves' can **help farmers better manage their water resources and improve crop yields.**

## 5.6.17. SALKHAN FOSSIL PARK ADDED TO UNESCO TENTATIVE LIST FOR WORLD HERITAGE SITES

It is officially known as **Sonbhadra Fossils Park** and is located in the Sonbhadra District of Uttar Pradesh.

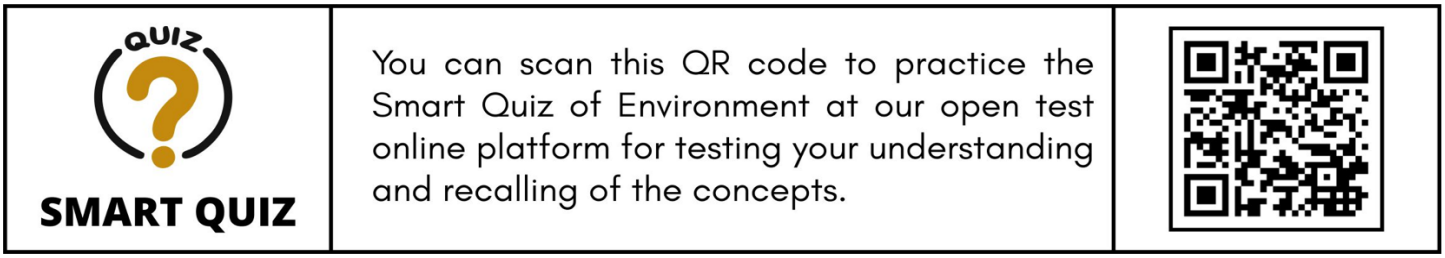
- It qualifies as a geo-heritage site under **IUCN's 2020 guidelines for "Evolution of Life"** and matches **UNESCO's 2021 framework on Earth's history and life evolution.**

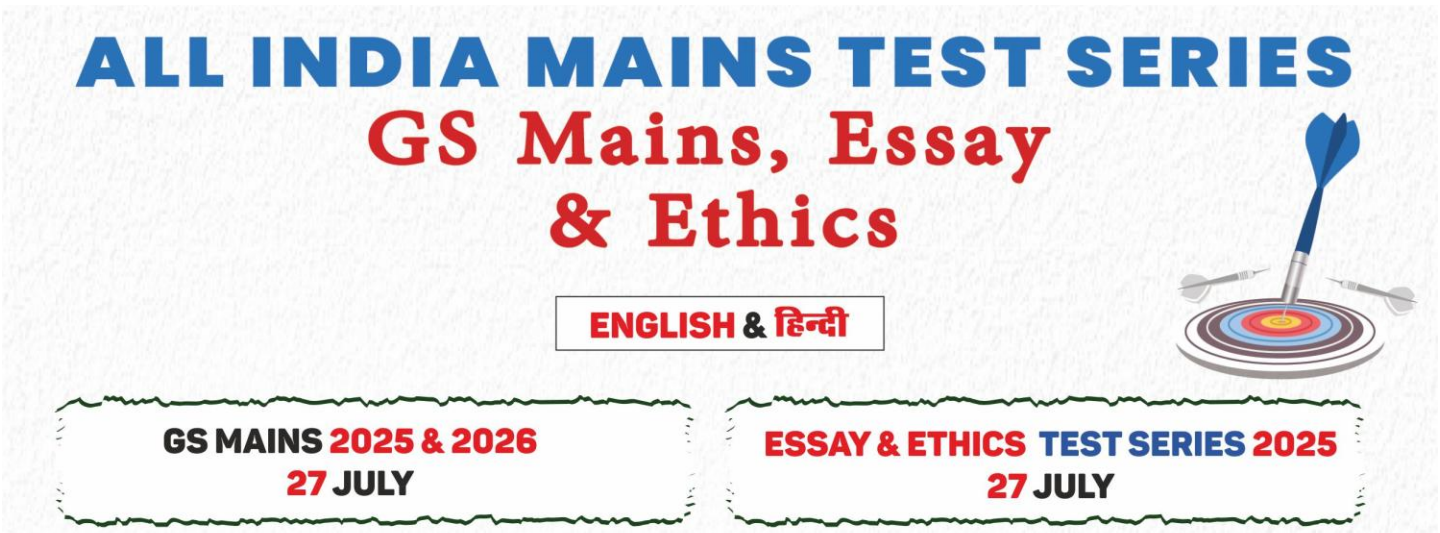
**About Salkhan Fossil Park**

- It is located in **Kaimur Range (part of the Vindhya range)**, adjacent to **Kaimur Wildlife Sanctuary.**
- It is one of the **oldest and most well preserved sites** in the world (fossils dating approx 1.4 billion years).
  - **The site's fossil assemblage features Stromatolites** which are created by communities of Cyanobacteria or blue green algae
    - > These fossilized microbial structures record the **Great Oxidation Event,** when oxygen first accumulated in the atmosphere.
- **Significance of Salkhan Fossil Park**
  - **Understanding early environment:** The park features varied stromatolite forms—domal, columnar, and stratiform—indicating changes in ancient water depth, sedimentation and wave activity.
  - **Filling the Precambrian Gap:** Addresses a significant gap in the World Heritage fossil record by showcasing the Precambrian era.
    - > It covers 85% of Earth's history that remains largely underrepresented worldwide.

## 5.6.18. RECENT VOLCANIC ERUPTIONSMOUNT ETNA

| Volcano | Features |
|---|---|
| **Mount Etna** | • **Location:** Sicily Island, Italy<br>• **Highest Mediterranean island mountain**<br>• **Most active stratovolcano in the world**<br>• **Europe's largest** active volcano.<br>• **A UNESCO World Heritage Site.** |
| **Mount Lewotobi Laki-laki** | • **Location**: Flores Island, Indonesia.<br>• Part of the Pacific Ring of Fire |
| **Kilauea volcano** | • **Location:** Southeastern part of the island of Hawaii, U.S.<br>• **Shield Volcano** |



# 6. SOCIAL ISSUES

## 6.1. CULTURAL APPROPRIATION

**Why in the News?**

Italian luxury brand Prada was accused of cultural appropriation for selling flat leather sandals resembling India's traditional Geographical Indication (GI)-tagged Kolhapuri chappals.

**What is Cultural Appropriation?**

- Cultural appropriation refers to the act of adopting elements from one culture by members of another, particularly when a **dominant group appropriates aspects of a marginalized culture** in a manner that is seen as disrespectful or exploitative.
  - A member of a **majority group profiting financially or socially from the culture of a minority group** is cultural appropriation.
- **Other examples:**
  - **U.S brand Starbucks** "Golden Latte" or Golden milk is similar to traditional **Haldi Doodh (turmeric milk) used in Indian Ayurveda.**
  - **Italian brand Gucci** selling floral embroidery organic linen kaftan, which looked like Indian kurta.

**About Kolhapuri Chappals**

- **Origin:** It can be traced back to 12th Century rule of King Bijjal (from **Kalachuri dynasty**) of **Bidar district and his Prime Minister Viswaguru Basavanna (Basaveswara).**
- These are **handcrafted leather sandals** made by local community of Maharashtra and Karnataka.
- These sandals are best known for their distinctive braided leather straps, intricate cutwork, durable construction and timeless craftsmanship.
- **Method of Production:** It is completely and exclusively made from bag-tanned vegetable leather (using only vegetable dye).
- It was granted **a Geographical Indication (GI) tag in 2019** under India's Geographical Indications of Goods (Registration and Protection) Act, 1999.

**Reasons behind Cultural Appropriation**

- **Lack of protection mechanism:** Intellectual property (IP) systems that exist today — like patents, trademarks, or copyrights — were designed for individual innovation, not collective heritage.
- **Issues with GI Tag:** GI rights are primarily 'territorial' and consequently limited to the country (or region) where protection is granted. At present, no automatic 'world' or 'international' GI right exists.
  - **In case of infringement of a GI** in a foreign country, the affected parties rely on **intellectual property (IP) laws** of that country if bilateral agreements are not signed.
  - In recent case, Proprietors of **Kolhapuri chappals GI** are finding it difficult to take legal action as per Italian law.
- **Digital Marketplace Loopholes**: Online platforms act only after cultural appropriation is flagged, while resale markets and digital reproductions remain largely unchecked**.**
- **Lack of enforcement and awareness:** Over 10,000 families in Maharashtra make traditional Kolhapuri chappals, but only 95 individuals are officially registered as **Authorised Users** under the **GI framework.**

**Ethical dimensions involved in Cultural Appropriation**

- **Violations of Kantian Ethics (Categorical Imperative):** Appropriating cultural expressions **without consent** treats communities as a **means to an end** (profit), rather than as **ends in themselves.**
- **Utilitarianism:** Short-term gains for companies create long-term harm to cultural dignity, economic survival, and social well-being of marginalized communities**.**
- **Erosion of Artisan Livelihoods:** Cultural appropriation violates **Amartya Sen's Capability** Approach by denying artisans and cultural communities the freedom, dignity, and economic opportunities.

**How has globalization impacted India's cultural heritage?**

**Positive Impact:**

- **Cultural Exchange**: Indian classical music instruments like the **sitar and tabla** have been used in Western pop and fusion music.
- **Global Recognition:** Indian art forms **like yoga, Ayurveda, Bollywood**, and classical music have gained worldwide popularity.

**Negative Impact:**

- **Homogenisation of Culture:** Global entertainment platforms like **Netflix and Instagram** are shaping youth culture, often at the cost of local arts and folklore.
- **Cultural erosion:** Traditional Indian attire like **sarees** and **dhoti-kurta** is increasingly replaced by Western clothing.

**Conclusion**

Cultural appropriation, as seen with Prada's Kolhapuri chappal controversy, highlights the need for stronger global IP protections and ethical practices to preserve marginalized communities' cultural heritage and artisan livelihoods.

## 6.2. TIER-2 INFLUENCERS REDEFINING CULTURAL CAPITAL IN DIGITAL INDIA

**Why in the News?**

Recent emergence of **Tier-2 and Tier-3 digital influencers** – content creators from smaller towns and regional cities – have had profound impact on the dynamics of digital influence and cultural capital in India.

**What is Cultural Capital?**

- **Cultural capital** refers to non-economic assets like education, language, and cultural knowledge that confer social mobility. (**Pierre Bourdieu**)
- **Traditional Cultural Capital in India**
  - **Metro dominance**: Cities like Delhi and Mumbai shaped cultural trends in media, fashion, and entertainment.
  - **Language hierarchy**: English and upper-caste dialects dominated intellectual and aesthetic spaces.
  - **Elite institutions**: Cultural validation stemmed from associations with institutions like Film and Television Institute of India (FTII), NSD, Doordarshan, and elite universities.

**Rise of Tier-2 Influencers**

- It includes Creators from cities like Jaipur, Patna, Surat, Guwahati with large social media following but rooted in regional identity.
- **Platform access**: social media (YouTube, Instagram, etc.) democratized content creation.

**How Tier-2 Influencers Redefine Cultural Capital**

- **Decentralization of Taste and Influence**
  - Previously urban-centric symbols of sophistication are now complemented by rural/regional symbols.
  - **E.g.,** Village-based creators like Kiran Dembla creating mass trends.
- **Vernacular as Cultural Power**
  - **More than 50% of urban internet users** prefer consuming content in regional language. (IAMAI)
  - Platforms like **ShareChat (Bharat-first app)** boast 180M+ monthly users across 15 languages.
  - Content in Bhojpuri, Haryanvi, and Marathi garners millions of views.
- **Revival of Folk and Local Traditions**
  - Tier-2 influencers integrate **folk music**, **traditional cuisine**, and **regional rituals** into digital content.
  - **E.g.,** Rajasthan's Manganiyar music promoted through Instagram Reels.
  - **YouTube channels** like Village Cooking Channel (Tamil Nadu) have 20M+ subscribers.

- **Democratisation of Aspiration**
  - Influencers like Saurav Joshi featuring his simple life, family, and relatable activities, redefines **success as authenticity, not sophistication**.
  - **Local heroes → National icons**: Many Tier-2 influencers inspire youth to create content in native accents.
- **Platform for Subaltern Voices**
  - Creators from marginalized communities (Dalit, tribal, OBC) find space to articulate identity and lived experience.
  - **E.g.,** Khabar Lahariya, a grassroots rural digital newsroom, is run entirely by Dalit women.

**Implications for Indian Society**

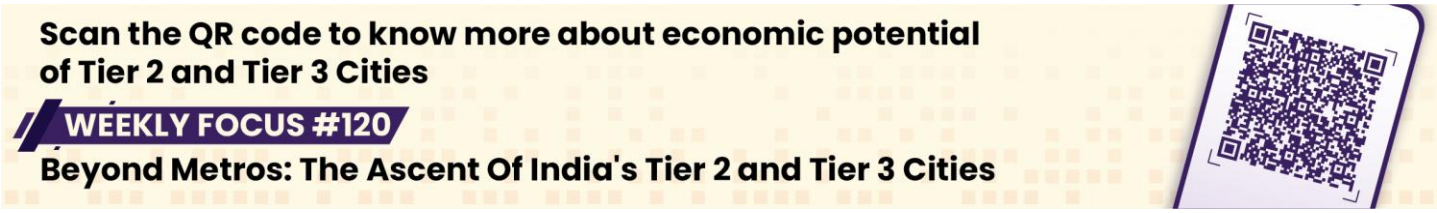
- **Cultural Democratization:** Legitimizes diverse aesthetics, customs, and practices once considered '**non-mainstream**'.
- **Economic Empowerment:** ~80% of creators on ShareChat and Moj are from Tier 2 and Tier 3 cities utilizing new monetisation models such as microtransactions, to drive the majority of creator earnings.
- **Changing Political Landscape:** Tier-2 influencers become **digital opinion-makers** in elections and policy discourse; political parties use them to **mobilize regional youth** on issues like jobs, caste, and local pride, etc.
- **Bridging the Urban-Rural Divide** Creates a sense of **shared national identity** that accommodates local pride; challenges stereotypes of rural India as regressive or culturally inferior.

**Challenges and Ethical Concerns**

- **Digital Divide:** Rural internet penetration still lags behind urban India; quality content from lower-income creators is limited by access to devices and training.
- **Algorithmic Bias:** Social media algorithms prioritize clickbait or sensational content; big businesses still favour polished metro creators for brand partnerships.
- **Stereotyping and Tokenism:** Rural culture sometimes showcased as "exotic" rather than authentically represented; Brands may co-opt regional identity without genuine engagement, etc.
- **Commodification of Culture:** Local rituals or practices often oversimplified for virality, risking distortion.

**Conclusion**

As Digital India grows, by making **vernacular visible, regional relevant, and subaltern powerful**, Tier-2 influencers herald a more inclusive and democratic cultural discourse, valuing **authenticity over elitism** and **diversity over uniformity**.




## 6.3. IMPROVEMENT IN QS WORLD UNIVERSITY RANKINGS

**Why in the News?**

India has seen significant improvement of Indian institutions in QS World University Rankings 2026.

**About QS World University Rankings**

- **Published by:** QS World University Rankings are published annually by London-based global higher education analytics firm **Quacquarelli Symonds.**
- **Five Lenses with different weightage:** Research and Discovery, Employability and Outcomes, Global Engagement, Learning Experience, Sustainability.
- **Indicators:** These lenses are further divided into **10 indicators** such as Academic Reputation etc.
  - **A new indicator** named **International Student Diversity** has been added this year under **Global Engagement.**

**Key findings of ranking**

- **Five-fold increase**: India grew from 11 universities in 2015 to 54 in QS World Rankings 2026, making it the **fourth most represented country** after the US, UK, and China.
  - This is India's strongest performance across the G20.
- **Leading new additions**: 8 Indian universities added this year, more than any other country.
- **Top-tier performance**: Six Indian institutions in the global top 250.
- **Institutional diversity**: Mix of public and private institutions, including central universities, deemed-to-be universities, and technical institutes.
- **IIT dominance**: 12 IITs featured, with **IIT Delhi ranking highest** at 123rd globally.

**Why Indian University Rankings have improved?**

- **Academic reputation seeing slow but steady development:** Eight Indian universities rank among the world's top 100 for Citations per Faculty parameter, higher than that of Germany, and the US.
- **Good performance of Engineering and technology:** Indian institutions excel in Engineering & Technology, with a high concentration of top 100 placements in the field.
- **Infrastructure Development:** Various initiatives are taken recently for infrastructure development **such as Pradhan Mantri Uchchatar Shiksha Abhiyan (PM-USHA)**.
- **Enhanced employability**: Government initiatives like PM Internship Scheme, National Apprenticeship Training Scheme, and NATS 2.0 portal improve job readiness.
- **India's higher education sustainability performance:** Indian universities are currently having one of the greatest impacts in knowledge exchange, environmental research.
- **Policy reform**: National Education Policy 2020 is promoting high-quality, equitable, and inclusive higher education.

**Other Mechanisms for Higher Institutions Rankings in India**

- **The National Institutional Ranking Framework (NIRF):** Launched in 2015, framework outlines a methodology to rank institutions across the country.
  - **Conducted by:** Department of Higher Education, Ministry of Education.
  - **Parameters**: **Teaching, Learning and Resources, Research and Professional Practices, Graduation Outcomes, Outreach and Inclusivity, and Perception.**
- **All India Survey on Higher Education (AISHE):** From 2010-11, it covers several parameters such as **teachers, student enrolment, programmes, examination results, and education finance, infrastructure.**
  - **Conducted by:** The Ministry of Education, Government of India.

**Challenges that still remains in higher education**

- **Low Accreditation Rate:** Less than 39% of universities nationwide are accredited, largely due to the high costs involved in the accreditation process.
- **Below Target Gross Enrollment Ratio (GER):** The current GER of 28.4% (2021-22) falls significantly short of the 50% target (by 2035) under National Education Policy 2020.
- **Insufficient Research Funding:** Government expenditure on R&D is low (around 0.7% of GDP), leading to weaker innovation outcomes in Higher Education Institutions (HEIs).
- **Gap in Entrepreneurial & Innovation Skills:** A critical gap exists in workforce skills due to disconnect between academia and industry, and a lack of emphasis on soft skills training.
- **Outdated Curriculum:** Curricula often lack revision and updates, particularly in hands-on applications for AI and other emerging technologies.
- **Fragmented Regulatory Framework:** The absence of a robust framework for Multidisciplinary Education and Research Universities (MERUs) is hindered by multiple regulatory bodies (e.g., UGC, AICTE).

**Way forward for improving Higher education in India**

- **Industry-academia collaboration**: Incentivize partnerships like Telangana Academy for Skill and Knowledge (TASK). Strengthen university-industry collaboration through joint projects and Industry Relations Cells (IRC).

  - Oxford uses labor market forecasting to increase admissions in high-demand specializations.
- **Need-based education**: Andhra Pradesh conducted India's first Skill Census in January 2025, identifying gaps and offering targeted technical education.
- **Diversified academic brand**: Invest in underrepresented disciplines and interdisciplinary degrees, merging STEM with social sciences and arts.
- **Regulatory consolidation**: Implement "light but tight" regulation through single regulator (Higher Education Commission of India) as outlined in National Education Policy.
- **Faculty autonomy**: Enable curriculum design for industry relevance, like **Gujarat's Skills4Future Programme** addressing critical gaps.
- **Enhanced funding**: Provide financing autonomy to boost Gross Enrolment Ratio, following Kerala's model.

## 6.4. MANOSPHERE

**Why in the News?**

UN Women has warned about a growing network of online communities known collectively as the “manosphere” is emerging as a serious threat to gender equality.

**What is Manosphere?**

- **Definition**: The **manosphere** encompasses online communities promoting narrow, aggressive definitions of masculinity and the false narrative that feminism has harmed men's rights.
  - These communities equate male worth with **emotional control, material wealth, physical appearance, and dominance** over women.
- **Purpose:** Rooted in misogyny & anti-feminist rhetoric, the manosphere weaponizes digital platforms to spread hate, sexist ideologies, and reinforce deep gender bias.

**Causes of rise of Manosphere**

- **Increased access to internet:** It has in turn enabled access to social media and various manosphere influencers online.
  - Total internet subscribers, in India, increased from 251 million in 2014 to 954 million in March 2024.
- **Manosphere influencers**: Self-proclaimed lifestyle coaches attract young men by teaching personal responsibility while claiming men are victims of society's **misandry** (prejudice against men).
- **Algorithm influence**: **"Watch next" algorithms** recommend increasingly sexist and anti-feminist content such as **AWALT: "All women are like that"** ideology.
- **Insecurities and validation needs**: Social isolation due to nuclear families and individualism and desire for belonging drive young men toward the manosphere seeking support and validation.
- **Growing conservatism**: UN Women studies show younger men hold more stereotypical gender views than older men.
- **Digital anonymity**: Reduces social and legal consequences, enabling easier spread of misogyny and hatred.

**Negative impacts of the manosphere**

- **Increased misogyny**: Degrades gender equality. According to Movember Foundation, a men’s right group; found two-thirds of young men regularly engage with masculinity influencers online.
  - For example, **Gamergate** was a harassment campaign in which female gamers were targeted by men.
- **Normalized violence**: Extreme manosphere language normalizes violence against women and girls, with growing links to radicalization and extremist ideologies.
- **Societal harm**: Gender inequality hurts both men and women. Men with restrictive gender attitudes are more likely to engage in risky behaviors, substance abuse, depression, and suicidal thoughts.
- **Men's health impacts**: Movember's survey shows manosphere exposure reduces confidence in men, leading to feelings of worthlessness and nervousness, risky supplement use, working out despite injury, and decreased mental health prioritization.
- **Reversing gender equality**: Manosphere stereotypes promote myths that hold women back.

- **Online violence risks**: Studies show 16-58% of women and girls face online violence. Cyber violence exploits digital platform anonymity and reach.

**Existing mechanisms to tackle manosphere**

- **World**
  - **Beijing Declaration and Platform for Action (1995):** Calls for balanced & non-stereotypical portrayals of women in media, including digital spaces.
  - **UN Women:** Has adopted **multi-pronged approach** which includes **Research and data collection** on the spread and impact of online hate.
  - **'Making All Spaces Safe' Initiative (UNFPA):** To combat technology-facilitated gender-based violence.
  - **EU's Digital Services Act:** Prohibits misogynistic & gender-based hate content on digital platforms.
- **India**
  - **Indecent Representation of Women (Prohibition) Act, 1986:** Outlaws indecent/derogatory portrayal of women in digital media.
  - **IT Rules, 2021:** Requires social media to remove objectionable content within 24 hours of complaint.
  - **Digital shakti: By The National Commission for Women (NCW)** for digitally empowering women & girls in cyberspace.
  - **Information Technology (Amendment) Act, 2008:** Addresses emerging cybercrimes against women such as Section 67A which is critical in cases involving digital abuse.
  - **Section 75, 78, 79, of the BNS:** Online Harassment and Cyber Bullying against women is crime under Bhartiya Nyaya Samhita.

**Way Forward**

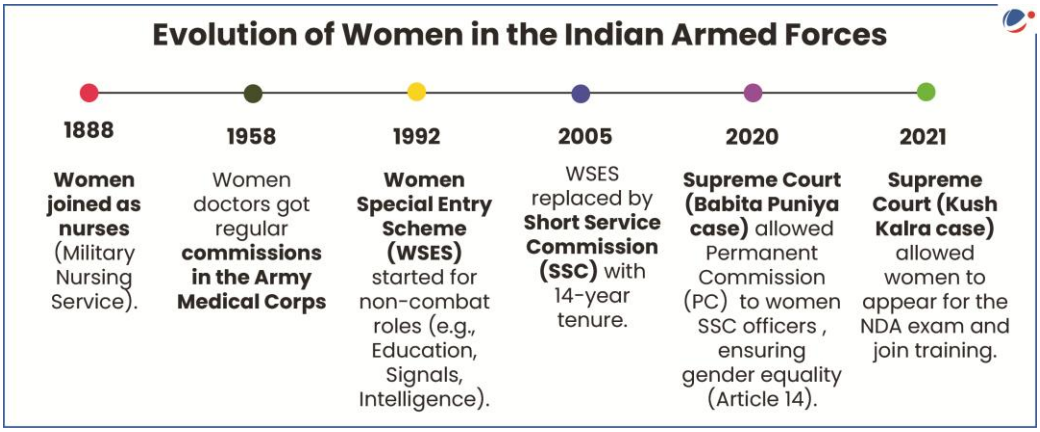
- **Legal measures:** Such as Online Safety Act of UK; where sites and apps must also protect children and women from harmful material, including some hateful and abuse misogynistic content.
- **Education as Prevention: Promoting media literacy** including understanding how people navigate their online worlds and their interactions with potentially harmful content.
- **A rights-based response suggested by UN Women: Steps including Support for survivors** of online abuse, Youth-focused programming aimed at building digital resilience and promoting gender equality.
- **Promoting anti-manosphere content creators:** Reddit forums and creators such as HeForShe support men leaving the manosphere.

## 6.5. WOMEN IN ARMED FORCE

**Why in the news?**

The **first-ever batch of 17 female cadets** graduated from the **National Defence Academy (NDA).**

**Significance of Women in Armed Forces**




- **Constitutional Equality:** Reinforces **Article 14** (Right to Equality), **Article 15** (Prohibition of discrimination) and **Article 16** (Equal opportunity in public employment). Promotes a more inclusive and just defence structure.
- **Operational Strength:** Enhances the **talent pool** and brings **diverse perspectives** to planning and execution. Improves **team performance** and decision-making.

- **Social Impact:** Women have excelled in both **combat and support roles**, displaying strong professionalism. This helps **break gender stereotypes** in a traditionally male-dominated space.
  - **Example**: During **Operation Sindoor**, Col. Sofia Qureshi and Wing Cmdr. Vyomika Singh led press briefings.
- **Humanitarian Role:** Women play a key role in **Military Civic Action** by building trust with local communities especially where male soldiers have limited access due to cultural norms. Crucial for **conflict resolution** and **winning hearts and minds**.

**Steps taken to Increase Women's Participation in the Armed Forces**

- **Policy Measures**
  - **Permanent Commission (PC):** granted to Women Officers (WOs) in 11 Arms & Services (in addition to Army Medical Corps, Army Dental Corps and Military Nursing Service).
  - **Women as Agniveers**: Recruits undergo same training and selection standards as men
- **Structural Reforms**
  - **Army Aviation Corps:** Women allowed as pilots since 2021.
  - **Women on Warships:** Now posted on naval ships, including roles like Navigation Officers.
- **Outreach & Support Initiatives: IAF'S 'DISHA'** Cell conducts **nationwide campaigns and motivational talks** to attract young women.

**Challenges for Women in the Armed Forces**

- **Gender Bias & Societal Attitudes**: Some leaders still hold **stereotypes**, questioning women's ability in leadership or combat. This may lead to **role marginalization** and **underrepresentation.**
- **Infrastructure Deficits**: Lack of **gender-sensitive facilities** in remote or combat areas (e.g., **Siachen, submarines**).
- **Physical Demands & Training Gaps**: **Combat roles** often come with high physical standards. Concerns have been raised over **pregnancy**, and lack of **customized training**.
- **Work-Life Balance: Frequent transfers**, long postings cause **personal challenges**, the problem may be exacerbated by women having kids.

**Conclusion**

As warfare evolves to prioritize technology, intelligence, and adaptability over physical strength, increasing women's participation in India's armed forces requires comprehensive reforms across multiple dimensions. Success hinges on **implementing role-specific fitness standards**, fostering **gender sensitization**, strengthening mechanisms for harassment etc.

## 6.6. GLOBAL TOBACCO EPIDEMIC 2025

**Why in the News?**

The **World Health Organization** (WHO) released tenth report on the **Global Tobacco Epidemic 2025**.

**Key findings of report**

- **WHO MPOWER measures:** Since 2007, 155 countries have implemented at least one of those policy prescriptions which have benefitted over 6.1 billion people.
  - **MPOWER Initiative** has six components such as Monitor, Protect, Warning, Offer help, Enforce and Raise taxes.
- **Most implemented measure:** Of all MPOWER measures, **large graphic health warnings** on cigarette packages have seen the most progress.
- **Effectiveness of Mass media campaigns:** India has implemented stringent measures to curb tobacco advertising, promotion and sponsorship (TAPS) across all media, becoming the **first country** to apply tobacco control regulations to digital streaming content.
- **Taxation:** Tobacco tax is the least-adopted MPOWER measure. In India, Trend in per capita GDP needed to buy cigarettes decreased since 2014.
- **Smoking related deaths:** Over 7 million deaths annually from tobacco-related diseases.

**About the Tobacco**

- **Species**: Over 60 species, with *N. tabacum* and *N. rustica* (Aztec tobacco) commonly cultivated. It belongs to the nightshade family and indigenous to **South America.**
- **Climate**: Requires frost-free period of 90-120 days from transplanting to final harvest.
- **Temperature**: Mean daily temperature of 20-30°C with dry harvesting period.
- **Soil**: Prefers sandy or sandy loam but varies as per variety but sensitive to waterlogging; requires well-aerated, well-drained soils.
- **Rainfall:** Minimum 500 mm; not suitable above 1200 mm.
- **Production**: India is the world's 2nd largest producer (after China) and **2nd largest exporter** of unmanufactured tobacco by quantity (after Brazil).
  - **Major states:** Gujarat, AP, UP, Karnataka, West Bengal, Telangana, and Bihar.
    - Gujarat accounts for 45% of production with highest productivity, followed by AP.
    - **The Tobacco Board of India (Guntur, AP)** ensures the smooth functioning of the farming system and to **ensure fair and remunerative prices for tobacco farmers and the promotion of exports.**

**Various steps taken to tackle the tobacco epidemic**

- **Global (other than MPOWER):**
  - **WHO Framework Convention on Tobacco Control (WHO FCTC):** Adopted in 2003, more than 180 countries have ratified it. (**India became a Party to Convention in 2005**)
  - **3 by 35 Initiative (WHO)**: To increase prices of any or all of three– tobacco, alcohol, and sugary drinks by at least 50% by 2035.
- **India**
  - **Cigarettes and Other Tobacco Products Act (COTPA), 2003:** Prohibits smoking in public places; ban on sale of tobacco products to minors, etc.
  - **Cigarettes and other Tobacco Products (Packaging and Labelling) Amendment Rules, 2022**: Provided images for display on package with health warnings.
  - **National Tobacco Control Programme (NTCP)**: To create awareness and reduce the production and supply of tobacco products.
  - **Prohibition of Electronic Cigarettes Act, 2019**.

**Conclusion**

Implementing robust monitoring systems, **increasing tobacco taxation and prices,** strong legislations with strong enforcement, efforts to raise awareness and addressing tobacco industry interference can be effective in **tackling the tobacco epidemic**.

## 6.7. GLOBAL GENDER GAP 2025

**Why in the News?**

The **Global Gender Gap Report 2025** was released recently.

**About Global Gender Gap Index**

- **About Index:** It was introduced by the World Economic Forum in 2006 to benchmark progress towards gender parity across **four dimensions**; **Economic opportunities, Education, Health and Political leadership.**
- **Gender Gap: The gender gap is the difference between women and men** as reflected in social, political, intellectual, cultural, or economic attainments or attitudes.
  - In the index, the parity **score of 1 indicates full parity** and **0 denotes complete inequality**.

**Key Findings of Report**

| Key dimensions | India's Overall Performance (2025) |
|---|---|
| Economic Participation and Opportunity | **Indian economy's overall performance improved** in absolute terms.<br>> **Economic participation improves marginally by 0.9% to 40.7 per cent.**<br>» With parity in **estimated earned income** rises.<br>> **Labour-force participation rate remains the same (45.9%),** India's highest level achieved to date. |
| Educational Attainment | **India scores 97.1%,** reflecting **positive shifts in female shares** for literacy and tertiary education enrolment. |
| Health and Survival | India also records **higher parity** in Health and Survival, driven by **improved scores in sex ratio at birth** and in **healthy life expectancy.**<br>> However, parity is obtained despite an **overall reduction in men's and women's life expectancy.** |
| Political Empowerment | India records a **slight drop in parity (-0.6 points)** in Political Empowerment.<br>> **Female representation in parliament fell** from 14.7% to 13.8% in 2025, lowering the indicator score for the second year in a row.<br>> **The share of women in ministerial roles** fell from 6.5% to 5.6%. |

- **India: India has been ranked 131st out of 148 countries** slipping from 129th position in 2024, although **score improved to 0.644(2025) from 0.641(2024).**
  - **Bangladesh emerged as the best performer** in South Asia, jumping 75 ranks to rank 24 globally. Nepal ranked 125, Sri Lanka 130, Bhutan 119, ranked better than India.
- **Global:**
  - **Rankings: Iceland leads the rankings** for the 16th year running, followed by Finland, Norway, the United Kingdom and New Zealand.
  - **Gender Gap**: There is still a combined global average **gender gap of over 30%.**
    - > Overall, **no economy has yet achieved full gender parity**.
    - > It will take **123 years to reach full parity** globally.

**Major Challenges for India to achieving Gender Parity**

- **Social**:
  - **Education:** The literacy rate is **65.46 for females** less than 82.14 for males and the country average of 74.04 percent**.**
  - **Child Marriage:** Prevalence of child marriage was **23.3% during 2019-21**. (**NFHS-5**)
  - **Women Safety:** More than **13.13 lakh girls and women went missing** in the country in the three years between 2019 and 2021 as per NCRB.
  - **Psychological:** As per NCRB reports, the number of deaths by **suicide for women increased by 4.6%** from 42521 in 2014 to 44498 in 2020.
  - **Others**: patriarchal norms, caste inequalities, condition of minorities, regional inequalities, tribal inequality etc.
  - **Digital Divide**: E.g., the National Family Health Survey-5 (2019-2021) found that only 33% of women in India have used the internet compared to more than half (57%) of men.
- **Economic**:
  - **The Double Burden**: The Economic Survey 2024 shows women's **unpaid care work contributes 3.1% to GDP**, while men's contributions are only 0.4%.
  - **Unorganized sector**: Almost 97% of the women workforce is involved in the unorganized sectors, majorly in agriculture.
- **Health:**
  - **Prevalence of Anaemia**: Nearly 57% of Indian women in the 15 to 49 age group are anaemic as reported by National Family Health Survey (NFHS)-5 which reduces their ability to learn, work, or carry pregnancies safely.
  - **Maternal Mortality Ratio (MMR):** It is 97 in 2018-20 less than 70 as recommended by WHO by 2030.
  - **Reproductive Health:** Around 50 million women in India suffer from reproductive health problems.
- **Political Participation**: It has decreased as per the report (refer infographics).

**Initiatives taken by Government towards empowering women**

- **Nari Shakti Vandan Adhiniyam**: It aims to give **reservation of one-third of the total seats** in the Lok Sabha, the state legislative assembles and the Legislative Assembly of the National Capital Territory of Delhi for women.
- **POSHAN Abhiyaan:** To improve nutritional outcomes for children, adolescent girls.

- **Beti Bachao Beti Padhao (BBBP) Scheme:** A social campaign aimed at addressing the declining Child Sex Ratio and empowering girls and women.
- **Pradhan Mantri Matru Vandana Yojana (PMMVY):** A conditional cash transfer scheme providing maternity benefits to pregnant women and lactating mothers.
- **One Stop Centre (OSC):** Provides integrated support and assistance under one roof to women affected by violence and those in distress.
- **Universalization of Women Helpline:** Provides 24x7 emergency and non-emergency response through the short-code 181 to women.

**Conclusion**

Despite decades of progress, efforts like expanding women's participation in the workforce, strengthening leadership pipelines, improving skills-to-work transitions, enhancing policy implementation, and ensuring inclusive outcomes in global trade is needed to ensure improvement in Gender parity.

## 6.8. NEWS IN SHORTS

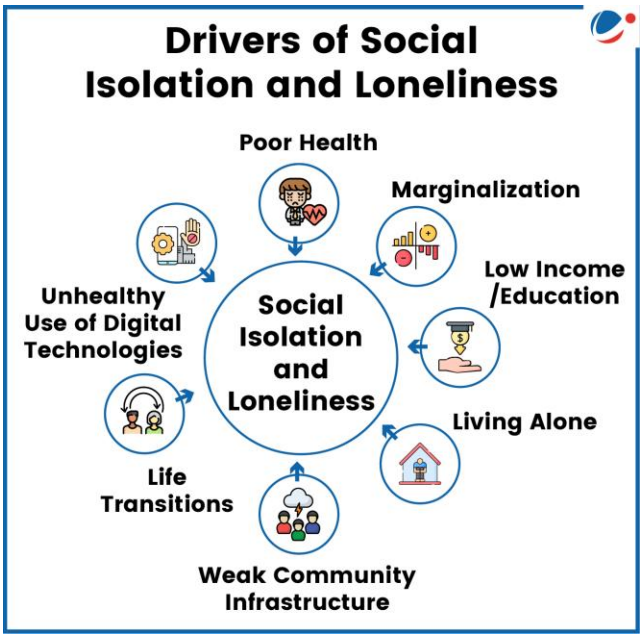
### 6.8.1. WHO REPORT ON SOCIAL CONNECTION

WHO has released the report titled 'From Loneliness to Social Connection: Charting a Path to Healthier Societies.

- This report by the **WHO (World Health Organisation) Commission on Social Connection** highlights the impact of social isolation and loneliness on health, well-being, and society.

**What is Social Connection and Disconnection?**

- **Social connection** is about the **many ways we relate to and interact with others** and it includes family, friends, classmates, coworkers, neighbours.
- **Social disconnection** occurs when a person doesn't have enough social contact, doesn't feel supported by the relationships, or have strained or negative relationships. Forms of social disconnection includes:
    - **Loneliness** (discrepancy between one's desired and actual experiences of connection) and
    - **Social Isolation** (having very few relationships or not seeing people often enough)**.**




**Key Highlights of Report**

- **Widespread Social Disconnection: About 1 in 6 people feel lonely** (2014–2023) with young people (ages 13-29) feeling the loneliest.
    - Up to **1 in 3 older adults** (between 1990-2022) while about **1 in 4 teenagers** (between 2003-2018) are socially isolated.
- **Disparities:** In **low-income countries**, about **24% of people feel lonely** while in richer countries, 11% feel lonely.
- **Impacts of Social Disconnection:** Physical Health (about **871,000 global deaths (2014–2019)** linked to loneliness), Mental Health (Depression, Anxiety, Dementia etc.), Socio-Economic (Poor Academic Performance and Productivity Loss).

### 6.8.2. PERFORMANCE GRADE INDEX (PGI) 2.0

**About PGI**

- **Genesis:** PGI was **launched in 2017** and later **revamped as PGI 2.0 in 2021.**
- **Released by: Ministry of Education**

- **Data sources:** Unified District Information System for Education Plus (UDISE+), National Achievement Survey (NAS), PM-POSHAN portal, PRABAND portal and Vidyanjali Portal.
- **Purpose**: PGI holistically assesses the performance of school education systems across States and UTs.
- **Structure:** PGI structure comprises of total weightage of 1000 points across **73 indicators**, which are grouped under **2 Categories viz., Outcome and Governance & Management**.
  - These categories are further **divided into 6 domains**, viz., Learning Outcomes (LO), Access (A), Infrastructure & Facilities (IF), Equity (E), Governance Processes (GP) and Teacher Education & Training (TET).
- **Evaluation**: Across **10 Grades out of 1000 points.**

**Key Findings of the Report**

- **No state/UT** achieved the **top four grades (Daksh, Utkarsh, Atti-Uttam, Uttam).**
- **Top Performer**: Only **Chandigarh** attained Grade **Prachesta-1**.
- **Lowest Performer**: **Meghalaya** is the **only state in the tenth grade (Akanshi-3)**.
- **Inter-State Disparity**: The report highlights that this disparity has reduced.
- **Overall Trends:**
  - **24 states/UTs improved** scores in 2023-24 compared to 2022-23.
  - **12 states/UTs** including Bihar, Andaman and Nicobar Islands, Chhattisgarh, Jharkhand, Karnataka, etc. **saw score declines.**

## 6.8.3. STATE OF WORLD POPULATION REPORT 2025

Recently, **United Nations Population Fund** (UNFPA) released its **State of World Population (SWP) 2025** report titled **'The real fertility crisis: The pursuit of reproductive agency in a changing world'.**

**About the Report**

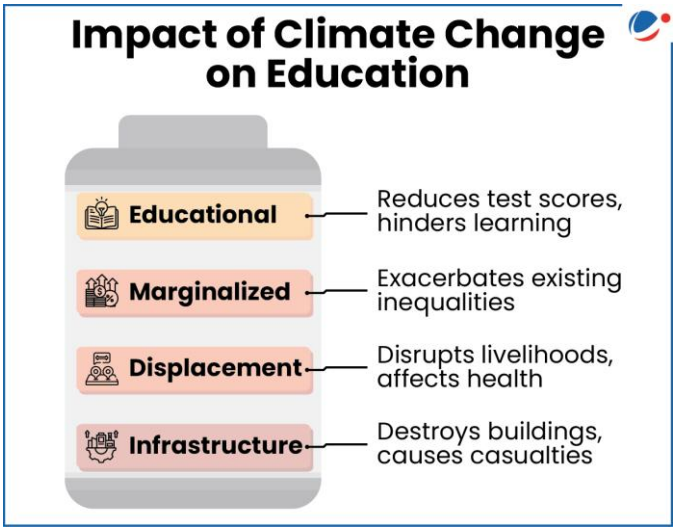
- The report argues that the actual global fertility crisis is not one of overpopulation or underpopulation, but rather a crisis in **reproductive agency.**
  - **Reproductive agency** is the capacity to exercise informed, empowered decision-making over one's reproduction. It requires an enabling environment in which individuals and couples can make choices unfettered by legal, political, economic and normative constraints.
- It also highlights **various unfulfilled fertility aspirations** such as unintended pregnancies, underachieved pregnancies, etc.
- It calls for a policy shift regarding population to **prioritize individual rights and choices**, building trust through stable, rights-based conditions that enable people to have the families they desire, rather than trying to engineer population size.

## 6.8.4. GLOBAL EDUCATION MONITORING 2024 REPORT

Report is mandated by **UNESCO's 'Education 2030 Incheon Declaration and Framework for Action'** for monitoring and reporting on **SDG 4 (Quality education) and in the other SDGs**.

**Key findings**

- **Disruption of Education Systems**: Over the past 20 years, **schools were closed in at least 75% of the extreme weather events**, impacting 5 million people or more.
- **India Related:** A study in India found that rainfall shocks in the first 15 years of life negatively affected vocabulary at age five and mathematics & non-cognitive skills at age 15.
  - **Fast Progress**: In improving out-of-school rate of primary children.



- **Slow Progress**: In Out-of-school rate (lower secondary), and Gender gap in completion rate (upper secondary).

- **Education's Role**: Its role in combating climate change is not given the space it deserves in international agendas.
  - SDG 4 was addressed in only 2 of 72 transnational climate initiatives.

**Key Recommendations**

- **Climate change education needs to be more deeply integrated into the curriculum**, across multiple subjects, and with adequate educator training support.
- **Prioritise Climate-resilient education infrastructure**.
- **Recognize education's role in developing mitigation and adaptation** solutions to climate change challenges.
- **Include investment in education under climate finance programs.**
- **Engage with non-education stakeholders** for education to be included in climate plans and financing.

## 6.8.5. GENDER BUDGETING KNOWLEDGE HUB PORTAL

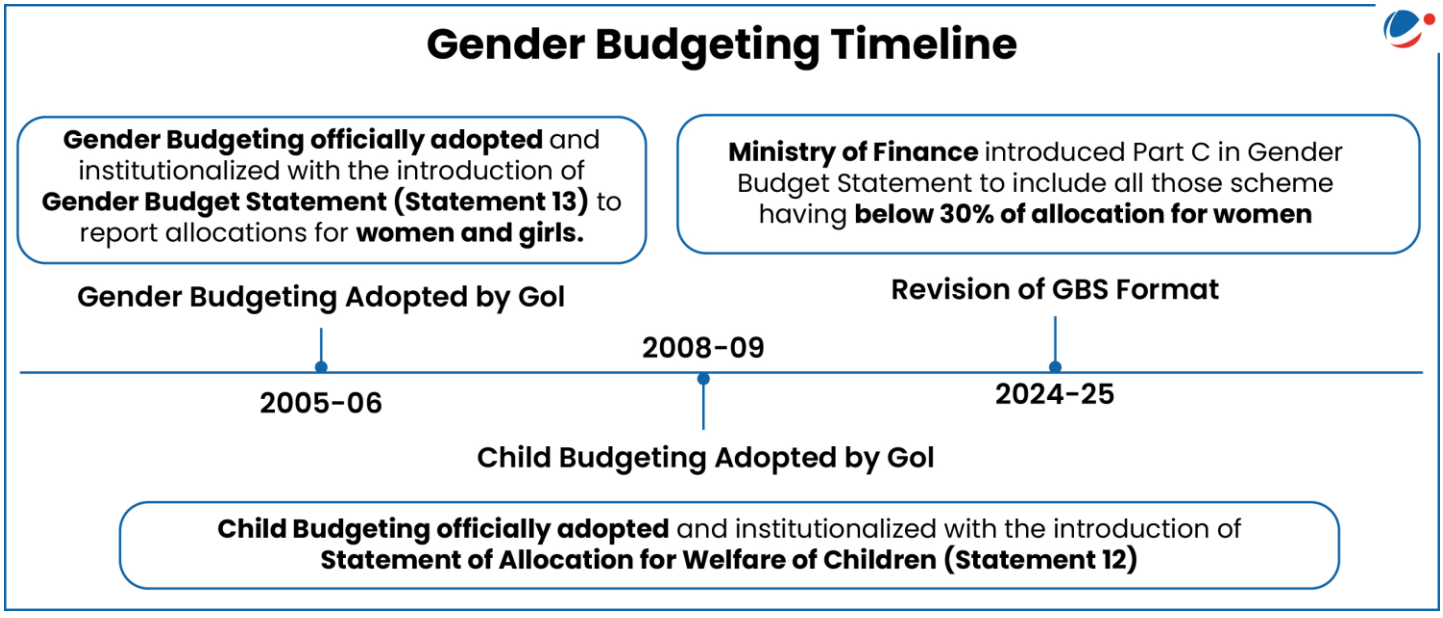
**Portal was launched by the Union Ministry of Women and Child Development** at the National Consultation on Gender Budgeting.

**About Gender Budgeting Knowledge Hub Portal**

- It is a **centralized repository of tools** including policy briefs, best practices, and gender-disaggregated data.
- Intended for use by **central and state government ministries/departments and stakeholders.**
- Features online application portal for **submitting proposals for gender budgeting training and capacity building programmes.**

**About Gender Budgeting (GB)**

- It is an approach that integrates **gender equality into government's planning and budgeting processes and analyses how budgets can promote gender equality.**
- GB involves a thorough analysis of **Government budgets to -**
  - establish its gender differential impacts.
  - prioritise and frame commitments and corresponding actions; and
  - ensure budget allocations for gender equality commitments.



**Need of Gender Budgeting in India**

- **Gender-sensitive policies:** National budgets impact women and men differently through the patterns of resource allocation. It is a continuous process of integrating a gender perspective into policy formulation, implementation, and review.
- **Responsive governance and participatory budgeting:** Encourages greater participation of women in decision-making at all levels (e.g., PRIs, urban local bodies).
- **Legal Framework Strengthening:** Strengthens **women-specific laws like Criminal Law Amendment Act 2013** and Sexual Harassment at Workplace Act 2013.

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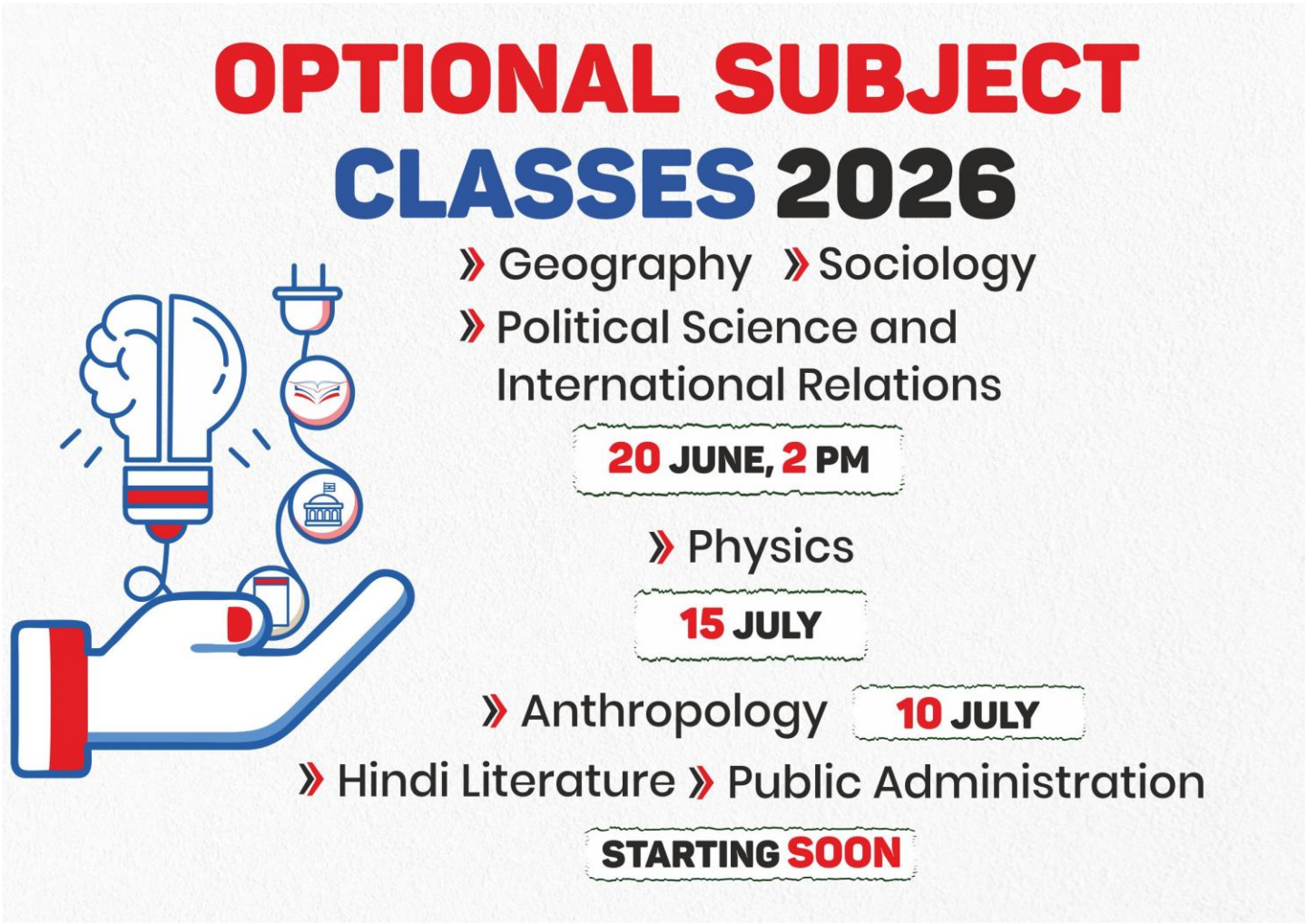
| QUIZ<br>**SMART QUIZ** | You can scan this QR code to practice the Smart Quiz of Social Issues & Social Schemes at our open test online platform for testing your understanding and recalling of the concepts. | |



# 7. SCIENCE AND TECHNOLOGY

## 7.1. AXIOM-4 MISSION

**Why in the News?**

The **Axiom-4 Mission** carrying **Indian astronaut** Group Captain **Shubhanshu Shukla** and 3 other astronauts successfully returned on July 15, 2025.

**About Axiom-4 (Ax-4) Mission**

- It is the **4th private astronaut mission,** to the **International Space Station (ISS),** of private US Company **Axiom Space** in collaboration with **NASA** and **SpaceX.**
- It was a **14-day mission** launched aboard a **SpaceX Dragon Spacecraft** by the **Falcon 9 launch vehicle** from NASA's Kennedy Space Centre, Florida.
  - **Falcon 9** is a two-stage reuseable launch vehicle and **Dragon spacecraft** is a reusable crew module for carrying astronauts into space**.**
- **Astronauts:** Shubhanshu Shukla (India), Peggy Whitson (USA), Sławosz Uznański (Poland), and Tibor Kapu (Hungary).
- **Key Features:**
  - **Aim**: To "realize the return" to human spaceflight for **India, Poland, and Hungary.**
  - **Ax-4** marks each nation's **first mission to the ISS** in history and with **each nation's first government-sponsored flight in more than 40 years.**
  - **Research:** 60+ scientific studies representing 31 countries, including microgravity experiments, human physiology research, Earth observation imaging, among others.

**Do you know ?**

> Group Captain **Shubhanshu Shukla** is the **first Indian astronaut** to board the **ISS** and only the **second** Indian to travel to **space** after **Rakesh Sharma in 1984.**

- Following research and activities have been **executed by ISRO**:
  - **Crop growth**: Study impact of microgravity on 6 crop seed varieties for future space farming.
  - **Cyanobacteria:** Observe growth and activity for use in spacecraft life support systems.
    - Cyanobacteria are aquatic bacteria that can photosynthesize.
  - **Space Microalgae**: Compare metabolic and genetic activity in space vs Earth; potential use as food, fuel, or for life support.
  - **Myogenesis:** Study muscle loss, identify pathways responsible for **skeletal muscle dysfunction** in microgravity and explore therapeutic targeting strategies.
  - **Tardigrades**: Investigate the revival, survival, and reproduction of tardigrades to identify molecular mechanisms of resilience.
  - **Others**: Investigate how the physical and cognitive impact of utilizing computer screens in microgravity; STEM outreach activities for Indian students.

**Axiom Mission's Significance for India**

- **Development of Gaganyaan Mission:** Offers valuable inputs for medical training, psychological prep, and crew–ground coordination.
  - Group Captain **Shubhanshu Shukla** is one of the 4 astronauts selected for the **Gaganyaan mission.**
- **Space diplomacy**: Highlights ISRO's global collaborations with NASA, ESA, and private firms**.**
- **Development of India's Space Ecosystem:** Encourages growth of India's space industry; aligns with plans for Bharatiya Antariksh Station.
- **National Pride and inspiration:** Indian astronauts in space will inspire Indian youth to pursue careers in science, technology, engineering, and mathematics (STEM).

**Major Obstacles for India in launching a Manned Space Mission**

- **Technological**
  - **Life support system:** Must ensure air regeneration, temperature control, waste recycling, and food storage.

- **Radiation protection:** Beyond Low Earth Orbit, cosmic radiation and solar particle events pose serious health risks.
- **Spacecraft re-entry and thermal protection:** For re-entry into Earth's atmosphere, spacecraft must withstand temperatures up to 7,000 degrees Fahrenheit, caused by the compression of gas and air particles against the surface of the spacecraft.
- **Launch vehicle reliability:** Human-rated rockets must meet stricter safety standards to address complexities including controlled ascent, abort systems, and reusability.

- **Logistical**
  - **Higher cost:** Manned space missions incur higher costs due to requirement of robust ecosystems including launchpads, testing facilities, tracking stations, etc.
  - **Training and selection of astronauts:** Astronauts need rigorous physical, psychological, and technical training.
    - Additionally, long-term missions also raise concerns of **space-induced psychological issues.**

**About International Space Station (ISS)**

- It is a **habitable artificial satellite**, in Low Earth orbit (LEO) (altitude of 370–460 km).
- **Key partners for ISS**: Europe (ESA), the USA (NASA), Japan (JAXA), Canada (CSA) and Russia (Roscosmos)
- It orbits the Earth at a speed of approximately **28,000 kilometres per hour**, completing **one orbit every 90 minutes**.
- It is the **largest artificial body in orbit** providing a **laboratory in space**, having an orbit such that it can fly over **90% of inhabited Earth.**
- Its **first** component was launched into orbit in **1998** and it will continue to be a working laboratory and outpost in orbit **until at least 2030**.

**About Gaganyaan Programme**

- **It will be 'India's first Human Space Flight'** mission, approved in 2018.
- **Aim**: Demonstration of **human spaceflight** capability by launching a crew of **3 members** to an **orbit of 400 km (LEO)** for a 3-day mission and bring them back safely to earth.
- **Components of the Gaganyaan**
  - **Launch Vehicle Mark-3 (LVM-3):** Formerly known as GSLV Mk-III, it is a 3-stage rocket:
    - **First stage**: Two solid-fuel boosters strapped to the rocket core.
    - **Second stage**: Two liquid-fuelled, clustered Vikas 2 engines.
    - **Third stage: CE-20 indigenous cryogenic engine**, using liquid hydrogen and liquid oxygen as fuel and oxidiser, respectively.
  - **Orbital module**: Consisting of Crew Module and Service Module.
- The **scope** of the Programme has been **extended** to include building of **first unit of the Bharatiya Anatriksh Station.**

**About Bharatiya Antariksh Station (BAS)**

- BAS is India's **planned space station for scientific research** which will orbit around **400 – 450km** above the Earth's surface. It will have **five modules**.
- **Targets: The first module** (the Base Module) **is targeted to be launched in 2028** and BAS to be operationalized by **2035.**

**Conclusion**

For India, the collaborations under Axiom-4 Mission, not only **accelerates technological learning** ahead of its proposed Gaganyaan mission but also build **critical human capital and infrastructure** for future long-duration spaceflight.

***To know more about Bharatiya Antariksh Station (BAS), refer to Article 7.1. Bharatiya Antariksh Station (BAS) in September 2024 Monthly Current Affairs Magazine.***

# 7.2. NEWS IN SHORTS

## 7.2.1. SCIENCE AND TECHNOLOGY (S&T) CLUSTERS INITIATIVES

S&T Clusters Annual Report 2024-2025" highlighted various initiatives launched under the programme, including **Kalaanubhav.in** which is an AR/VR-enabled artisan marketplace

**About the S&T Clusters initiative**

- **Genesis:** Launched in **2020** based on the recommendations of the P**rime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC).**
- **Aims:** To b**ring together stakeholders,** like academic institutions, R&D organisations, industry, local governments, **to deliver demand-driven solutions through innovative ideas.**
- **Working Model:**
  - Operates through a **consortium-based approach.**
  - Focuses on **science and tech-based regional problem-solving.**
- **Nodal Implementing Agency:** Office of the Principal Scientific Adviser (PSA)
  - PSA works under the Cabinet Secretary

## 7.2.2. CRITICAL AND EMERGING TECHNOLOGIES INDEX

**Critical and Emerging Technologies Index** has been launched to assess how 25 countries perform across five technology sectors: AI, biotechnology, semiconductors, space, and quantum.

- **Published by** the Harvard Kennedy School.
- It **identifies six criteria** that define each technology sector: **geopolitical significance, systemic leverage, GDP contribution, dual-use potential, supply chain risk, and time to maturity.**

**Key Findings**

- India lags significantly behind the top three — U.S., China, and Europe — across most technology sectors.
- **India trails in critical tech, particularly semiconductor tech.**

## 7.2.3. QUANTUM ENTANGLEMENT-BASED COMMUNICATION ACHIEVED

DRDO & IIT Delhi achieved quantum entanglement based free space communication.

- The free-space quantum secure communication was demonstrated over a **distance of ~1 km via a free-space optical link.**
- **ISRO** demonstrated **1st free-space QKD** over 300m in **2021**.

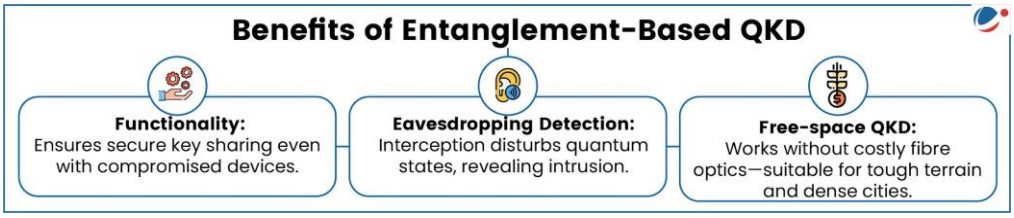
**About the experiment**

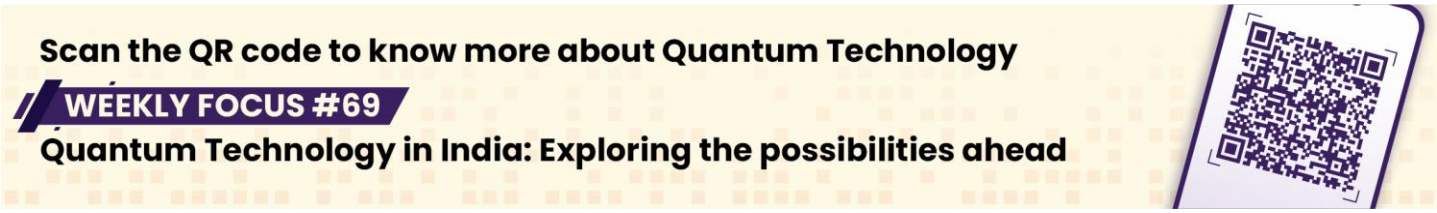
- It was part of the **'Design and development of photonic technologies for free space Quantum Key Distribution (QKD)'** of DRDO.
- The experiment exhibited a very low Quantum Bit Error Rate (QBER) of less than 7%.
  - **QBER** is the **error** between the information sent and received and an indicator of **the probability of eavesdropping.**
- It paves the way for **real-time applications** in **quantum cybersecurity, long-distance QKD,** and the **future quantum internet.**

**What is QKD?**

- **Communication Technology:** It is a **Quantum Communication technology** based on **quantum mechanics,** that is, **quantum entanglement and cryptography.**
  - Quantum mechanics explains how **extremely small objects simultaneously** the characteristics of both particles and waves have (a disturbance or variation that transfers energy).
    - Physicists call this the **"wave-particle duality."**

- **Key Principles:**
  - **Quantum entanglement:** Particles of the same origin, which were once connected**, always stay connected,** even when **separated by vast distances.**
  - **Quantum cryptography: encryption** to **secure and transmit data** in a way that **cannot be hacked.**



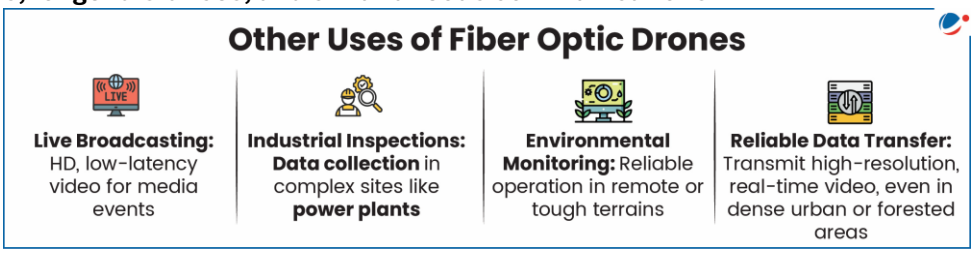




## 7.2.4. FIBER OPTIC DRONES

Recently used in the **Russia-Ukraine conflict**, fiber optic drones are seen as a a game-changer in drone warfare due to their **resistance to electronic warfare (EW)**.

**About Fiber Optic Drones**

- These drones are tethered to the operator using **long fiber optic cables (up to 20 km)** instead of radio links.
  - Fiber optic cable is made up of a **collection of glass tubes** spun as thin as hairs.
  - They can support **faster speeds, longer distances, and simultaneous communications.**
  - Unlike wired cable, fiber **only supports a single communication on a single frequency** at one time.
- No radio link means they cannot be jammed or intercepted by electronic warfare (EW) systems.




## 7.2.5. DHRUVA (DIGITAL HUB FOR REFERENCE AND UNIQUE VIRTUAL ADDRESS)

The **Department of Posts (DoP)** has released a comprehensive policy document outlining the framework for **DHRUVA**, a national-level **Digital Address Digital Public Infrastructure (DPI)**.

**About DHRUVA**

- **DHRUVA** is a **DPI** being developed by DoP to provide a **unique digital address for every home in India**.
  - It creates a **secure digital environment** through which users can share accurate address information by leveraging a **geo-coded framework.**
- **Aim:** To recognize address information management as a foundational public infrastructure vital for effective governance, inclusive service delivery, and enhanced user experience.
  - It will also enable Address-as-a-Service (AaaS), the array of services associated with address data management.
- **Consists of 2 key Layers:**
  - **Digital Postal Index Number (DIGIPIN):** It is a **10- digit alpha-numeric code** representing geographic coordinates (latitude-longitude), developed by creating uniform approximately 4x4 meter grids on India's territory.
    - > DIGIPIN uniquely identifies locations using **geospatial data.**
  - **Digital Address Layer**: It is a **user-centric, consent-based system** built on DIGIPIN, allowing users to create **customized labels** to represent their DIGIPIN and descriptive addresses.

- **Key Features:** Privacy & Security; Interoperability and Openness; Scalability; Transparency & Accountability; Innovation Friendly etc.

| Benefits | | |
|---|---|---|
| **Citizens** | **Private Sector** | **Governance** |
| • Easier identification for government schemes, ration delivery, and emergency services.<br>• Improved e-commerce, postal, & courier service accuracy. | • Logistics & Delivery Optimization.<br>• Eases address verification for banks, NBFCs, telecoms, & fintech companies.<br>• Businesses can serve remote areas with better accuracy. | • Extend the reach of governance to under-served areas.<br>• Targeted delivery of welfare schemes.<br>• Better Planning & Urban Management. |

## 7.2.6. TIANWEN-2 PROBE

China launched **Tianwen-2 probe** to return samples from an asteroid near Mars.

- Earlier, **Tianwen-1 probe** consisting of an orbiter, a lander and a **rover (Zhurong)** landed on mars' surface in **2021.**
- **Tianwen-3,** scheduled for (launch) around 2028, aims to collect and bring samples back to Earth from Mars while **Tianwen-4** aims to explore **Jupiter** around 2030.

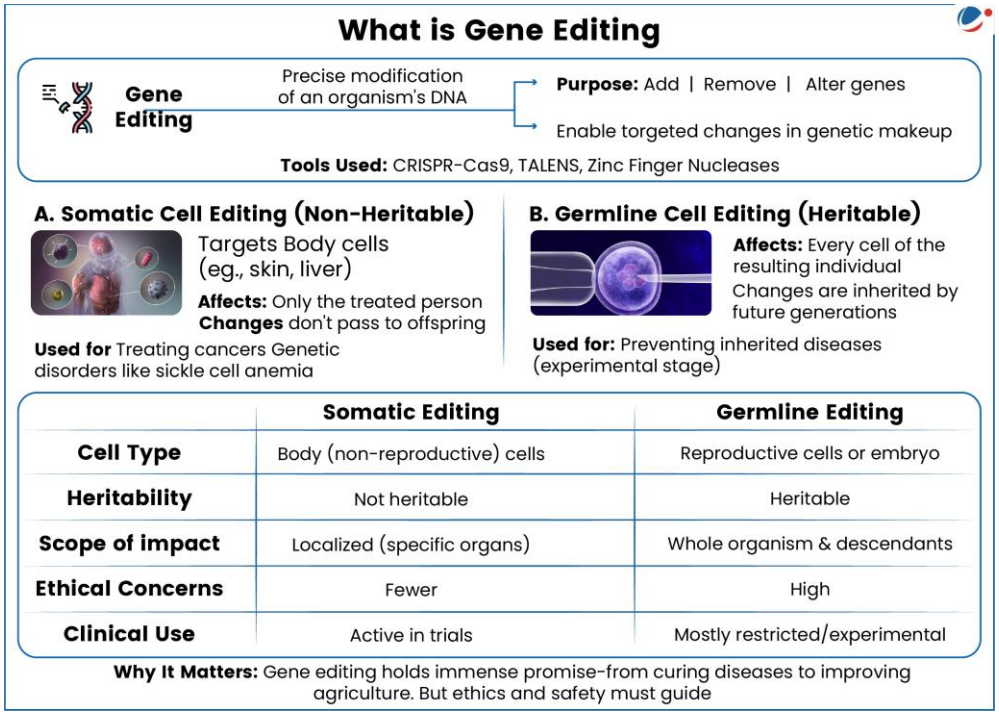
**About Tianwen-2 probe**

- **Launch Vehicle:** Long March 3-B rocket.
- **Aim:** Collect samples from the **asteroid 2016HO3** and explore the **main-belt comet 311P,** which lies even further from the Earth than Mars.

## 7.2.7. INDIA'S FIRST GENE-EDITED SHEEP PRODUCED

India's first gene-edited sheep has been produced by researchers from Kashmir University in collaboration with ICAR using **CRISPR-Cas9 technology.**

- This follows the release of India's first gene-edited rice variety recently.




**About CRISPR-Cas9 Technology**

- CRISPR-Cas9 works o**n a cut-and-paste mechanism for DNA Strands.**
- The **2020 Nobel Prize for Chemistry** was awarded for their discovery.

**About the research**

- **Myostatin gene** in a lamb was edited boosting muscle growth by **30%** (a trait found in some European breeds, such as the Texel, but absent in Indian breeds).
- **No foreign DNA** was added, making it **different from transgenic animals.**
  - Thus, this technique makes the process **efficient, safe, and potentially acceptable** to both regulators and consumers.
- Earlier the **National Dairy Research Institute (NDRI) had developed a gene-edited buffalo embryo.**

**Ethical Concerns in Gene Editing Animals**

- Editing traits like intelligence, sex, or appearance may lead to **the creation of designer babies**, potentially creating a divide between the wealthy and others.
- It risks **eugenics**, promoting the idea of "improving" humans and increasing discrimination.
- Gene editing may cause **off-target effects** and **mosaicism**, which refers to mixed changes in cells.
- There are **unknown risks**, such as new diseases or ecosystem damage.
- **Animal welfare i**s a concern, as creating genetically edited animals often involves **sacrificing some animals** and performing **surgical procedures.**

The **International Bioethics Committe**e of UNESCO explores the ethical implications of genome editing.

***To know more about Gene Editing, refer to Article 7.3. Gene Editing in May 2025 Monthly Current Affairs Magazine.***

## 7.2.8. HIV PREVENTION DRUG APPROVED

US Food and Drug Administration (FDA) approves new HIV prevention drug Lenacapavir

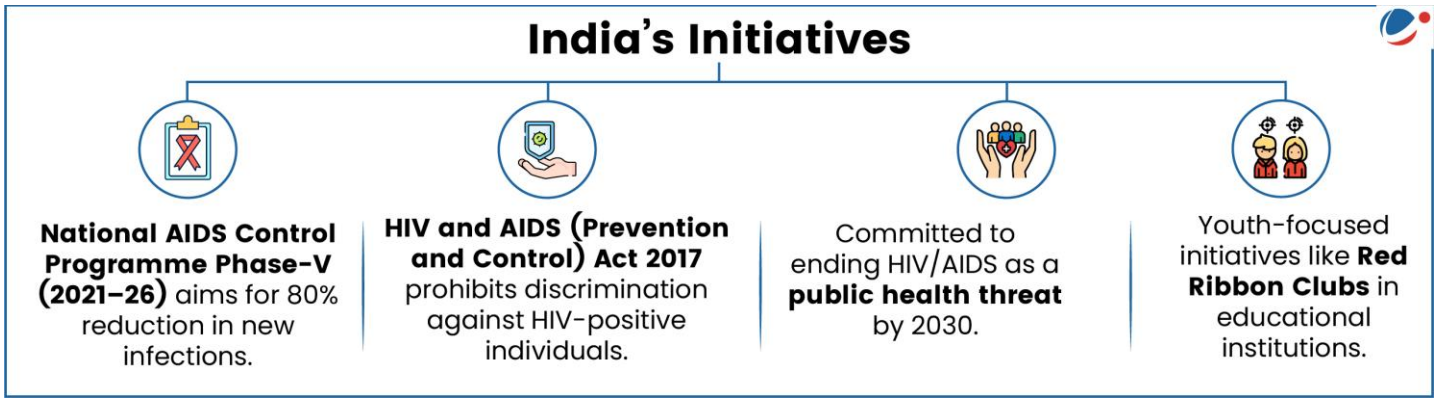
- FDA approval also **paves the way for WHO prequalification**, which can accelerate national regulatory approvals.
- WHO Prequalification of Medicines Programme (PQP) helps ensure that medicines supplied by procurement agencies meet **acceptable standards of quality, safety and efficacy**.

**About Lenacapavir**

- Lenacapavir is an antiretroviral medicine that is used for **HIV prevention as a Pre-Exposure Prophylaxis or PrEP.**
  - PrEP is a medication that **can reduce the risk of HIV infection for individuals** who are **HIV-negative but are at risk of contracting the virus.**
  - WHO currently recommends **oral PrEP**, the **dapivirine vaginal ring**, and **long-acting injectable cabotegravir** (CAB-LA) as options for HIV PrEP.

**About HIV**

- Human Immunodeficiency Virus (HIV) is a **virus that attacks the body's immune system.**
- **Mechanism:** HIV damages the immune system by infecting and destroying **CD4 cells (CD4 T lymphocytes), a type of white blood cells.**
- **Transmission:** HIV is **spread from the body fluids** of an infected person, including blood, breast milk, semen and vaginal fluids.
  - It can also **spread from a mother to her baby**.
- **Treatment:** HIV can be prevented and treated with antiretroviral therapy (ART).
  - Untreated HIV can progress to **acquired immunodeficiency syndrome (AIDS).**
- According to HIV Estimations 2023 report, over **2.5 million people are living with HIV in India.**



## 7.2.9. WEIGHT LOSS DRUG

Danish pharma company Novo Nordisk **launched its weight loss drug Wegovy in India.**

- The drug **semaglutide**, marketed under the brand name Wegovy, will be available in the form of injections to be administered once a week.
  - Semaglutide, works as an appetite suppressant by imitating a hormone called **glucagon-like peptide-1 (GLP-1).**
    - GLP-1 is an intestinal hormone released after eating, and usually makes people feel fuller.
- Other weight loss drugs include **Mounjaro**, which is made up of **tirzepatide** (mimics function of GLP-1 and GIP).

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| QUIZ<br>**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. INS KAUNDINYA AND TANKAI METHOD

**Why in the News?**

The Indian Navy formally inducted and named the **Ancient Stitched ship** as INSV Kaundinya, built using the Tankai method.

**About INS Kaundinya**

- It is based on a 5th-century CE ship depicted in the **paintings of Ajanta Caves.**
- The project was initiated through a tripartite agreement between **the Ministry of Culture, the Indian Navy, and M/s Hodi Innovations.**

**About the Tankai Method**

- It is a **2000-year-old** technique of shipbuilding known as the '**stitched shipbuilding method.**
- It involves stitching **wooden planks together rather than using nails**, offering flexibility and durability.

**India's Glorious Maritime Heritage**

| | |
|---|---|
| **Trade and commerce** | • The discovery of Harappan seals in Mesopotamia, **along with dry-dock and** terracotta figures of ships **at Lothal** (2400 BC), reveals a maritime trade link between the Indus Valley civilisation and Mesopotamia.<br>• **The Rig Veda** mentions merchants sailing ships across the oceans to foreign countries in quest of trade and wealth.<br>• **Cholas, Cheras, Pandyas** had well established maritime trade links with the **Roman Empire**.<br>• **Vijayanagar and the Bahmani kingdom** imported horses using the port of Goa from Iran and Iraq |
| **Cultural diffusion** | • Ashoka's son, Mahendra, and daughter, Sanghamitra, had sailed from Tamralipti in West Bengal to **Ceylon to spread Buddhism.**<br>• Maritime conquest and trade relations with countries of south east Asia led to spread of **Indian religions, architecture and languages.** E.g., **Borbodur temple** in Java, **Angkor wat** temple in Cambodia. |
| **Naval prowess and maritime Knowledge** | • The **Magadh navy** is considered the world's first recorded naval force and **Chanakya's Arthashastra** mentions the department of naval warfare.<br>• **Rajendra Chola-I** (1014-1044) conquered Sri Lanka, led successful naval expeditions against the **Sri Vijiya Empire (ruled by the Sailendra dynasty)**.<br>• **Chhatrapati Shivaji Maharaj** built coastal forts like **Vijaydurg** and **Sindhudurg** and increased the naval strength to over 500 ships.<br>• Cholas and cheras mastered monsoon winds for sea voyages. |
| **Maritime diplomacy** | • **Meghavarman**, ruler of Sri Lanka, sent a missionary to **Samudragupta** for permission to build a Buddhist temple at Gaya.<br>• **Sailendra dynasty** sent embassies to **Pala** court and sought permission to build monastery at Nalanda. |

## Government Initiatives for Reclaiming Maritime Heritage

**National Maritime Heritage Complex at Lothal:** To showcase the historic maritime legacy of the country.

**Project Mausam:** To explore historical and cultural connections among Indian Ocean nations through maritime interactions.

**National Perspective plan Sagarmala program:** To revive and restore India's position of eminence in the global maritime sector.

**Conclusion**

Reviving India's maritime legacy is not only about reconstructing the past but about repositioning India as a leading maritime power in the Indo-Pacific. Through strategic initiatives and cultural outreach, India is reconnecting with its ancient oceanic identity.

**Other famous paintings of Ajanta**

- Paintings of various **Bodhisattvas**, such as **Vajrapani (symbol of Buddha's power), Manjusri (Symbol of Buddha's wisdom) and Padampani (Symbol of Buddha's compassion).**
- Painting of a **Dying Princess.**
- Painting of the reception given to a Persian embassy by **Chalukyan King Pulakeshin II.**
- Painting of **Shibi Jataka** (king Shibi offers flesh to save a pigeon), **Matriposhaka Jataka** (an ungrateful person saved by an elephant discloses its location).

# 8.2. NEWS IN SHORTS

## 8.2.1. EMBLEMS AND NAMES (PREVENTION OF IMPROPER USE) ACT, 1950

Recently, the Supreme Court dismissed a plea with respect to honoring legacy of a freedom fighter under **Emblems and Names (Prevention of Improper Use) Act, 1950.**

**About Emblems Act:**

- **Aim: Prevents misuse of certain emblems** and names for professional and commercial purposes or for trade mark, or patents without Central Government permission.
- **Defines Emblems:** Emblem Includes any e**mblem, seal, flag, insignia, coat-of-arms or pictorial representation** specified in act.
- **Scope**: Applies across India and to Indian citizens abroad.

## Protection Under Emblems and Names (Prevention of Improper Use) Act, 1950

| National Symbols | Key Personalities | Important Institutions & Buildings | Organizations & Missions | International Organizations |
|---|---|---|---|---|
| • Indian National Flag<br>• Names, emblems, or seals of the Government of India or any State<br>• Ashoka Chakra / Dharma Chakra (name or image)<br>• Medals, badges, decorations by the Government | • Mahatma Gandhi<br>• Indira Gandhi<br>• Chhatrapati Shivaji Maharaj<br>• Prime Minister of India<br>• Words: "Gandhi", "Nehru", "Shivaji" | • Names, emblems, or seals of the President and Governors<br>• Parliament, State Legislatures<br>• Supreme Court, High Courts<br>• Central/State Secretariat offices<br>• Pictorial representations of these buildings | • Ramakrishna Math and Mission<br>• Bharat Scouts and Guides<br>• National Youth Emblem<br>• Auroville<br>• Sri Sathya Sai<br>• NHRC (National Human Rights Commission) | • United Nations (UN), WHO, UNESCO<br>• International Civil Aviation Organization (ICAO)<br>• INTERPOL<br>• FIFA, FIFA U-17 World Cup<br>• International Olympic Committee (IOC) |

## 8.2.2. KUMBAKONAM VETRILAI AND THOVALAI MAANIKKA MAALAI

Kumbakonam vetrilai and Thovalai maanikka maalai from **Tamil Nadu** were recently granted a Geographical Indication (GI) tag.

**About Kumbakonam Vetrilai**

- It is a **betel (pan) leaf.**
- It is grown in Thanjavur's fertile **Cauvery River basin.**
- It is known for its high **antioxidant and anti-inflammatory properties**, due to the presence of chavicol.

**About Thovalai maanikka maalai**

- It is a special type of garland that is made only in Thovalai.
- The flowers are carefully folded and arranged in precise patterns to create the appearance of gems (especially rubies) in a geometrically manner.

**About the GI tag**

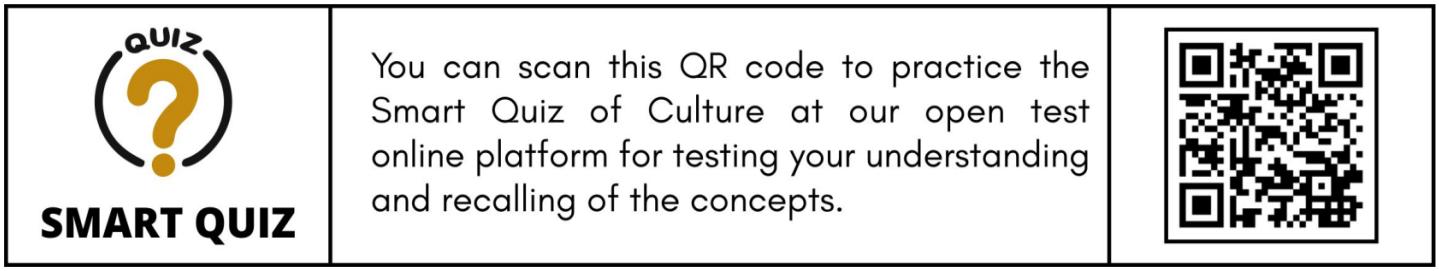
- It is a sign used on products that have a specific **geographical origin** and **possess qualities or a reputation that are due to that origin.**
- Administered by the **Geographical Indications of Goods (Registration and Protection) Act of 1999.**
  - The **Geographical Indications Registry** has been established in **Chennai** to administer the Act.
- They are part of the **intellectual property rights** under the **Paris Convention** for the Protection of Industrial Property.
  - They are also covered under the **Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement.**
- **Department for Promotion of Industry and Internal Trade,** Ministry of Commerce and Industry, awards GIs.
- The registration of a GI tag shall be for **ten years** (**can be renewed**)
- **Uttar Pradesh** holds the highest number of GI tags.

## 8.2.3. WORD TEST CHAMPIONSHIP

**South Africa** recently won the World Test Championship against titleholder Australia.

**About World Test Championship (WTC)**

- **Genesis:** In **2019.**
- **Teams playing WTC:** The Top nine test teams of the world.
- **Format**:
  - Each team plays three home and three away series.
    - > Each match in a **bilateral test series contributes** points towards the WTC standings over a two-year cycle.
    - > Each series consists of a minimum of two (2) Tests, and a maximum of five (5) Tests.
  - The top two teams (according to the **points percentage system and not on the basis of matches won)** compete against each other to be crowned as the winner

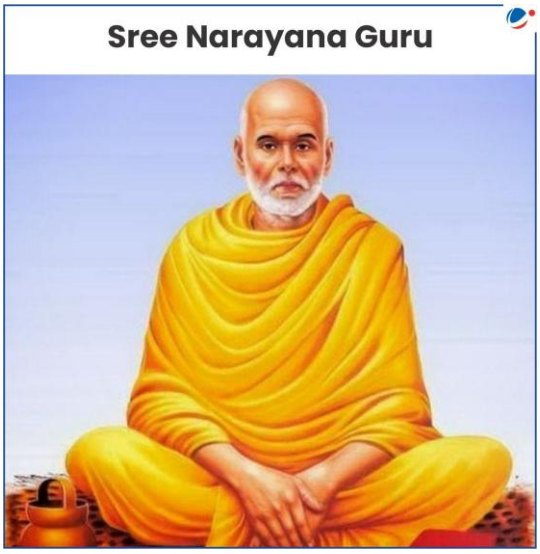


# 9. ETHICS

## 9.1. VALUES OF MAHATMA GANDHI AND SREE NARAYAN GURU

**Introduction**

India commemorated the centenary of the historic conversation between **Sree Narayana Guru and Mahatma Gandhi**, an event organized by the Sree Narayana Dharma Sanghom Trust.




The Conversation took place at **Sivagiri Mutt in Kerala on 12 March 1925** during Mahatma Gandhi's visit. It was centred around **Vaikom Satyagraha**, religious conversions, non-violence, abolition of untouchability, attainment of salvation, the uplift of the downtrodden etc.

**About Sree Narayana Naryan Guru (1856-1928)**

- Born in the village of **Chembazhanthi near Thiruvananthapuram, Kerala.**
- Founded the **Shree Narayana Dharma Paripalana Yogam** (SNDP) in 1903 to advance social reform.
  - Focused on addressing the social and educational backwardness of the Ezhavas and other marginalized communities.
- Authored works such as **Nivritti Panchakam and Atmopadesa Satakam**, significant texts in Advaita Vedanta philosophy.
- In 1888, Sri Narayana Guru **consecrated a Shiva Linga at Aruvippuram.**

**Views of Sree Narayana Guru and Mahatma Gandhi on Various Aspects**

| Aspect | Sree Narayana Guru | Mahatma Gandhi |
|---|---|---|
| **Social Reform** | Narayan Guru consider **caste something as unnatural, artificial and therefore unreal**. Thus, he proclaimed the word **"One Caste, One Religion and One God"**.<br><br>He believed that **while affirmative action addresses economic gaps,** it doesn't eliminate casteism.<br><br>**He advocated a gradual**, educative approach **"don't ask, tell, or don't think of caste"**and removing caste references from official records. | **Gandhiji was against untouchability.** Yet, he believed in the **Vamashrama system.**<br><br>He stated **that different varnas (**classes of people) did exist naturally.<br><br>**He believes** that all types of men can be categorised under four broad occupations: **teaching, defending, wealth producing and manual labour.** |
| **Religious Views** | He believed **Hinduism was enough for spiritual growt**h but accepted that other religions could also lead to liberation. | **Emphasized all religions** as equal paths to truth. **His concept of religion** was deeply linked to morality and selfless service to humanity.<br><br>**He condemned politics separated of religion** on the ground that it makes man corrupt, selfish, unreliable, materialistic and opportunistic. |

| | | |
|---|---|---|
| **Temple Entry & Social Equality** | **Opened temples** to all castes (e.g., Aruvippuram Movement); worked to break caste exclusivity in religious spaces. | **Supported temple entry movements (like Vaikom Satyagraha**) and fought for the rights of Dalits. |
| **Education** | Considered education as the **only means to human progress and prosperity and the supreme panacea for all social evils** like superstitions and unhealthy tradition.<br>**He advocated** equal opportunity for women and began the number of schools all over Kerala**.** | **Advocated basic education (Nai Talim or Wardha Scheme of Basic Education)** combining manual labour, craft work with intellectual growth for self-reliance and dignity.<br>**He stressed both vocational and literary training**, advocating education in one's mother tongue over English. |

**Conclusion**

Sree Narayana Guru's vision of social equality and spiritual humanism remains deeply relevant today. His teachings inspire inclusive policies for gender empowerment, initiatives for caste inclusion, and environmental stewardship—guiding India toward a just, harmonious, and sustainable society rooted in dignity and respect.

## 9.2. INTEGRAL HUMANISM (EKATM MANAVVAD)

**Introduction**

In the mid-1960s, Pandit Deendayal Upadhyaya introduced Ekatma Manav Darshan (Integral Humanism) as an indigenous ideological framework for India's post-independence development. As we navigate the complexities of the modern world, Integral Humanism philosophy serves as a guiding light, reminding us of the intrinsic value of human dignity, harmony, and solidarity in shaping an equitable and prosperous society.

**About Integral Humanism Philosophy (or Ekatma Manav Darshan)**

- The **aim of Integral Humanism** is to ensure dignified life for every human being while **balancing the needs of individual and society.**
  - **This framework emphasized** the integration of spiritual, social, and economic aspects of human life, aiming to create a harmonious society.
- **At the heart of Integral Humanism lies the concept of Purusharthas – the four cardinal goals that delineate the purpose and trajectory of human existence**
  - **Purusharthas** refer to the four aims or goals of human life: **Dharma (righteousness), Artha (wealth/prosperity), Kama (pleasure/desire), and Moksha (liberation).**
- The doctrine of 'integral humanism' was born from the desire to have '**uniquely Indian' ideas guiding the journey of the newly independent nation, as opposed to the many Western 'isms.**
  - Deendayal Upadhyaya **rejected** the approach of excessive **Capitalist Individualism** and the rigid **Marxist Socialism.**
- The **philosophy of integral humanism** is based on the **following three principles:**
  - Primacy of whole, no part
  - Supremacy of Dharma
  - Autonomy of society

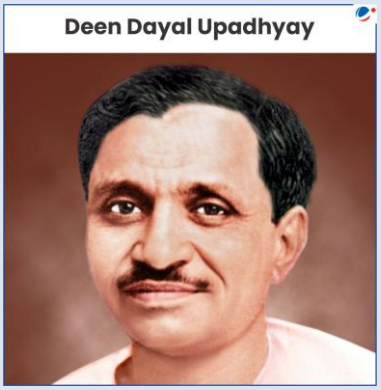
**Core tenets of Integral Humanism in contemporary times**

- **Cultural nationalism (Bharatiyata):** Integral Humanism advocates for a development approach that respects and integrates indigenous knowledge, traditions, and lifestyles while embracing modern advancements.
- **Social integration and harmony:** It calls for social harmony and the eradication of caste discrimination, aiming to build a society based on equality and justice.

- **Antyodaya (Upliftment of the Last Person):** It argued that economic policies should first uplift the poorest sections of society rather than focus solely on industrial and urban growth.
  - His vision of **'education for all' and 'har hath ko kam, har khet ko pani'** was seen culminating in his idea of Economic Democracy.
- **Ethical Governance:** The concept of Model State (Dharma Rajya) is not confined to freedom for religious practices but represents righteousness, moral values, and transparent governance**.**
- **Decentralization:** It proposed a self-reliant village-based economy. It allows the communities to manage their own development based on their unique needs and resources.

**About Pandit Deen Dayal Upadhyay (1916–1968)**

- He was an Indian philosopher, economist, sociologist, historian and political activist.
- Born in Mathura District (Uttar Pradesh).
- He became President of Bhartiya Jana sangh in 1967.
- **Books:** Samrat Chandragupt, Jagatguru Shankaracharya, Political Diary etc.
  - He was the editor of the weekly Panchajanya and the daily Swadesh
- **Similarities with Gandhi:** Upadhya philosophies were similar to Gandhiji's Sarvodaya (welfare of all), Gram Swaraj, against untouchability and social injustice, etc.



# 10. SCHEMES IN NEWS

## 10.1. SCHEME TO PROMOTE MANUFACTURING OF ELECTRIC PASSENGER CARS IN INDIA

**Why in the News?**

Recently, the Guidelines for the Scheme to Promote Manufacturing of Electric Passenger Cars have been notified by the Ministry of Heavy Industries.

| Objectives | Salient Features |
|---|---|
| • To attract **investments from global EV manufacturers** and promote **India as a manufacturing destination** for e-vehicles.<br>• The scheme will also help put India on **the global map for manufacturing** of EVs, **generate employment** and achieve the **goal of "Make in India".** | • **Ministry:** Ministry of Heavy Industries (MHI).<br>• **Implementation: Project Management Agency (PMA).**<br>  ○ PMA refers to the financial institution(s) or any other authority(ies) appointed by GoI to act on its behalf.<br>• **Tenure:** 5 years or as notified.<br>• **Eligible Investments:** Expenditure incurred on new Plant, Machinery, Charging Infrastructure, and Equipment and associated utilities across India.<br>  ○ Expenditure made on **second hand/ refurbished plant, machinery etc., will not qualify.**<br>• **Eligibility:** The applicant or its group companies must meet the following criteria to qualify for benefits under the scheme:<br>  ○ The **global revenue** from automotive manufacturing must **be at least ₹10,000 crore**, as per the latest audited financial statements.<br>  ○ The company or its group must have a global **fixed asset investment (gross block) of at least ₹3,000 crore.**<br>  ○ The **minimum investment commitment in India** over 3 years must be **₹4,150 crore (approx. USD 500 million).**<br>  > There is **no upper limit** on investment commitment in India.<br>  ○ The company must achieve **at least 25% domestic value addition within 3 years.**<br>  > It must further achieve **50% domestic value addition within 5 years** from the date of approval.<br>  ○ The applicant's commitment to setup manufacturing facilities and achievement of Domestic Value Addition (DVA) shall be **backed by a bank guarantee** from a scheduled commercial bank in India.<br>• **Performance Criteria:** All electric passenger vehicles shall meet the performance criteria of **Production Linked Incentive (PLI) Auto scheme.**<br>• **Benefits:**<br>  ○ The applicant will be **allowed to import Completely Built-in Unit (CBUs) of e-4W** manufactured by them at a **reduced customs duty of 15%** subject to the conditions as per this Scheme.<br>  > **CBU** is a vehicle that is in a completely assembled form.<br>  > The **maximum number of e-4W allowed to be imported** at the aforesaid reduced duty rate shall be **capped at 8,000 numbers per year.**<br>  ○ The **lower customs duty of 15%** would be **applicable for a total period of 5 years**. |

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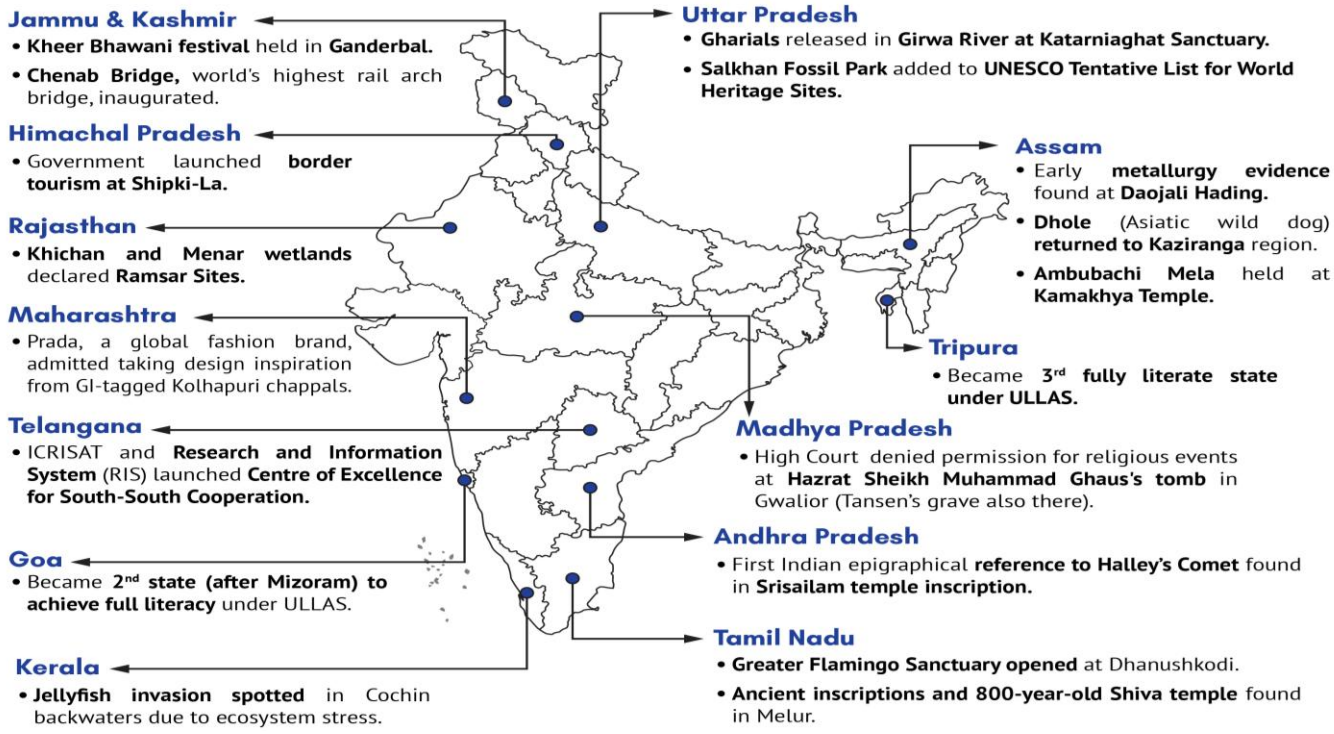
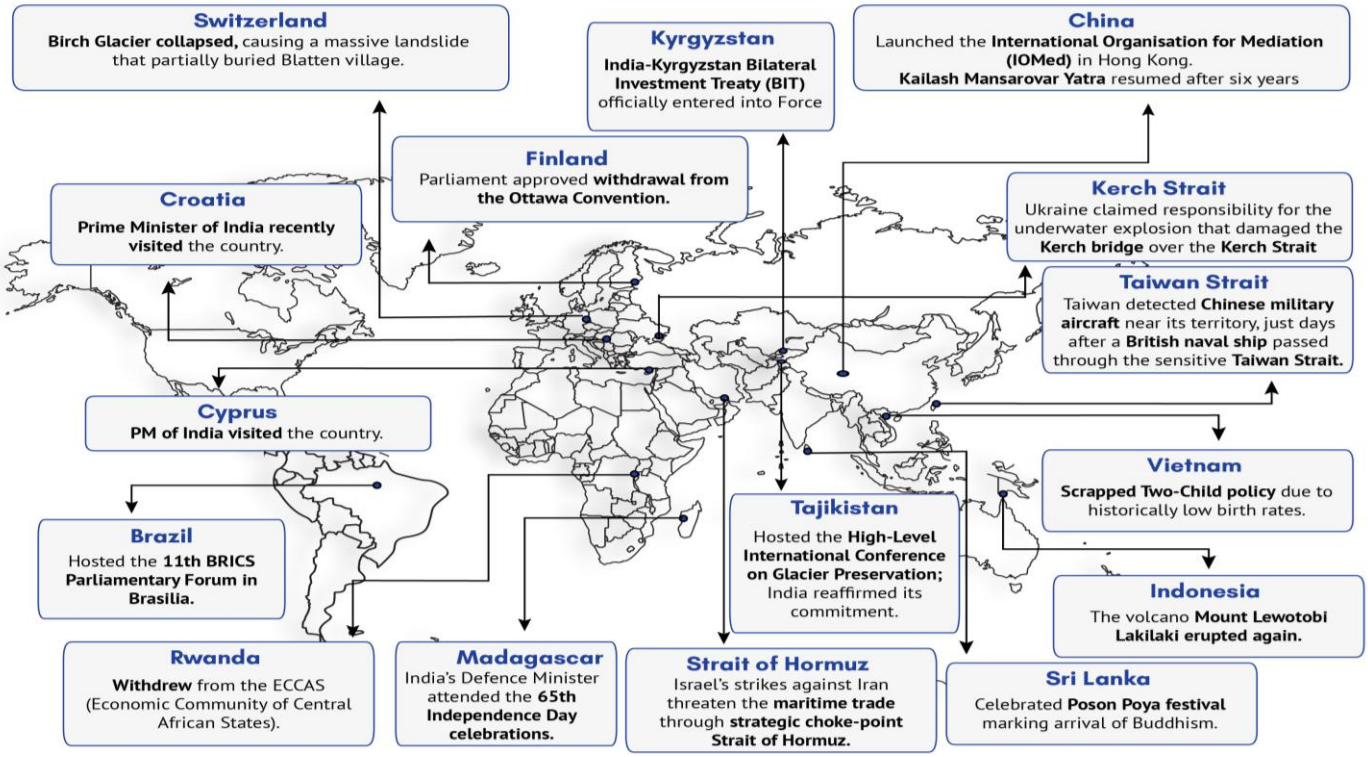
# 11. PLACES IN NEWS

## India




## World



# 12. PERSONALITIES IN NEWS

| Personality | About | Ethical Values exhibited by the Personality |
|---|---|---|
| <br>**Sant Kabirdas (c. fourteenth-fifteenth centuries)** | 11th June marks the birth anniversary of Sant Kabir-das.<br>**About Sant Kabirdas**<br>• **Place of Birth:** Varanasi, Uttar Pradesh.<br>**Key Contributions**<br>• **Core Belief:** Rejected rituals, casteism, and idol worship; emphasized One God (Nirguna Bhakti).<br>• Verses scribed to Kabir have been compiled in three distinct but overlapping traditions.<br>  ▸ **The Kabir Bijak** is preserved by the Kabirpanth (the path or sect of Kabir) in Varanasi and elsewhere in Uttar Pradesh;<br>  ▸ **The Kabir Granthavali** is associated with the Dadupanth in Rajasthan.<br>  ▸ Many of his compositions are found in the Adi Granth Sahib, compiled by Guru Arjan Dev.<br>• **Kabir's poems have survived in several languages and dialects:**<br>  ▸ Some are composed in the special language of nirguna poets, **the sant bhasha.**<br>  ▸ Others, known as ulatbansi (upside-down sayings), are written in a form in which everyday meanings are inverted. | **Social critique and dissent**<br>• His work consists of verses critiquing the social customs and existing values particularly caste and religious dogmatism.<br>• His poems highlighted the role of dissent as having political and ethical value which can lead to refinement of values in social life. |
| <br>**Sriamanta Sankardev (1449 -1568)** | Renowned Indian classical dancer Sonal Mansingh honoured with **Srimanta Sankardeva Award (One of Assam's highest cultural honours)**<br>**About Srimanta Sankaradeva:**<br>• 15th-century **saint-reformer,** Born in Aali-pukhuri situated in Nagaon district of Assam.<br>• Pioneer of the **Ekasarana Dharma, a Neo-Vaishnavite movement** emphasizing devotion to Lord Krishna.<br>**Contributions:** | **Social conscience and humanism**<br>• He spearheaded the bhakti movement that influenced the spiritual and social life of people of North-east. |

| | | |
|---|---|---|
| | • **Kirtana Ghosha:** A devotional scripture composed in Assamese, focusing on the glorification of Lord Krishna.<br>• **Gunamala:** A condensed version of the Bhagavata Purana.<br>• **Ankiya Naat:** A form of one-act play combining dance, music, and storytelling.<br>• **Bhaona:** A traditional theatrical performance originating from Ankiya Naat, often performed in Satras (Vaishnavite monasteries).<br>• **Sattriya Dance:** A classical dance form developed within the Satras, recognized as one of India's eight classical dance forms.<br>• **Literary works:** Bhakti Pradipa, Bhakti Ratnakara, Kirtana-ghosha, etc. | • His teachings imbibed his followers with the virtues of equality, tolerance, truthfulness and love for humanity |
| <br>**Tansen** | Madhya Pradesh High Court denied permission to perform religious and cultural activities at the **tomb of Hazrat Sheikh Muhammad Ghaus** in Gwalior.<br>• The premises of the monument also contain the graves of **Tansen.**<br>**About Tansen (Childhood name Ramtanu)**<br>• He was an important figure in Hindustani classical music born in Gwalior.<br>• **Tansen** was the title given to him by **Raja Vikramjit of Gwalior.**<br>• Learnt music from **Swami Haridas.**<br>• Composed **Dhrupad** on Hindu deities as well as for his Patrons: R**amchandra Vaghela and Akbar.**<br>• He was among the Navaratnas (nine jewels) at the court of Akbar.<br>• **Composed famous ragas: E.g.,** Miyan ki Malhar, Miyan ki Todi and Darbari.<br>• His descendants and disciples are called Seniyas. | **Artistic Excellence and Cultural Harmony**<br>• Tansen exemplified mastery and innovation in Hindustani classical music, composing timeless ragas that bridged devotional and royal traditions.<br>• His music fostered cultural harmony by integrating diverse spiritual and artistic influences. |

**Lokmata Devi Ahilyabai Holkar (1725 - 1795)**

**Lokmata Devi Ahilyabai Holkar (1725 - 1795)**

Nation pays tribute to **Lokmata Devi Ahilyabai Holkar** on her **300th birth anniversary.**

**About Ahilya Bai Holkar**

- She was the **Holkar Queen of the Malwa kingdom &** famously known as **Philosopher Queen.**
- **Early Life:**
  - Born in village of **Chondi, Ahmednagar (Maharashtra).**
  - Married to **Malhar Rao Holkar,** the **Lord of the Malwa territory.**
- **Royal Succession: Peshwa** granted **Ahilyabai to take over Malwa.** Later she ascended the throne and **became the ruler of Indore** in 1767.

**Key Contributions**

- Established a **textile industry in Maheshwar,** famous for Maheshwari sarees.
- **Temple Construction & Restoration:**
  - **Built two of the Twelve Jyotirlingas.**
  - Repair of **Kashi Vishwanath Temple.**
  - Construction of **Old (Juna) Somnath temple in Gujarat,** popularly known as **Ahilyabai temple.**
  - Restored temples at pilgrimage sites like **Haridwar, Kashi, Somnath, and Ramesh-waram**
- **Architectural Legacy: Build Maheshwar Fort (Ahilya Fort)** on the banks of **Narmada River.**
- Formed a **women's army** which symbolize **state defense, law and order, and women's empowerment.**

**Valour and administrator**

- The Queen of Malwa, apart from being a brave queen and proficient ruler, was also an erudite politician. She observed the bigger picture when the Maratha Peshwa couldn't pin down the agenda of the British.

**Bhagwan Birsa Munda (1875–1900)**

The Prime Minister paid tributes to **Bhagwan Birsa Munda on the occasion of his Martyr's Day.**

**About Birsa Munda**

- He was born in Ulihatu village, **located in the Chotanagpur Plateau of Jharkhand.**
- He belonged to the Munda tribe, and was also known as **'Dharti Aaba' (Father of the Earth).**

**Contributions**

**Fortitude and Vision**

- He was a visionary who played a crucial role in the liberation of his community.

| | | |
|---|---|---|
| | • **Munda Rebellion/ Ulgulan (The Great Tumult),** between 1899 and 1900: tribal uprising against the British **colonial administration and its policies.**<br>• **Founded a new sect known as the Birsait.**<br>• Took up a campaign against alcoholism, witchcraft and sorcery and promoted **among people awareness about cleanliness.** | • He was an Indian tribal freedom fighter who showed extraordinary courage by leading the revolts of his tribesman against the Britishers and powerful landlords. |
| <br>**Ram Prasad Bismil (1897 - 1927)** | **Eminent freedom fighter and revolutionary leader Ram Prasad Bismil** was remembered on his birth anniversary (Jun 11).<br>**About Ram Prasad Bismil**<br>• Born in Shahjahanpur (Uttar Pradesh), he was deeply influenced **by Arya Samaj philosophy** from a young age.<br>**Key Contributions**<br>• **Revolutionary Activities:** He emerged as a prominent revolutionary through the **Mainpuri Conspiracy (1918),** where he distributed banned literature to promote nationalist ideas.<br>• **Founding of HRA:** In 1924, he co-founded the **Hindustan Republican Association** (HRA), later known as **Hindustan Socialist Republican Association** (HSRA), along with **Sachindranath Sanyal** and others.<br>• **Kakori Conspiracy (1925):** Masterminded the Kakori train robbery.<br>• **Prison Protest:** While in jail, Bismil and his associates went on a hunger strike, demanding recognition as political prisoners and protesting harsh jail conditions.<br>• **Literary work:** Composed patriotic poems in Hindi and Urdu under **pen names like Bismil, Ram,** and **Agyat.**<br>• **Martyrdom:** He was executed on December 19, 1927 after a controversial trial in the Kakori case. | **Leadership and Conviction**<br>• He organized the youth for strengthening the voice against alien rule and founded the organization to give shape to their struggles.<br>• He not only participated in a highly dangerous plot to loot the arms from the Britishers but also sacrificed his life by not yielding to extreme torture and life threats. |

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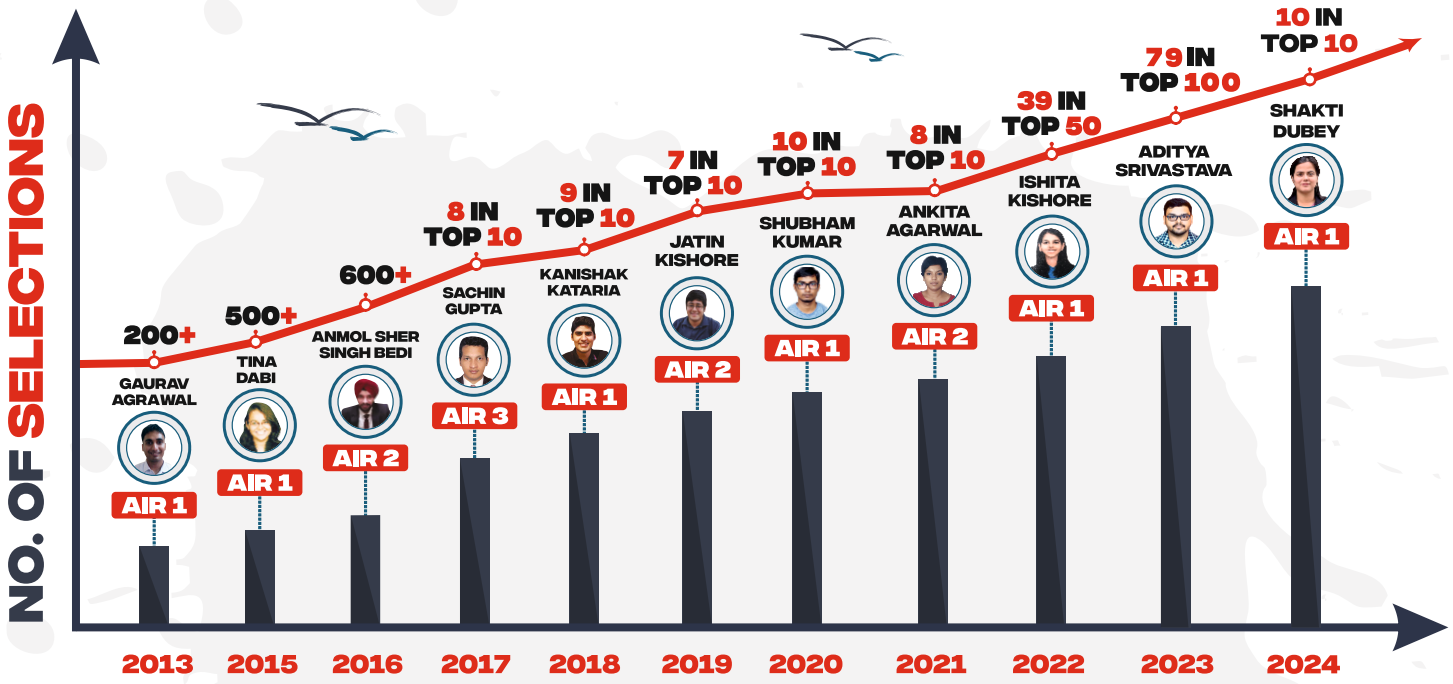


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AHMEDABAD: 12 JULY | BENGALURU: 22 JULY | BHOPAL: 27 JUNE | CHANDIGARH: 18 JUNE
HYDERABAD: 30 JULY | JAIPUR: 20 JULY | JODHPUR: 2 JULY | LUCKNOW: 22 JULY | PUNE: 14 JULY

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|---|---|---|
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| CHANDIGARH<br>18 JUNE | HYDERABAD<br>30 JULY | JAIPUR<br>5 & 10 AUGUST |
| JODHPUR<br>2 JULY | LUCKNOW<br>22 JULY | PUNE<br>14 JULY |

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