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NOTE:

Dear Students,

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



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



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



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

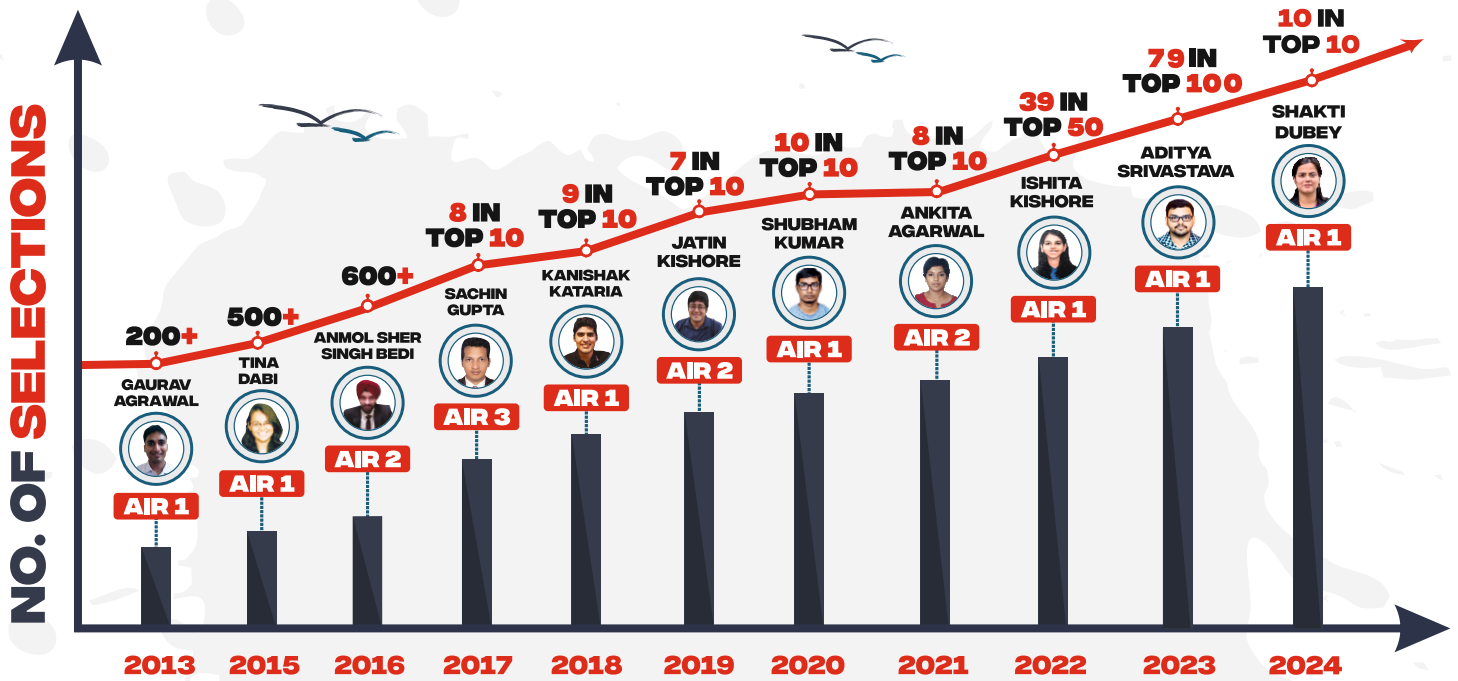


Places and persons in news are being presented in an objective manner through Maps, Tables & Pictures. This will help in easier recollection of factual information.

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1. POLITY AND GOVERNANCE

1.1. DIGITAL COLONIALISM

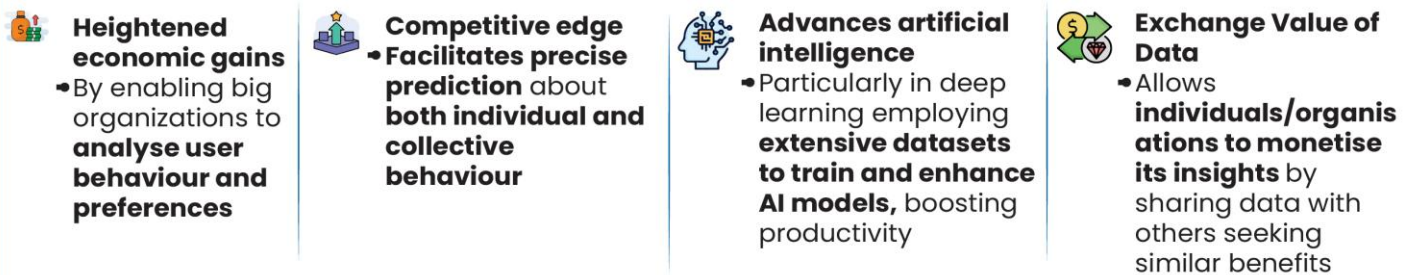
Why in the News?

Former Indian Vice President raised concerns of **digital colonialism** stating dependence on foreign digital infrastructure and not invasion as the **prime threat to sovereignty**.

About Digital Colonialism

- **Meaning:** It is a **theoretical framework** that establishes the **primacy in digital technologies** by Big tech companies that **extract, analyse and own user data** for their **own profit** and **market influence**.
- It includes the **decentralised capture and management of data** from individuals, with or without their explicit consent, threatening state and individual autonomy.

Data: Key Enabler of Digital Colonialism



Key Pillars of Dominance characterising Digital Colonialism

- **Economic domination:** Big corporations seize the **resources of foreign countries** by creating **technological dependencies**.
 - E.g., **monopoly** over search engines (Google); desktop operating systems (Microsoft Windows); social networking platforms (Facebook, Twitter); etc.
- **Imperial Control of Architecture:** Proprietary software and **non-free licensing regime** restrict modification/access for other nations, locking them out of digital self-sufficiency.
 - E.g., **App Store policies** (Apple/Google) exercise unilateral decisions over what apps and features are allowed.
- **Global Surveillance Capitalism:** Advanced data science and machine learning enable corporations to **track user behaviour** and make **favourable business decisions** based on global surveillance.
 - E.g., **Facebook enabled mass data harvesting** by third parties like Cambridge Analytica, influencing elections.
- **Tech hegemony:** Few big tech firms **steer the narrative** around how technology should expand and define the **economic ramifications** of such an expansion.
 - E.g., Amazon (AWS), Microsoft (Azure), and Google Cloud **control a vast majority of worldwide cloud service**, giving them unparalleled power over global data storage, processing, and analytics.
- **Cultural Imperialism:** Depicted in the **homogeneity** and **superiority** of technologies owned by few and underpinning values, language, and culture of others.
 - E.g., Content curation and algorithmic bias on social platforms prioritize content that **aligns with dominant cultural values**.
- **Discourse of 'benevolence':** Framing digital technologies as **evidently good, connectivity as progress and human rights**.
 - E.g., **Facebook's "Free Basics" rollout in Africa** positioned as philanthropy was criticized for potentially serving as a tool to expand market share and acquire user data.

Key Issues with Digital Colonialism

- **Rising North-South Disparity:** Rapid digitalization, fuelled by data monetization practices, has exacerbated **significant disparities** as most technology giants are stationed in the North.

- **National Security:** Inadequate local infrastructure exposes critical sectors to vulnerabilities and foreign manipulation.
- **Privacy & Digital Rights:** Reliance on foreign digital platforms risks violations of privacy and digital rights, including threat of targeted state surveillance.
- **Existential Threat to Local Business:** Dominance by global platforms undermines competition in online ads, transport, retail, and news, risking indigenous enterprise survival.
- **Economic losses:** Digital tech giants use Base Erosion and Profit Shifting (BEPS) to move profits to low or no-tax countries with little real business there, reducing taxes in countries like India.
- **Difficulty in Regulation:** Existing legal instruments are **incapable of regulating cyberspace** due to its transboundary nature.
- **Network Effect:** Once platforms reach critical mass, exponential growth locks in users—stifling local competition.

Some measures taken by various countries to tackle digital colonialism

- **India:**
 - **Digital Personal Data Protection Act, 2023 (DPDP Act):** It establishes a comprehensive framework for protection and processing of personal data and is applicable to **processing of personal data outside India** if it is for offering goods or services in India.
 - **Competition Act, 2002:** To prevent unfair practices, protect consumers, and ensure free trade.
 - **Global advocacy:** India has advocated strongly at G20, BRICS, and WTO for data localization, digital sovereignty, and fairer rules.
 - > E.g., Under India's G20 leadership, a task force was created for expanding **Digital Public Infrastructure (DPI)** globally.
 - **Other efforts: ONDC (Open Network for Digital Commerce)-** an alternative to ecommerce monopolies; **India stack-** India's own foundational DPI etc.
- **Other Nations:**
 - **European Union: Data Act, Data Governance Act, AI Act, and General Data Protection Rules,** to safeguard **European citizens' data rights** and **promote digital autonomy**.
 - **China: Digital Silk Road,** a core component of **China's Belt and Road Initiative**, aims at building closer ties with states in emerging markets in telecommunication, AI, cloud computing, surveillance technologies, and other hi-tech areas.
 - **Russia: Sovereign Internet Law (2019)** created a legal framework for centralised state management of the internet in Russia.

Way Forward

- **Digital sovereignty:** States must exercise authority over **all its digital assets**, including the entire value chain of data, infrastructure, operations, supply chain, and knowledge.
- **Data Localisation:** Data to only be **stored, transferred and processed** within national borders and legal jurisdictions.
- **Comprehensive Framework for Governance:** Develop frameworks for data generation, protection, sharing, and infrastructure.
- **Managing Cross Border Data Flows:** Countries must continuously calibrate their policies to **balance growth, public interest, and global tech integration**.
- **Reforming the Data Lifecycle:** Integrated management from creation to destruction/reuse for optimum utilization.
- **Inclusive Digital Future: Bridging digital divide, promoting inclusivity and upholding ethical standards** essential for the benefit of entire mankind.

Conclusion

The **regulatory landscape** surrounding digital sovereignty is **quite complex** and has caused countries to respond through measures like **splinternet** that fragments the internet along geopolitical lines. Considering the **importance of global digital communication and connectivity**, diplomatic efforts are needed for ensuring **digital solidarity**.

To read more about **DPDP Act, 2023** and **DPI**, refer to Article 4.2. Draft Digital Personal Data Protection (DPDP) Rules 2025 in January 2025 Monthly Current Affairs Magazine and Article 3.1. Digital Public Infrastructure (DPI) in July 2024 Monthly Current Affairs Magazine respectively.

1.2. ONLINE CONTENT REGULATION

Why in the News?

Ministry of Information and Broadcasting (I&B) has banned public access to several OTT platforms, for streaming obscene content.

More on the news

- They were banned under **the Information Technology Act, 2000, and the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.**
- The Supreme Court in **Ranjit D. Udeshi v. State of Maharashtra (1965)** defined obscenity as a reasonable restriction to free speech (Article 19)

Need for content regulation

- **Societal Reach and Influence:** With more than 950 million people having access to internet, unregulated content can influence diverse section of society.
- **Curbing violence and violent behaviour:** E.g., A 2010 study analysed pornography videos and found almost 90 per cent of scenes contained physical aggression.
- **Protecting vulnerable groups**
 - **Children:** Early exposure to explicit content distorts children's understanding of healthy relationships and sexuality.
 - **Women:** Such content often objectifies women, perpetuating gender inequality and normalising violence against women.
 - **Minority:** E.g., online hate speeches can fuel societal divisions endangering minority.
- **Ethical imperative:** Uncontrolled dissemination of degrading material can alter social norms, values, institution of family, etc.
 - **Harm to society: E.g., the 2021 "Bulli Bai" app incident,** where images of women were auctioned online
 - > **JS Mill's Harm Principle** permits limiting individual liberty when it causes harm to others or degrades societal well-being.
 - **Humans as means:** Content that reduces people to **objects of sexual interest** violates the principle of **categorical imperative of Kant** which dictates against using humanity as a means to an end.
 - **Unequal impact:** According to Indian Policy Foundation, low-income people with poor digital literacy are more exposed to obscene content.

Regulatory framework for regulation of obscene content

- **The IT Act 2000**
 - **The Section 67 and Section 67A:** Deal with publication and transmission of obscene content in electronic form
 - **Section 69A:** Empowers the Central Government to direct blocking of public access to information in specific grounds.
 - **Section 79:** Grants "safe harbour" protection to intermediaries (including OTT platforms) from liability for third-party content.
 - > However, they could lose the protection if they fail to remove unlawful content upon receiving notification from the government.
- **IT rules 2021 under IT Act, 2000 issued by Ministry of Electronics and Information Technology (Meity):** It places digital news media and OTT platforms under Ministry of information and broadcasting ministry (MIB).
- **Section 294 of the Bhartiya Nyaya Sanhita (BNS) 2023:** Defines the term obscene, criminalizes the dissemination of material including those in electronic form.

- **Protection of Children from Sexual Offences (POSCO) Act:** Made sale and distribution of child pornography illegal.
- **Indecent Representation of Women (Prohibition) Act, 1986:** Prohibits the publication and distribution of materials containing indecent representations of women.

Challenges in regulating content

- **Regulatory challenges**
 - **Regulatory Overlap:** The division of responsibilities between MeitY (which frames IT Rules) and the MIB (which oversees content) creates coordination challenges.
 - **Subjectivity in definitions:** Eg, obscenity can be interpreted differently and can lead to arbitrary actions by the government.
- **Technological challenges -**
 - The **end-to-end encryption** and privacy features allow the spread of illegal content without scrutiny.
 - **Social media algorithms** trap users in a **feedback loop**, i.e. accidental exposure to suggestive content triggers more such recommendations.
 - **Virtual private networks (VPN)** enable users to bypass regulatory oversight, allowing access to prohibited websites and content.
- **Creative Freedom:** Bans and strict regulation can stifle creative freedom and infringe on the constitutional right to freedom of speech and expression under Article 19(1)(a)
 - Eg, ban on films such as Fire (about homosexuality).

Way Ahead

- **Multi-Stakeholder consultations:** Such as with digital platforms, content creators, etc must be done to strike a balance between freedom of speech and social sensitivities.
- **Use of Technology:** Tools such as automated profanity filters, user-report-driven content scanners, and AI-powered content analyses may be utilised by OTT platforms.
- **Strengthening Self-Regulation:** Empowering industry-led self-regulatory bodies to develop and enforce content standards could reduce direct government intervention.
- **Learning from best Practices:** European Union's Audiovisual Media Services Directive extends traditional broadcast standards to digital platforms while maintaining strong privacy protections through General Data Protection Regulation (GDPR).

To read more about the impact of obscene content, refer to Article 9.1. Obscenity on Digital Platforms in February 2025 Monthly Current Affairs Magazine.

1.3. NATIONAL COOPERATIVE POLICY 2025

Why in the news?

Recently, the Union Minister of Cooperatives unveiled the **National Cooperative Policy 2025**.

Key features of the policy

- This is only the **second such policy** for the cooperative sector, after the first in 2002.
- **Vision:** To make cooperatives key drivers for **Viksit Bharat 2047** through **Sahkar-se-Samriddhi**.
- **Objectives:** To bring 50 crore citizens, who are either not members or are inactive in the cooperative sector, into active participation.
- Policy envisions six strategic mission pillars (Infographic).
- **Other key features of policy include**
 - **Legislative and Institutional Reforms:** Encourage States to amend cooperative laws to enhance transparency, autonomy and the ease of doing business.
 - **Financial Empowerment:** Bring down cooperative taxes and make cooperatives eligible for sector-specific finance incentives available to corporates.

- **Business Ecosystem Development:** Encourage States/UTs to develop at least one model cooperative village, Support branding under the 'Bharat' brand, etc.
- **Future-Readiness & Technology:** Develop a national 'Cooperative Stack' integrating with Agri-stack and databases.
- **New Sectors:** Consider expanding cooperatives into new sectors, including clean energy, waste management, and technology.
- **Inclusivity:** Promotes inclusive participation of women, youth, SC/STs.
- **Other:** Tripling the cooperative sector's GDP contribution by 2034, increasing the number of cooperative societies by 30%, etc.
- **Implementation:** By the 'Implementation Cell' under the Ministry of Cooperation.
- **Monitoring:** By the 'National Steering Committee on Cooperation Policy', chaired by the Union Minister of Cooperation.



Cooperatives in India

- **Origin:** With the Cooperative Credit Societies Act, 1904.
- **Definition:** It is an autonomous association of persons, united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically member-controlled enterprise.
- **Status**
 - India has more than **8 lakh cooperative societies** (2 lakh credit cooperatives (E.g., PACS) and 6 lakh non-credit cooperatives (E.g., Consumer, Housing Cooperatives)).
 - More than **30 crore people are associated** with co-operatives in India.
 - **Top 3 Cooperative sectors:** Housing, Dairy, and Primary Agricultural Credit Society (PACS).
- **Constitutional Status: The 97th Amendment, 2011**, granted constitutional status to the Cooperative Societies with the following provisions-
 - **Fundamental Right:** Added "cooperative societies" in Article 19(1)(c).
 - **Directive Principle:** Inserted Article 43B to promote cooperatives.
 - **New Part IXB:** Added Articles 243ZH to 243ZT for cooperative governance.
- **Governance Structure**
 - **Multi-State Cooperatives:** Falls under the Union List of the Constitution. Governed by the Multi-State Cooperative Societies Act, 2002.
 - **State Cooperatives:** Falls under the State List of the Constitution. Governed by respective State Cooperative Societies Acts.

Significance of cooperatives

- **Uplifting the rural economies:** By **fostering financial inclusion e.g.**, About 1/3rd of India's rural population is directly connected to cooperatives.
- **Boost to farmers' income:** By allowing pooling of resources, enhanced bargaining power, e.g., Amul model of Gujarat.
- **Societal Impact**
 - **Empowering Women:** E.g., Sewa Cooperative Bank enable microfinance leading to women's employment and gender equality.
 - **Sustainable growth:** E.g., Uralungal Labour Contract Cooperative Society's (ULCCS) of Kerala, implementation of green practices in the development of infrastructure development
- **Strengthened community ties:** Cooperatives foster a sense of community, which leads to building social capital.
- **Instilling Values –**
 - **Equality:** The "one-person-one-vote" system ensures **equality**.

- **Leadership:** Cooperatives elect leaders democratically, helping develop leadership skills (e.g., in Maharashtra many legislators are associated with the cooperative movement).

Challenges for Cooperatives

- **Limited capacity and resources:** Especially in emerging or rural economies, cooperatives may lack the necessary infrastructure, training, and technical expertise to function effectively
- **Political Intervention:** Interference by political parties and leaders often affects transparency and leads to inefficiency.
- **Complex Regulatory requirements:** leading to bureaucratic hurdles and slow development of cooperatives in India.
- **Lack of Familiarity with Digital Tools:** The data indicates that only **45% of cooperative members** are familiar with digital tools.
- **Regional imbalance:** The top 5 states (Maharashtra, Gujarat, Telangana, Madhya Pradesh, and Karnataka) have 57% of all cooperatives.
- **Other challenges** - Skilled Workforce Shortage, lack of cooperation among the cooperative Limited membership and resources etc

Conclusion

Cooperatives can be strengthened by encouraging private sector partnerships to boost infrastructure and provide access to advanced technology. Additionally, promoting inclusivity, merging weak societies, and ensuring transparency through measures like the Cooperative Governance Index (CGI) and the Right to Information (RTI) Act.

1.4. PRI FINANCES

Why in the news?

Recently, the Standing Committee on Rural Development and Panchayati Raj presented a report about the Devolution of funds under the Panchayati Raj system.

More on the news

- The report flagged the **Partial Devolution of the 3Fs (Functions, Funds, Functionaries) are still plaguing the PRIs** despite 3 decades of 73rd Constitutional Amendment.
- Further, it focused on **financial issues** still being faced by PRIs.

Source of Revenue for PRI



Tax Devolution and Grants of funds: from the Central and State governments



Own source of revenue: Article **243-H** of the Constitution empowers Panchayats to impose, collect, and allocate taxes, duties, tolls, and fees



Other sources: Panchayats also receive funds for executing **Centrally Sponsored Schemes (CSSs)**, e.g., Rashtriya Gram Swaraj Abhiyan.

Issues of the Finance of PRI

- **Declining Budgetary Allocations to PRIs:** Successive Union Budgets have reduced funds allocated to PRI allocations, threatening fiscal decentralisation
- **Imbalance in Tied and Untied Grants:** 15th FC grants to PRIs were 40% untied (flexible use), 60% tied (specific purposes like sanitation; unused if work is done).
 - This leads to underutilization of funds.
- **Delays in Panchayat Elections:** Due to Legal or administrative hurdles, e.g., Telangana's implementation of OBC reservation has led to delays.
 - This is a major impediment to the effective utilisation of funds

- **Issues in the functioning of the District Planning Committee (DPC):** This has resulted in fragmented planning, and underutilisation of funds
 - DPC are established at by state at district levels to consolidate plans prepared by municipalities and panchayats.
- **Irregular Constitution of State Finance Commissions (SFCs):** Despite constitutional mandates, only nine States have constituted the 6th SFC.
 - This has resulted in delayed financial devolution to PRIs.
- **Poor Compliance in Uploading Gram Panchayat Development Plans(GPDP) on eGram Swaraj portal:** This has affected the release of 15th Finance Commission (FC) grants to PRIs.
- **Weak Own-Source Revenue (OSR) Generation:** According to the RBI, the OSR of Panchayats was only 1.1 per cent of their total revenue.
 - This has resulted in reduced financial autonomy.

Importance of Finance for PRI

- **Rural development:** PRIs implement centre and state schemes at the grassroots levels by identifying actual beneficiaries and aligning them to local needs.
- **Agricultural development:** PRIs support cooperative agricultural development, eg Amul originated at the panchayat level, support sustainable practices, eg social forestry, etc.
- **Sustainable Development Goals (SDGs):** PRIs help in achieving the 2030 targets by localisation of SDGs
- **Health:** PRIs contribute to health by maintaining and establishing health centres, clinics, and dispensaries, training local health community workers, etc
 - According to the RBI, States where Panchayats got high scores in health, nutrition, and sanitation had lower rural infant mortality
- **Education:** PRIs are responsible for constructing and maintaining educational institutions, encouraging enrolment, minimising drop-out rates, monitoring educational quality, etc
- **Women's Empowerment:** They enhance women's participation in governance by stipulating a one-third reservation for women.
 - Studies show that when women are involved in local governance, policy areas such as education, health, and child welfare often improve with a special focus on the needs of women.

Initiatives to improve finances of PRIs

- **Audit Online application:** Launched by the Ministry of Panchayati Raj (MoPR) for carrying out online Audits of Panchayat accounts.
- **For own source revenue augmentation**
 - SVAMITVA data is used for property tax assessment.
 - Sharing of district mineral foundation funds with PRIs.
- **Ranking system for PRIs:** To decide eligibility criteria for performance grants.
- **eGramSwaraj Portal:** All GPDPs of PRIs are uploaded for transparency and accountability.

Recommendations given in the report

- **Reallocation Flexibility:** Allow tied funds to be used for other than stipulated purposes to optimise fund use.
 - Further timely and adequate untied funds through a formula-based mechanism based on objective criteria such as backwardness, area, etc
- **Continuity in Case of Election Delays:** Elections must be held in a timely way; however, in case of unavoidable delay, a clear mechanism should be established to ensure continuity.
 - E.g. appointment of a nominated representative with clearly defined responsibilities.
- **Regular Constitution of SFCs:** Engage states at the highest level to ensure timely SFC constitution and submission of reports, with uniform and simple formats.
- **Ensure Timely GPDP Uploads:** Train Panchayat members for proper preparation and submission of GPDPs, and align them with Block/District plans
- **Adequate devolution:** Each state must prepare a time-bound roadmap for devolution of powers to PRIs, e.g., Administrative control over local functionaries such as health workers must be transferred to the Panchayats

- Also, the Ministry of Panchayati Raj to prepare "**State of Devolution Report**" measuring progress on the 3Fs in each state.
- **Strengthen OSR Generation:** Provide financial and technical support for revenue generation, devolve more powers to Panchayats, and incentivise high performers

1.5. INTER STATE WATER DISPUTE (ISWD)

Why in the News?

The Ravi and Beas Waters Tribunal, formed in 1986, has got an extension of another year to resolve water sharing issues between Punjab, Haryana and Rajasthan.

More in the News

- Also, Centre will constitute a high-level technical committee to examine concerns around the Polavaram Banakacherla Link Project (PBLP) and other pending inter-state water issues between Telangana and Andhra Pradesh.
- Additionally, Odisha and Chhattisgarh expressed willingness to resolve Mahanadi water dispute 'amicably'.
- Inter-State water dispute in India can be **traced back to the British colonial period** with Cauvery water dispute between British-controlled Madras Presidency and Princely State of Mysore.

Reasons for ISWD

- **Asymmetric access to river water resources**
 - **Geographical factors:** When rivers flow across state boundaries, upper riparian states have advantageous access to river water.
 - **State Reorganisation:** Post- independence reorganisation of boundaries of states have emphasised less on the river basin-based boundary distribution.
- **Increasing Demand:** Rapid population growth, agricultural expansion, urbanisation, and economic development have significantly increased the demand for water.
- **Development Projects:** Disputes often arise when one state develops major water resource projects like dams (e.g., Narmada, Cauvery River basin disputes).
- **Fragmented water governance approach**
 - **Union Government:** Lack of structure for the governance of interstate water disputes.
 - **State Government:** Divergent perspective and reductionist water management strategy.
 - **Unscientific Approach:** Lack of integrated river basin based management.
- **Lack of proper data:** Non-uniformity in data collection of river water related to its flow, volume etc.

Legal and Constitutional Framework to resolve dispute

- **Article 262:** Provides for the adjudication of inter-state water disputes
 - Parliament by law can provide for the adjudication of any inter-state water dispute (**Article 262(1)**)
 - Parliament may also provide that neither Supreme Court nor any other court is to exercise jurisdiction in respect of any such dispute or complaint (**Article 262(2)**)
- Exercising its power under the **Article 262** of the Constitution Parliament has enacted two laws
 - **The River Boards Act, 1956:** This empowers Union Government to establish River Boards for the regulation of inter-state rivers and river valleys in consultation with State Governments.
 - **Inter-State River Water Disputes Act, 1956:** Union Government can establish a tribunal for the adjudication of inter-state river water dispute if requested by the state.
- **Seventh schedule**
 - **Entry 56 of the Union List:** Regulation and development of inter-state rivers.
 - **Entry 17 of the State List:** Water, that is to say, water supplies, irrigation and canals, drainage and embankments, water storage and water power subject to the provisions of entry 56 of List I.

Challenges in resolving ISWD

- **Delays:** Extreme delays are a major issue, occurring in three main areas

- **Constituting Tribunals:** e.g. Cauvery Tribunal formed in 1990 after decades of pending requests.
- **Tribunal Award Delivery:** e.g., Narmada: 9 years, Krishna: 4 years, Godavari: 10 years.
- **Award Notification and Enforcement:** Delays in publishing tribunal orders in the Official Gazette (e.g., Krishna: 3 years, Godavari: 1 year) lead to uncertainty in enforcement.
 - > ISRWD Act, 1956 specifies that a Tribunal's decision, once published in the Official Gazette, "**shall have the same force as an order or decree of the Supreme Court.**"
- **Politicisation:** Water disputes are frequently dealt with more politically than scientifically, disregarding environmental, social, and cultural aspects.
- **Lack of Stakeholder Participation:** Traditional approaches often ignore the interests and concerns of state governments, local communities, indigenous populations, and other stakeholders.
- **Intervention of Supreme Court:** States taking the issues to Supreme Court results in making the award of tribunals practically ineffective.
 - While the Supreme Court cannot adjudicate the original dispute, **it can interpret the decisions of a tribunal**, and may direct parties back to the tribunal for further clarification if needed.
 - For e.g. The Cauvery Water Disputes Tribunal has submitted its reports and decision in 2007. Further, the party states have filed SLPs in the Supreme Court against Cauvery tribunals report. Consequently, Supreme Court gave a final verdict on this dispute on water distribution, including a slight change in water allocation.

Other measures taken to resolve ISWD

- **Inter-State River Water Disputes (Amendment) Bill, 2019**
 - **Disputes Resolution Committee** to resolve inter-state disputes amicably.
 - Establishment of **single Inter-State River Water Disputes Tribunal** with multiple benches.
 - **Strict timeline** for completion of award.
 - **Data bank** at the central level for each river basin
- **Draft River Basin Management Bill, 2018**
 - **Objective:** The bill proposes principled approach of participation, cooperation, equitable and sustainable use of water, integrated river-basin management etc.
 - Creating River Basin Master Plan
 - Establishment of River Basin Authority
- **National River Linking Project:** It aims to transfer water from surplus region to deficit region potentially reducing inter-state water disputes.

Way forward

- **Cooperative Federalism:** Union Government should play the role of facilitator and mediator to reach mutually acceptable solution among states.
 - Creation of **Forum for Dialogue and Discussion on ISWDs** under the NITI Aayog.
- **Policy Intervention**
 - Bringing the ISWDs under the **Inter-State Council (Article 263)**
 - Amendment in **Inter-State River Water Disputes Act, 1956** to make the functioning of Tribunals more effective.
- **ISWD (Amendment bill) and River Basin Management Bill, 2018:** These proposed laws should be put on for consultation to expedite dispute resolution and address delays in the existing tribunal system.
- **Data Bank and Information System:** A national-level data bank and information system for river basins is recommended to support informed decision-making
 - Use AI to collect river basin data, flow management and end use of river water.
- **Stakeholder Engagement:** Community participation in planning and management of water resources.

Scan the QR code to know more about India's Water governance

WEEKLY FOCUS #125

Reforming India's Water Governance To Meet Emerging Challenges



1.6. COST OF POLITICS IN INDIA

Why in the news?

Observer Research Foundation (ORF) supported by the Westminster Foundation for Democracy (WFD) conducted a case study on India's "Cost of Politics" focusing on spending by candidates contesting political office.

Major Findings of the Study

- **Escalating Campaign Costs:** Major party Lok Sabha candidates spend ₹5–10 crore, higher in competitive or wealthy states (TN, Telangana, AP, Maharashtra).
- **Rising Routine Political Expenditure:** It includes attending community events, supporting constituents, sustaining party activities etc.
- **Social Media Spending:** Requires funds for tech experts, influencers, profile upkeep, and ads but is still cheaper than rallies, transport, food, and worker payments.
- **Increasing Vote Buying:** Cash handouts before polls have surged, even unwilling candidates feel pressured to join in.
- **Drivers of cost of politics:** Pre-election outreach, campaign logistics, media expenses, election patronage (rewards for supporters, network upkeep).
- **Source of Funds:**
 - **Primary sources:** Personal wealth; contributions from family, friends, peers, supporters.
 - **Other sources:** Borrowing from friends/business groups, crowdfunding, selling assets, loans.
 - Most parties expect candidates to self-fund, barring a few major ones.
 - > It favours wealthy/dynastic candidates, and disadvantages marginalised groups.

Implications of high costs of elections

- **Implications for Governance**
 - **Growing Business-Politics Nexus:** High corporate funding can skew policies toward financiers' interests (e.g., tax cuts, deregulation) that widen social inequality.
 - > Wealthy mining, coal, and real estate barons now contest directly, using money to secure party nominations or run as independents
 - **Fundraising focus:** Elected leaders prioritise raising funds, recovering campaign costs, and repaying financiers over legislative duties.
 - **Corruption Risks:** Black money in campaigns fosters electoral corruption.
 - > India ranked 96 in Transparency International's 2024 Corruption Perceptions Index.
- **Impact on Democratic Integrity**
 - **Erosion of Public Trust:** Lack of transparency reduces voter faith, discouraging participation in democracy.
 - **Power capture:** Big parties dominate funding, enabling large-scale vote buying and cross-media campaigns.
 - > Smaller/regional parties lack resources, limiting voter choice and political competition.
 - **Barrier for underprivileged:** High costs deter women, youth, and non-elite candidates from contesting.

Way Forward

- **Enforce spending limits:** Strengthen ECI oversight, resources, and judicial support to act against violators.
 - **For instance, UK enforces strict expenditure caps and audits** at all political levels.
- **Constitutional status for parties:** Bring political parties under formal regulatory and institutional scrutiny.
- **State funding based on vote share** to reduce corporate influence, empower smaller parties (Canada & Germany models). State funding was also supported by:
 - Indrajit Gupta Committee on State Funding of Elections (1998)
 - Law Commission Report on Reform of the Electoral Laws (1999)
 - National Commission to Review the Working of the Constitution (2001)
 - Second Administrative Reforms Commission (2008)
- **Voter sensitisation:** Prioritise awareness campaigns via civil society, media, and ECI to curb money power in elections.
- **Real-time donation disclosure** to boost transparency (U.S. model).

Conclusion

Thus election campaign financing in India is marked by high costs, resource concentration, and use of black money, threatening democracy, governance, and equality. Urgent reforms in election financing are needed to protect democracy, including stricter corporate donation laws.

1.7. LOWERING OF AGE FOR VOTING

Why in the News?

Globally, several countries, including Germany, Austria, Malta, Estonia, Argentina, Nicaragua, have lowered their voting age from 18 to 16 years.

More in the News

- Recently United kingdom also announced plans to reduce the voting age from 18 to 16.
- In India, a Constitution (Amendment) Bill, 2020 was proposed to amend Article 326 to **reduce the voting age from 18 to 17 years**.
 - It was a private member's bill.

Constitutional provisions related to voting age in India

- Article 326** provides for **universal adult suffrage** for every citizen who is **not less than 18 years** of age.
 - India reduced the voting age from 21 to 18 years through **61st Constitutional Amendment in 1988**.
 - Right to Vote is a **statutory right** that can be amended by **ordinary law** of the Parliament.

Arguments in favour of Lowering of Age for voting	Arguments in against of Lowering of Age for voting
<ul style="list-style-type: none"> Cognitive Maturity: A significant number of experts contend that 16-year-olds possess sufficient cognitive and critical thinking capacities for independent political decisions. Intergenerational Equity: While those under 18 are currently excluded in most countries, adults are allowed to vote without maximum age limits. This creates an inherent bias, that is, political systems that favor an older electorate and act against forward-looking policy-making. Broaden election manifestos: Lowering the voting age would also broaden the election manifestos with a greater focus on child rights, quality education, and gender justice. Increased Political Engagement and Representation: Lowering the voting age could increase political engagement among youth, fostering a habit of voting early in life and strengthening democracy. 	<ul style="list-style-type: none"> Perceived Lack of Maturity and Knowledge: Critics argue adolescents often lack cognitive ability, adequate information, or political engagement, making them prone to manipulation in political decision-making. Low Turnout: In 2024 lok sabha elections, under 40% of 18–19-year-olds registered to vote Inconsistency with Other Age Thresholds: Lowering the voting age may spark debates on reducing other legal age limits for marriage, alcohol purchase, military service, or elections. Logistical and Administrative Challenges: Expanding the electorate to include 16–17-year-olds would require large-scale voter registration drives, awareness campaigns, and infrastructure adjustments, increasing costs and operational complexity.

Conclusion

In moving forward with the debate on lowering the voting age, it is essential that advocacy efforts are grounded in evidence and involve adolescents in the process. Early and comprehensive civic education in schools, along with ongoing registration efforts, can enhance political engagement and ensure broader participation among young and transient populations.

1.8. NEWS IN SHORTS

1.8.1. DISRUPTION OF PARLIAMENT

In the 17th Lok Sabha session, Lok Sabha functioned for **88% of its scheduled time**, while **Rajya Sabha worked for 73%**.

- In the 1950s, the Indian Parliament met for **120-140 days every year**, now the number ranges between **60 to 70 days**.

Reasons for the Disruptions

-  Opposition parties use it to **gain greater publicity and visibility in public**.
-  **Anti-defection law** forces MPs to follow party whips.
-  **Disruptions arise** from **controversial national or regional issues** dominating **public attention**.
-  **Increase in political parties** means less debate time and more disruptions over unlisted issues.

Issues with Parliamentary Disruptions

- Weakening Democratic Accountability:** Parliamentary debates let elected leaders question the government, but disruptions hinder this key part of democracy.
- Monetary cost:** The cost of running Parliament is around Rs 2.5 lakh per minute.
- Eroding Public Trust in Parliament:** Frequent disruptions shift MPs' focus from solving important issues to stalling proceedings.

Measures that can be adopted to address parliament disruption

- Ensuring dedicated time for Opposition:** For e.g., the British Parliament sets aside 20 days each year for the opposition to decide the agenda.
- Strengthen ethics committees:** To monitor and report disruptions, ensuring accountability.
- Annual Parliamentary Calendar:** Calendar of sittings should be announced at the beginning of each year for limited flexibility.

1.8.2. REMOVAL OF JUDGES IN HIGHER JUDICIARY

Member of Parliaments across party lines submit motion in Parliament to remove Justice Yashwant Varma.

- A total of 145 Lok Sabha members have signed a motion against Justice Verma under **Articles 124, 217, and 218 of the Constitution**.
- Also, the Rajya Sabha Chairman received a motion for the removal signed by **more than 50 members of Rajya Sabha**.

Constitutional provisions regarding removal of judges

- Article 124(4):** It deals with **removal of judges** of the **Supreme Court**.
 - Grounds for Removal :** **Proven misbehavior and incapacity**.
- Article 124(5):** It deals with the **power of parliament to regulate the procedure for the presentation of an address and for the investigation and proof of the misbehavior or incapacity of a Judge under clause (4)**
 - Procedure is regulated by **Judges Enquiry Act (1968)**. (enacted under article 124(5)).
- Article 217(1)(b):** It deals with removal of a **Judge of a High Court**.
 - It states that a High Court Judge may be removed from his office by the President in the manner provided in **clause (4) of article 124 for the removal of a Judge of the Supreme Court**.
- Article 218:** It extends the Applicability of **clause (4) and clause (5) of article 124 to High courts**.

Steps in removal process

Initiation	<ul style="list-style-type: none"> A removal motion signed by 100 members (Lok Sabha) or 50 members (Rajya Sabha) is given to the Speaker/Chairman.
Committee formation and Investigation	<ul style="list-style-type: none"> If admitted, a three-member committee constituted to investigate the charges. The three member committee comprises a Supreme Court judge, chief justice of a high court and a distinguished jurist. If the committee finds the judge guilty of misbehaviour or incapacity, the House considers the motion.

Parliamentary Approval	<ul style="list-style-type: none"> The originating House passes the motion with special majority, then sends it to the second House, which must also pass it with special majority. (Majority of the total membership of that House and by a majority of not less than two-third of the members of the House present and voting).
Presidential order	<ul style="list-style-type: none"> After passage, an address is presented to the President for removal. (It has to be presented to the President in the same session.) The President then issues the removal order.
Note: There is no mention of word impeachment for removal of judges in the constitution .	

1.8.3. NATIONAL STANDARDS FOR CIVIL SERVICE TRAINING INSTITUTES (NSCSTI)

Recently, NSCSTI 2.0 framework was launched by the Minister of State for Personnel, Public Grievances and Pensions.

About National Standards for Civil Service Training Institutes

- Developed by: Capacity Building Commission (CBC)** under Mission Karmayogi.
 - Mission Karmayogi aims to **create a competent and future-ready civil service** working towards effective public service delivery and an Atmanirbhar Bharat.
- The primary objectives of NSCSTI** are to establish a baseline of capacities within Central Training Institutes, provide a structured tool to enhance the management of these institutes, and standardise capacity building by setting clear procedures for civil service training institutes.
- The NSCSTI 2.0 framework introduces**
 - hybrid and AI-driven learning models,
 - incorporates an inclusive design suitable for all levels of government training institutes, and
 - fosters the adoption of best practices by removing barriers between the public and private sectors.



Capacity Building Commission (CBC)



Established: 2021



Purpose: To build credibility and shape a uniform approach to capacity building on a collaborative and co-sharing basis.



Composition: It is a three-member Commission, supported by an internal Secretariat headed by a Secretary.

- Members have been appointed from diverse backgrounds such as private sector, academia, public sector, and civil society.



CBC is as an **independent body with full executive power**.



Key Functions:

- Preparing an Annual State of Civil Services Report
- Exercising functional supervision over Training Institutions and creating shared learning resources
- Facilitating the creation of Annual Capacity Building Plans for ministries and departments
- Evolving a harmonious, de-siloed approach to capacity building initiatives
- Recommending policy interventions in areas of personnel/HR to DoPT

1.8.4. BILLS OF LADING BILL 2025

Parliament has **passed the Bills of Lading Bill 2025.**

About Bills of Lading Bill 2025

- It aims to **update and simplify the legal framework** for shipping documents.
- It will **replace the Indian Bills of Lading Act, 1856.**
- A **bill of lading refers to a document issued by a freight carrier to a shipper.**
 - It contains details including the type, quantity, condition, and destination of goods being carried.



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DELHI : 7 AUGUST, 11 AM | 14 AUGUST, 8 AM | 19 AUGUST, 5 PM
22 AUGUST, 11 AM | 26 AUGUST, 2 PM | 30 AUGUST, 8 AM

GTB Nagar Metro (Mukherjee Nagar): 29 JULY, 6 PM | 22 AUG, 6 PM

हिन्दी माध्यम 28 अगस्त, 2 PM

AHMEDABAD: 12 JULY

BENGALURU: 25 AUG

BHOPAL: 18 AUG

CHANDIGARH: 18 JUNE

HYDERABAD: 3 SEP

JAIPUR: 5 & 10 AUG

JODHPUR: 10 AUG

LUCKNOW: 29 AUG

PUNE: 14 JULY

2. INTERNATIONAL RELATIONS

2.1. INDIA-UNITED KINGDOM (UK) COMPREHENSIVE ECONOMIC AND TRADE AGREEMENT (CETA)

Why in the News?

India and the UK signed the **Comprehensive Economic and Trade Agreement (CETA)**, marking a major milestone in their partnership.

More in the News

- Major developments apart from CETA:
 - **India-UK Vision 2035** was adopted to guide cooperation for the next decade in the economy, technology, defence, climate, health, and education.
 - **Defence Industrial Roadmap** adopted for co-design, co-development, and co-production of defence products.

Key Highlights of the Comprehensive Economic and Trade Agreement

- **Comprehensive Tariff Elimination and Market Access**
 - **Tariff Elimination:** Over 99% of tariff lines will be eliminated, covering almost India's entire trade basket.
 - > Meanwhile, India has opened 89.5% of its tariff lines, covering 91% of UK exports.
 - **Sensitive Sector Safeguards:** India has safeguarded sensitive sectors like dairy, cereal, millets, gold, jewellery, lab-grown diamonds, etc.
 - **Bilateral Safeguards:** Measures to control sudden import surges that could hurt domestic industries.
- **Services**
 - **Deep Market Access:** Wider entry for Indian **IT, finance, education, and healthcare services**.
 - **Comprehensive Commitments:** India has secured wide-ranging commitments from the UK, covering all 12 major service sectors.
- **Mutual Recognition and Professional Mobility**
 - **Mutual Recognition Agreement:** Both countries will recognise professional qualifications in areas like nursing, accountancy, and architecture within a year, easing mobility and reducing barriers.
 - **Temporary Entry for Professionals:** UK allows Indian business visitors, intra-corporate transferees, service suppliers, independent professionals, and investors to stay from 90 days to 3 years, with possible extensions.
 - **Double Contribution Convention (DCC):** It exempts Indian workers and their employers from social security contributions in the UK for up to three years when on temporary assignments.
 - **Simplified Rules of Origin:** Exporters can self-certify product origin, small consignments under £1,000 need no documents, and Product Specific Rules of Origin (PSRs) align with India's current supply chains for key sectors such as textiles, machinery, pharmaceuticals, and processed food.

India-UK Vision 2035

Strategic Partnership Roadmap



Strategic Vision by 2035:

Flagship partnerships will redefine the India-UK relationship, delivering transformative opportunities through clear strategic goals, sustained innovation and tangible benefits



Partnership Framework

Comprehensive cooperation across six strategic pillars for the next decade

- Trade • Technology • Defence • Climate • Education • People-to-People Ties
- Building sustained collaboration with measurable outcomes and mutual benefits



Growth and Trade

- Boost bilateral trade volumes significantly
- Conclude comprehensive **Bilateral Investment Treaty**
- Strengthen capital markets integration
- Promote green investments and innovation hubs
- Foster startup ecosystems and entrepreneurship



Technology Innovation

- AI and machine learning partnerships
- Next-generation telecommunications (5G/6G)
- Critical minerals and semiconductor cooperation
- **Quantum computing** and biotechnology research
- Health technology and space exploration



Defence and Security

- Implement **10-year Defence Industrial Roadmap**
- Co-develop advanced defence technologies
- Enhance Indo-Pacific maritime security
- Strengthen counter-terrorism cooperation
- Joint cyber threat mitigation strategies
- Collaborative training and military exercises



Climate and Energy

- Mobilise substantial climate finance
- Expand offshore wind energy projects
- Accelerate green hydrogen development
- Advance **nuclear energy cooperation**
- Develop sustainable transport solutions
- Launch ecosystem restoration programs



Education and Skills Partnership

- Establish UK university campuses across India to expand access to world-class education
- Create joint degree programs linking Indian and British academic institutions
- Launch comprehensive Green Skills Partnership for sustainable development training
- Deepen youth exchange programs and strengthen cultural and professional ties

Significance of CETA for India

- **Export growth:** Expected 20-40 per cent rise in exports in key sectors such as textiles, jewelry, machinery, etc.
- **Geographical Indication protection:** Protection for Indian Geographical Indication (GI) products like feni, toddy, and Nashik wine.
- **Market Access:** The agreement opens the UK's \$37.5 billion agricultural import market to Indian producers, with over 95% of agricultural and processed food items gaining duty-free access.
- **Worker Benefits:** CETA upholds **labour rights**, ensuring awareness, access to fair tribunals, and transparent enforcement.
 - **Women workers** will gain from provisions on **non-discrimination and gender equality** in the workplace.
- **MSME and regional growth:** Trade boost will benefit key hubs like Tiruppur (textiles), Kolkata (leather), and Surat-Bharuch (chemicals).

Significance of India-UK Relations

- **Economic Cooperation:** Bilateral trade stands at **USD 56 billion**, with the goal of **doubling it by 2030**.
 - **Investment:** The UK is the **6th largest inward investor in India**, with a cumulative equity investment of US \$ 35 billion till September 2024.
- **Geo-Political:** Cooperation in multilateral forums such as the **UN, UNSC, G20, Commonwealth**, and the **Indo-Pacific** enhances mutual interests.
 - The UK supports India's bid for a **permanent seat in the UN Security Council**.
- **Defence Cooperation:** India and the UK hold regular military exercises, including **Konkan** (naval), **Cobra Warrior** (air), and **Ajeya Warrior** (army).
- **Indian Diaspora:** The UK has a **large Indian diaspora of 1.864 million** as per the 2021 UK Census.
- **Education cooperation:** Several UK universities plan to open **campuses in India**, with the **University of Southampton's** Gurugram campus being the first under the New Education Policy.
 - Around **170,000 Indian students** are currently studying in the UK.
- **Health Cooperation:** E.g., The joint research and development of the COVID-19 vaccine, under a licensing agreement between UK-based AstraZeneca and Serum Institute of India.
 - **India-UK Framework agreement for collaboration on health care workforce** supports recruitment and training of Nurses, Allied Health Professionals, etc.

Concerns in India-UK Relations

- **Divergent Foreign Policy Positions:** For example, their stances on the Russia-Ukraine conflict are different.
- **UK's Domestic Politics:** UK political debates over Kashmir and comments on India's internal matters have occasionally created friction, influencing diaspora relations.
- **Khalistan Separatism:** India is concerned over the activities of **pro-Khalistan elements** in the UK, which it sees as a threat to its sovereignty.
- **Extradition hurdles:** Despite an extradition treaty, **legal delays** keep high-profile fugitives like Vijay Mallya in the UK, **straining bilateral trust**.

Conclusion

The CETA, anchored within the **India-UK Vision 2035**, marks a pivotal milestone in bilateral ties, expanding cooperation in trade, technology, defence, climate, and education. With the UK's global influence as a **P5, G7, and Five Eyes member**, and India's position as the fastest-growing major economy, both nations stand at a **strategic inflection point**. By leveraging synergies in a volatile global order and advancing joint initiatives under Vision 2035, India and the UK are poised to elevate their partnership to unprecedented levels while addressing long-standing challenges.

2.2. INDIA-MALDIVES RELATIONS

Why in the News?

Recently, Indian Prime Minister paid an official visit to Maldives marking 60 years of diplomatic ties.

Key outcomes of the visits

- Extension of **Line of Credit (LoC) of INR 4,850 crores to Maldives** and **reduction of annual debt repayment obligations** of Maldives on Government of India-funded LoCs.
- Launch of **India-Maldives Free Trade Agreement (IMFTA)** negotiations and mutual agreement on its Terms of Reference.
- Agreement between NPCI International Payment Limited and Maldives Monetary Authority for **launching UPI in Maldives**.
- Various MoUs and agreements in field of **Fisheries & Aquaculture, Digital Solution and recognition of Indian Pharmacopoeia** were also signed.

Areas of Cooperation

India and Maldives share ethnic, linguistic, cultural, religious and commercial links. India was among the **first to recognize Maldives after its independence in 1965** and to establish diplomatic relations with the country.

- **Strategic Location and Proximity:** Maldives is geographically positioned like a **'toll gate'** between the **western Indian Ocean (Gulf of Aden and Strait of Hormuz)** and **eastern Indian Ocean (Strait of Malacca)**.
 - Maldives' proximity to India's west coast and its location at the hub of key Indian Ocean sea-lanes give it significant strategic importance for India.
- **Net Security Provider:** India is seen as a net security provider to the Maldives. It has been affirmed as Maldives holds a special place in India's **"Neighbourhood First" policy**, contributing to India's **Vision MAHASAGAR** (Mutual and Holistic Advancement for Security and Growth Across Regions) for the **Indian Ocean Region (IOR)**.
- **Defence Cooperation and Security:** A comprehensive **Action Plan for Defence (2016)** has been signed to consolidate defence partnership. Joint exercises include **Ekuverin, Ekatha**, etc.
 - Maldives has also joined **Colombo Security Conclave** as a founding member.
- **Economic Integration:** Bilateral trade crossed **USD 548.97 million (2023)**, with India emerging as Maldives **largest trading partner in 2023**.
- **Humanitarian Diplomacy and "First Responder" during crises:** India has consistently been the **"first responder"** to Maldives during times of distress. It includes prompt assistance during **coup attempt (1988)**, **Tsunami (2004)**, **Male water crisis (2014)**, **Covid-19 pandemic etc.**
- **Extensive P2P Linkages:** India has become a top tourist market for Maldives, with over 2.09 lakh Indian tourist arrivals in 2023.



Recent Irritants in the bilateral relations

- **Domestic Politics of Maldives:** Maldives' internal political environment is largely polarized to **'Anti or Pro- India or China'**.
- **Strategic Realignment under President Muizzu:**
 - Elected on a nationalist mandate of **"India out Campaign"**, it fuelled anti-India public sentiments. It led to cancellation of **hydrographical surveys**, withdrawal of **Indian Military personnel**, etc.
 - Maldives changed its policy from **"India first policy"** to a **"Maldives first"** policy which aimed to diversify the Maldives' foreign policy.
- **China Factor:** Maldives joined **China's Belt and Road Initiative (BRI)** in 2014 and China has made several large infrastructure investments. E.g., **China-Maldives Friendship Bridge**.
- **Economic instability:** With high fiscal deficits and moderation in GDP growth, public debt of Maldives is projected to rise to **135.7% of GDP in 2027**. (World Bank).
- **Radicalization:** USA in 2023 designated financial facilitators and operatives of ISIS and Al Qaeda in the Maldives.

Conclusion

India and Maldives share common challenges in the Indian Ocean Region which have multi-dimensional implications for the security and development of both the countries. As natural partners, both must work together in advancing the maritime and security cooperation for the benefit of peoples of both India and Maldives as well as for the larger Indian Ocean Region.

2.3. CHINA'S HYDROPOWER PROJECT ON THE BRAHMAPUTRA RIVER

Why in the News?

China started construction of its **Medog mega dam project** on the Yarlung Zangbo (Brahmaputra in India) River in Tibet.

More on the News

- Beyond power generation, the project supports Beijing's goal of **industrialising Tibet**.
- China presents the **Medog (Motuo) Dam project** as both a renewable energy initiative and an economic boost for Tibet, supporting its **goal of carbon neutrality by 2060**.

About the Medog Hydropower Project

- Scale and Capacity:** Once completed, it will surpass the **Three Gorges Dam** as the **world's largest**, potentially generating **three times more energy**.
- Location:** Situated at the **Great Bend of the Yarlung Tsangpo River** in Tibet, near the **Arunachal Pradesh border**.
- Project design:** Marketed as a **run-of-the-river project**, it will feature **five cascade hydropower plants**, **reservoir-like structures**, diverting up to **half of the river's flow**.

Key Concerns of the Project

- Geopolitical Concerns:**
 - Disruption Concerns:** Disruption in water flow will affect **Agriculture, Food security**, and **hydro projects** in Northeast India.
 - E.g. Siang River disaster (2000).
 - Security Risks:** Seen as a potential **water bomb** in times of tension.
- Water Resource Competition:** The Brahmaputra basin faces **India-China-Bangladesh competition**, driven by dams and diversion plans, posing risks to human security and regional stability.
- Environmental Impact:**
 - Disruption of sediment flow** vital for the Ganges-Brahmaputra Delta.
 - Threat to 218 fish species**, including Hilsa and Mahseer, **jeopardising two million livelihoods**.
- Disaster Vulnerability:**
 - Located in Seismic Zone V**, prone to **earthquakes and landslides**.
 - A **7.5-magnitude quake** in Tibet in December 2024 underscored the **risk of catastrophic dam failure**.



Existing River Water Cooperation Mechanism between India and China

- Expert Level Mechanism (2006):** Annual dialogue on flood season data, emergency protocols and trans-border river issues.
- Hydrological Data Sharing on Brahmaputra:** MoU covers June to October data from three Tibetan stations. Expired in June 2023 and renewal is under discussion.
- Hydrological Data Sharing on Sutlej:** MoU covers June to October data from Tibetan station. Expired in 2020 and renewal is pending.
- Umbrella MoU (2013):** Expanded Brahmaputra and Sutlej data period to 15 May to 15 October and provides a broader framework for water cooperation.

Way Forward

- **India's Potential Response:**
 - **Strategic countermeasures:** India plans the **Siang Upper Multipurpose Project** in Arunachal Pradesh as a hydropower response to China's upstream advantage on the Brahmaputra.
 - > Niti Aayog proposed a **multipurpose project** in the **Siang region** in 2017.
 - **Transparency Demands:** Seek full disclosure of **technical details, environmental studies and seismic safety plans**, and press for suspension until these are addressed.
- **Regional Coalition:** Unite downstream nations to demand legally binding water sharing accords under the **1997 UN Water Convention** with hydrological data sharing, joint environmental assessments, etc.
- **Transboundary Cooperation:** Push for mechanisms similar to **China's agreements with Kazakhstan** on shared rivers to safeguard India's co-riparian rights.
- **Water Security Framework:** Explore a **South Asia Water NATO** for Brahmaputra, Indus and Ganges states modeled on collective security to ensure data transparency, dispute resolution, disaster readiness etc.
 - **Best Practices and lessons** from the **Nile Basin Initiative** and the **Mekong River Commission** can be adopted.

Conclusion

The Yarlung Tsangpo project underscores the need for **urgent, cooperative water governance**. Without transparency and equitable sharing through mechanisms like a **middle riparian coalition** or a **South Asia Water NATO**, it risks triggering ecological damage, economic loss, and regional instability.

2.4. INDIA-AFRICA RELATIONS

Why in the News?

Prime Minister of India completed his recent visit to African nations of Ghana and Namibia and he reiterated that "**Africa's goals are India's priority**".

More on the News

- Prime Minister also **addressed a special session of the Parliament of Ghana** and was conferred the **national honour of Ghana - Officer of the Order of the Star of Ghana** - by the President of Ghana.
- He also welcomed the establishment of the **Ghana-India Parliamentary Friendship Society** which indicates a commitment to fostering closer ties at the legislative level.
 - Both sides also agreed to elevate ties to a **Comprehensive Partnership**.
- India's Africa policy builds on old ties and focuses on present needs. It follows a **consultative, demand-driven approach, working as equal partners under the Kampala Principles** (refer infographic) highlighted by the **Prime Minister of India in 2018**.

Strategic significance of Africa for India

- **Strategic and Geopolitical:** Africa is natural partner of India in voicing the concerns of global south, advocating for reforms in multilateral institutions like UN and WTO, and promoting peace and security.
 - E.g., African Union's (AU) G20 membership, representing voice of global south, and Asia-Africa Growth Corridor (AAGC).
 - > **AAGC was established in 2017 by India and Japan** to foster sustainable and inclusive development in Africa through enhanced connectivity and cooperation between Asia and Africa.
- **Defence:** India and African countries are increasing their engagement through regional organizations like Indian Ocean Rim Association (IORA) and Indian Ocean Commission (IOC) and partaking in **multinational maritime exercises like MILAN and Cutlass Express**.
 - **Indian Navy** recently launched a large-scale multilateral maritime engagement exercise with African Countries, titled as **Africa India Key Maritime Engagement (AIKEYME)**.
- **Economic:** Africa offers a **young, rapidly urbanising market** and critical minerals (cobalt, manganese, rare earths) vital for India's manufacturing and green transition.
 - Africa accounts for 48.1% of cobalt and 47.7% of manganese.

- India is **Africa's third-largest trading partner (after EU and China)**.
- **Trade Basket:** Mainly includes mineral fuels, food products, pharmaceuticals, and so on from the Indian side and crude oil, diamonds, copper, etc., from the African side to India.
- **Market Access:** India is the first developing country to provide **non-reciprocal duty-free market access to Least Developed Countries (LDCs)** through its Duty-Free Tariff Preference (DFTP) scheme.
- **India's Soft Power Diplomacy:** **Indian Technical and Economic Cooperation** and **Indian Council for Cultural Relations (ICCR)** scholarships, along with the **e-VidyaBharati & e-ArogyaBharati (e-VBAB)** tele-education/ tele-medicine network, are signature capacity-building platforms spanning dozens of African countries.
- **Technology:** Digital connectivity is emerging as a **new pillar with sharing of India Stack technologies** with the African Nations such as the launch of UPI/ RuPay in Mauritius.
- **Energy Security:** Africa has significant potential in renewable energy with 10 TW of solar capacity, 100 GW of wind capacity, and 15 GW of geothermal energy.
 - **International Solar Alliance** co-founded by India targets **mini-grids and distributed solar** in Africa through pilot projects and financing mechanisms (e.g., Global Solar Facility, STAR-C Initiative, Virtual Green Hydrogen Innovation Centre, etc.)

Kampala Principles (10 Guiding Principles For India's Engagement With Africa)



Intensify and deepen Indian engagement with Africa;



Greater market access to Africa and greater investments in Africa;



Enhance agricultural productivity;



Combating terrorism together and fostering peace and security;



Cooperation on promoting the aspirations of African youth



Create local capabilities and opportunities;



Use of digital tools to support Africa's development;



Address climate change challenges;



Free and open oceans for all;



Collaboration on establishing a just, representative and democratic global order

Concerns in India-Africa relations

- **Delays in project execution and delivery:** Multiple India-funded infrastructure and capacity-building projects have faced delays due to procedural bottlenecks, funding disbursement issues, and logistical challenges in remote African regions.
- **Underrepresentation in Global Governance:** African nations continue to lack permanent representation in the UN Security Council and other global decision-making forums.
- **Strategic competition from other partners:** India's focus on capacity-building and concessional LoCs, while appreciated, sometimes struggles to match the speed, scale, and deep-pockets of China.
- **Security and political instability:** Political unrest, conflict, and terrorism in parts of Africa, especially the Sahel and Horn of Africa, raises safety concerns for Indian workers and investments.

Conclusion

Traditionally, the African continent has played a central role in India's foreign policy with India having important stakes in the Africa. By focusing on capacity-building, local ownership, and partnership, and increasing goodwill via moral diplomacy, India hopes to create a **long-term, sustainable, post-colonial model of South-South cooperation**, with less dependency and more dependability.

2.5. INDIA LATIN AMERICAN AND CARIBBEAN COUNTRIES TIES

Why in the News?

The Prime Minister's recently visited **Trinidad and Tobago, Argentina and Brazil**, and participation in the **17th BRICS Summit** in Rio de Janeiro.

More on the News

- **Highest Civilian Honours:** The Prime Minister was conferred **Order of the Republic of Trinidad & Tobago**.
- **Trinidad & Tobago:** India announced the extension of OCI cards to the sixth-generation diaspora.

Significance of Latin America and Caribbean (LAC)-India Relations

- **Strategic:**
 - **Defense Cooperation:** India and Brazil have deepened defence cooperation with **Joint Defence Committee** meetings and established a **2+2 Political-Military dialogue**.
 - **Critical Minerals Security:** KABIL signed an agreement with CAMYEN to acquire five lithium blocks in Argentina, marking the **first lithium exploration and mining project by an Indian state-owned company**.
 - > **Chile, Argentina and Bolivia**, called the **Lithium Triangle**, hold over **75% of global reserves**.
 - **Food Security:** Latin America has become a key supplier of food commodities to India such as **edible oils and pulses**.
 - > **Argentina** is one of the **primary suppliers of edible oils**, especially soybean oil, to India.
- **Economic & Trade Relations:**
 - **Trade and Investments:**
 - > **Total trade** with the region reached **USD 35.73 billion** in 2023-24.
 - > **Investments:** Indian companies have invested **USD 12 billion in the past 15 years** in IT, pharmaceuticals, energy, mining, manufacturing and agro-chemicals.
 - > **India** has a **Preferential Trade Agreement** with MERCOSUR.
 - **Energy Security:** Crude oil imports from **Venezuela, Mexico, and Brazil**, accounted for 30% of India's total import from the region.
 - > **Climate Change and Renewable Energy:** India extended a **US\$ 140 million Line of Credit** to **CARICOM** for solar, renewable energy and climate-change related projects. **CARICOM** is a regional organization to promote economic integration and cooperation in the Caribbean Region.
 - > **India** is partnering with **Brazil** to promote **biofuel research and production** through the **Biofuture Platform**.
- **Cooperation at Regional and Multilateral Fora:**
 - **Significant cooperation in groups like G20** (With Argentina and Brazil) and Groups like **BRICS, IBSA and G4** (with Brazil).
 - **Regional Groupings:** India has an active participation and meetings with **Community of Latin American and Caribbean States (CELAC), CARICOM, and Central American Integration System (SICA)**.



About MERCOSUR

- **Overview:** It is a **Southern Common Market** (MERCOSUR for its Spanish initials) in Latin America.
- **Genesis:** Formed in 1991 with the objective of free movement of goods, services, capital and people.
- **State parties:** Argentina, Bolivia, Brazil, Paraguay, Uruguay. (Venezuela is currently suspended)
- **Associate Members:** Chile, Colombia, Ecuador, Guyana, Panama, Peru, Surinam
- **Headquarter:** Montevideo, Uruguay

Challenges

- **China Factor:** China has established **robust ties** with Latin America and trade has registered a **thirty-five-fold increase** since 2000.
- **Regional Integration Weaknesses:** MERCOSUR faces **internal divisions**. (e.g., Brazil and Uruguay seeking bilateral deals, Argentina's threat to leave).
- **High Transport Costs:** Physical distance is a perceived reason for limited engagement, as **direct air and shipping links are considered uneconomical**.
- **Last Frontier in Foreign Policy:** Latin America is often relegated to the **far end of the three concentric circles** that drive India's foreign policy, signifying its **de-prioritization**.
- **Others:** Language disadvantage, lack of influential Diaspora, etc.

Way Forward

- **Prioritize Political Engagement:** Institutionalize **high-level dialogues** and **integrate Latin America into foreign policy** priorities.
- **Strengthen Economic Linkages:** Reduce tariffs, streamline regulations, and **pursue free trade agreements** to enhance reciprocal investment.
- **Enhance Connectivity:** Establish **direct shipping routes**, air links, and **air freight corridors** to lower costs and improve trade flow.
- **Expand Technological Collaboration:** Leverage Latin America's resources and India's technology strengths in **renewable energy, agriculture, IT, and climate resilience**.
- **Mobilize the Private Sector:** Encourage **cross-investments** through trade missions, networking platforms, and investment incentives.

Conclusion

India can transform its ties with Latin America by pursuing a **proactive, multi-pronged strategy** that deepens trade, investment, and cultural links while addressing logistical hurdles. Leveraging **democratic values**, it can build a durable partnership that advances **shared development goals** and strengthens both regions' positions in the evolving global order.

2.5.1. INDIA-BRAZIL

Why in the News?

Indian PM was conferred with **Brazil's highest civilian award, the Grand Collar of the National Order of the Southern Cross**.

Key Agreements signed during visit

- Agreement on **Cooperation in Combating International Terrorism and Transnational Organized Crime**.
- Memorandum on the **exchange of large-scale digital solutions** to support digital transformation.
- Exchange and mutual protection of **classified information**.
- **MoU on renewable energy, agricultural research and intellectual property**
- Establishment of a **ministerial-level mechanism** to monitor trade, commerce, and investment.

Priority Pillars for the Next Decade: Defence and Security, food and nutritional security, energy transition and climate change, etc.

About India-Brazil Relations



Bilateral Cooperation:
Strategic Partnership from 2006.



Global Cooperation:
Engage actively in plurilateral fora (BRICS, BASIC, G-20, G-4, IBSA) and multilateral bodies (UN, WTO, UNESCO, WIPO).



Trade: In 2024-25, bilateral trade reached USD 12.20 billion with India in trade surplus.



Defence Cooperation: 2006 agreement established Joint Defence Committee (JDC).



Renewable Energy:
Brazil co-founded Global Biofuel Alliance and ratified ISA Agreement in 2022.

2.6. BRICS RIO DE JANEIRO DECLARATION

Why in the News?

At the 17th BRICS Summit, BRICS leaders signed the **Rio de Janeiro Declaration** entitled "Strengthening Global South Cooperation for More Inclusive and Sustainable Governance".

Key Highlights of the BRICS Summit

- **Participation:** First summit to bring together **11 full member states** and 10 partner countries, along with eight invited nations and numerous representatives from international organizations.
 - Welcomed **Indonesia as a BRICS member**, as well as Belarus, Bolivia, Kazakhstan, Cuba, Nigeria, Malaysia, Thailand, Vietnam, Uganda and Uzbekistan as **BRICS Partner countries**.
- **Launch of the Partnership for Elimination of Socially Determined Diseases (SDDs):** To strengthen cooperation, mobilize resources, and advance collective efforts to **eliminate SDDs** in an integrated manner particularly in the Global South.
 - SDDs are **closely linked to poverty, inequality, and inadequate living conditions**, presenting a major obstacle to sustainable development, economic stability, and global well-being.
- **BRICS Leaders' Framework Declaration on Climate Finance:** It charts a roadmap for the next five years to **transform BRICS capacity to raise resources for fighting climate change**.
- **BRICS Leaders' Declaration on Global Governance of AI:** It principles on digital sovereignty, UN-anchored multilateralism, responsible development, fair competition, equitable data governance, open & resource-efficient foundational models, environmental sustainability, and trustworthy/ethical AI.



BRICS Leaders' Framework Declaration on Climate Finance

- **Climate finance goal:** It calls upon developed countries to **achieve the finance goal of USD 300 billion per year by 2035** for developing countries, while also fulfilling their prior goal of mobilizing jointly USD 100 billion per year through 2025.
- **Innovative financial instruments:** It supports **innovative financial instruments** such as **blended finance, guarantees, insurance coverage, relevant thematic bonds, foreign exchange risk mitigation**, as well as regulatory frameworks, policy initiatives and incentives.
- **Tropical Forest Forever Fund (TFFF)** : It recognized the **TFFF** as an innovative mechanism to mobilize long-term financing for tropical forest conservation, encouraging ambitious donations from potential partners.
 - **Launched at COP28 in the UAE**, the Fund aims at providing **large-scale, predictable, and performance-based payments to countries with tropical forests**, with the objective of preserving and expanding forest cover.
 - It combines **public investment with private capital mobilization**, aiming to generate approximately USD 4 billion annually.
 - > Payments will be **allocated proportionally to each country's preserved area of tropical and subtropical moist forest**.

BRICS and Global South Cooperation

Rio de Janeiro Declaration underscores BRICS' collective resolve to champion the interests of the Global South.

- **Strengthen Global Governance:** Declaration call for the **increased participation of developing countries** in global decision-making processes and structures.
 - It calls for **transparent, inclusive** selection of UN executive heads with **equitable geographical and gender** representation.
 - Declaration calls for a **comprehensive reform of the United Nations, including its Security Council**, with support for the aspirations of Brazil and India to play a greater role.
- **Multipolarity and Role of Global South:** Declaration emphasizes the importance of the Global South as a driver of positive change, especially amid significant challenges including escalating geopolitical tensions, economic slowdown, accelerated technological transformation, protectionist measures etc.
- **Reform of Bretton Woods Institutions (BWIs):** It urges reforms in their governance structures, calls for merit-based, inclusive selection procedures and increasing diversity.
- **Trading System:** Raised concerns about the rise of unilateral tariff and non-tariff measures and reiterate support for the rules-based, open, transparent, fair, inclusive, equitable, non-discriminatory, consensus-based multilateral trading system with the World Trade Organization (WTO) at its core.
- **International Economic Cooperation:** Declaration stresses conclusion of a **Strategy for BRICS Economic Partnership 2030** and launches discussions on a **BRICS Multilateral Guarantees (BMG)** pilot within the NDB to de-risk investment.

Conclusion

By addressing pressing global challenges—from climate change to digital governance—the Rio declaration underscores BRICS' commitment to building a multipolar world order rooted in equity, cooperation, and shared prosperity. This makes BRICS not just a grouping of economies, but a platform shaping the future of global governance.

To read more about BRICS, refer to Article 2.5. BRICS in October 2024 Monthly Current Affairs Magazine.

2.7. GEELONG TREATY UNDER AUKUS

Why in the News?

Recently, Australia and United Kingdom (UK) signed a **bilateral defence cooperation agreement** also known as **Geelong treaty**, under **AUKUS Pillar I** for the next 50 years.

About Geelong Treaty

- Also known as **Nuclear-Powered Submarine Partnership and Collaboration Treaty**, it aims to support stability and security in the Euro-Atlantic and the Indo-Pacific.
- Objective:** Enable comprehensive cooperation on the **design, build, operation, sustainment, and disposal** of **SSN-AUKUS** submarines and enable development of **resilient trilateral supply chains**.
- It is in line with international nuclear non-proliferation obligations and trilateral **AUKUS Naval Nuclear Propulsion Agreement (ANNPA)**.

About AUKUS

- Established in **2021**, it is a security partnership between **Australia, the UK, and the US**.
- It has two pillars:-
 - Pillar 1:** Focuses on **developing shipbuilding capacities** of the three nations, which includes **Australia's acquisition of its first SSNs** (Nuclear-powered Attack Submarines).
 - Pillar 2:** Focuses on joint development of **eight advanced military capability** areas such as autonomy, artificial intelligence (AI), electromagnetic warfare, modelling, and simulation.
- The partnership would see the **US sell submarines to Australia starting in the 2030s** and the **UK jointly produce new submarines with Australia** that would **enter into service in the early 2040s**.
- Strategic Significance of AUKUS**
 - Strengthens US-led alliance system in Indo-Pacific:** It is crucial to counter China's growing influence in the region and also signals US commitment to defend its allies and interests in the region.
 - Enhances US access and presence in the region:** It becomes true especially in Southeast Asia, where the US has sought to expand its military footprint.
 - Boosts to US defence industry:** It creates new opportunities for arms sales and technology transfers to Australia and the UK.

Opportunities and Challenges of AUKUS

Opportunities of AUKUS	Concerns with respect to AUKUS
High chances of success: AUKUS nations exhibit high levels of trust among themselves. E.g., Intelligence sharing through Five Eyes alliance .	USA Review: USA has launched a review of AUKUS trilateral security pact. Moreover, USA's push for Australia to raise its defence expenditure to 3.5% of GDP signals USA's expectation of greater burden-sharing in Indo-Pacific security.
Complements QUAD in Indo-Pacific with a focus on Hard Power: While QUAD and AUKUS both seek to address common security challenges, AUKUS focuses exclusively on 'hard power'.	May undermine QUAD: Some experts assert that Quad may lose relevance with emergence of AUKUS. India is often seen as limiting the Quad's full security potential due to its aversion to military alliances.
Shift in US' Regional Security Strategy: The US has moved from self-reliant regional security to boosting Indo-Pacific partners' capabilities in response to China.	Lack of Asian participation: Observers argue that AUKUS is a western dominated grouping as it has no Asian participation unlike QUAD.

Synergy between UK and Australia: It is in sync with Australian National Defence Strategy and U.K.'s Strategic Defence Review.	Issues in Timely delivery: The USA's current production rate of 1.13 Virginia-class submarines annually is well below the two needed for national defence and the 2.33 needed to meet AUKUS obligations.
Quick response: Nuclear Submarines (~20 knots) can reach conflict zones much quicker than conventional submarines (6.5 knots) and can stay on station significantly longer.	Nuclear Proliferation: AUKUS agreement could encourage arms race and greater nuclear proliferation in the Pacific.

Conclusion

India has a rare opportunity to develop a unique set of arrangements of its own with USA and its allies that will strengthen India's Comprehensive National Power as well as enhance its contribution to regional peace and security.

2.8. GIRMITIYA COMMUNITY

Why in the News?

On his Trinidad and Tobago visit, the Prime Minister said India is working to create a Girmitiya community database and to regularly host World Girmitiya Conferences.

More on the News

- Extension of **OCI cards to the sixth generation of the Indian diaspora in Trinidad and Tobago** was also announced.
- Additionally, Trinidad and Tobago has become the first country in the region to adopt India's Unified Payments Interface (UPI).

About Girmitiyas

- "Girmitiyas" were **Indian indentured labourers who left India in the mid to late 19th century to work in British colonies** especially after enforcement of British Slavery Abolition Act 1833, causing labour shortage.
 - The term "**Girmit**" is a mispronunciation of "**Agreement**," referring to the contract under which they migrated.
 - They went to work on sugar plantations, tea gardens** etc. in the colonies, and many eventually settled there.
- Distribution:** Mauritius, Fiji, West Indies, Mauritius, South Africa, Caribbean (mostly Trinidad and Tobago, Guyana, Suriname, and Jamaica).
- Source Regions:** Mostly from the eastern United Provinces and Bihar.
 - The economic challenges they **faced back home, poverty, unemployment, unfavorable agricultural conditions, and prospect of greater pay** and living conditions in the colonies were the main motivators for many Girmitiyas.
 - However, after reaching the colonies, the **workers continued to live in poverty** as they had no access to resources, living wages, or even food and potable water.
 - Note- Tamils from **Madras, Negapatam and Thondi went to Ceylon, Burma and Malaysia.**

Significance of Girmitiyas for India

- Deep cultural ties:** They became the majority group in countries like Mauritius, Guyana, Trinidad and Tobago, and Suriname, driving significant cultural assimilation of Indian traditions into local cultures.
 - Songs, music, traditions similar to India**
 - Festivals:** Celebration of Diwali, Ramleela in Fiji, Hosay festival in Trinidad and Tobago.
 - Folk Songs:** In Fiji and Surinam, North Indian folk songs Kaharva, Birha, Lorik, Faruahi etc. are popular.
 - Use of musical instruments** like Dhanatal with dholak, harmonium, Dandatal (eastern Uttar Pradesh).
 - Language:** Hindi, Bhojpuri, Awadhi are widely spoken in Mauritius, Fiji and Surinam.
- Political:**
 - Soft Power Diplomacy:** Support at multilateral forums like the UN, WTO etc.

- Hold **highest state and government positions** in the Girmitya countries. For eg. Prime Ministers of Mauritius (Navinchandra Ramgoolam), Trinidad and Tobago (Kamla Persad-Bissessar).
- **Economic:** Source of philanthropy, information exchanges, investments in innovation, and support for development projects. For e.g. Mauritius (17% of total FDI FY 2024–25).

Conclusion

The recent proposal to introduce the history of girmityas in school education in India is significant to preserve the culture, art and history of Girmityas is welcome and highlights the overall significance of the community in our cultural heritage.

2.9. NEWS IN SHORTS

2.9.1. KALADAN MULTIMODAL TRANSIT TRANSPORT PROJECT (KMTP)

Union Minister said that KMTP will be Operational by 2027.

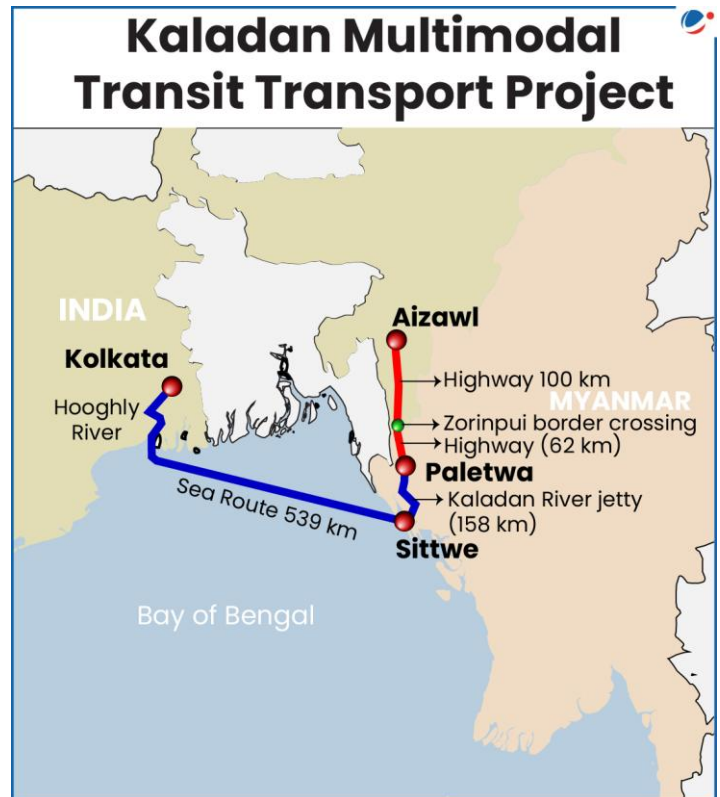
- Jointly identified by **India and Myanmar**, it offers **multi-modal** transportation of cargo from **Eastern Ports of India to Myanmar** and to India's **North-Eastern Region (NER)** through **Myanmar**.

About KMTP

- **Framework Agreement:** Signed in **2008**.
- **Nodal Ministry:** Ministry of **External Affairs**.
- **Project Development Consultant (PDC):** Inland Waterways Authority of India (IWAI).
- **Transit Components**
 - **Waterway Component:** On **Kaladan River** from **Sittwe Port** (Rakhine, Myanmar) to **Paletwa** in Myanmar.
 - **Road Component:** From **Paletwa** to **Zorinpui** on India-Myanmar border in **Mizoram**.

Significance of KMTP for India

- **End Geographic Isolation of NER:** Region is connected with rest of India through the "**Chicken's Neck**" (narrow corridor of just 21 km) and is surrounded by **International borders**.
- **Aligns with India's Act East Policy (AEP):** Announced in **2014**, focuses on India's **connectivity** with the **neighbourhood**.
- **Logistics Cost and Time:** Cost and time for transportation of goods from Kolkata to Aizawl would **drop by more than 50%**.
- **Develop NER as a business hub:** Boost **trade**, establish **export-oriented industries**, particularly in sectors like **manufacturing** and **agro-processing**.



Other Connectivity Projects for NER

- **India-Myanmar-Thailand Trilateral Highway Project:** Connects **Moreh (Manipur, India)** to **Mae Sot (Thailand)** via Myanmar.
- **Protocol on Inland Water Transit and Trade (PIWT&T) :** Between **India and Bangladesh** allowing Inland vessels/cruises of one country to ply on the designated waterway routes of another.
- **Others:** **Bangladesh-Bhutan-India-Nepal (BBIN)** Motor Vehicle Agreement; **MoU** for the use of **Chattogram** and **Mongla Ports** of Bangladesh.

2.9.2. US DECIDES TO PULL OUT OF UNESCO

The withdrawal was announced, citing the agency's support for **woke and divisive causes** and **anti-Israel bias**.

- This marks **the third US exit from UNESCO** and the second under the current leadership.
- Additionally, the US also took steps to withdraw from other UN bodies and agencies, such as the WHO, and significantly reduced funding to the United Nations Relief and Works Agency for Palestine.

Impact of US withdrawal

- **Budgetary Impact:** The US contributes nearly 8% of UNESCO's total budget.
- **Geopolitical Impact:** The withdrawal may create space for increased influence by other powers, **particularly China**.
- **Impact on Multilateralism:** Exiting a UN body may **weaken trust in multilateral institutions** and signal a retreat from global cooperation.

About UNESCO

- It is a **specialized agency of the United Nations**.
- **Purpose:** To contribute to peace and security by promoting collaboration among the nations through education, science and culture.
- Its **Headquarters in Paris** serves as the Organization's main building.
- It has **194 Members and 12 Associate Members**.
- **Key Reports and Initiatives:**
 - Global Education Monitoring Report
 - World Trends in Freedom of Expression and Media Development
 - UNESCO World Heritage Sites
 - Man and the Biosphere (MAB) Programme

2.9.3. GROUP OF FRIENDS (GOF)

India has reiterated its commitment to ensuring **justice for crimes committed against UN peacekeepers** at the meeting of the **Group of Friends (GOF)**.

About GOF

- It is **Indian-led** initiative and seeks to facilitate the **promotion of accountability for all acts of violence against UN peacekeepers**.
- Launched in **2022**.
- The Group is a **driving force of United Nations Alliance of Civilizations (UNAOC)** and plays a vital role in **UNAOC's strategic planning and implementation process**.

2.9.4. PACT FOR FUTURE

India reaffirms commitment to '**Pact for Future**' at UN dialogue.

About 'Pact for Future'

- It was adopted at Summit of the Future in 2024.
- **Pact for the Future** includes
 - **Global Digital Compact (It is the first comprehensive global framework for digital cooperation)** and
 - **Declaration on Future Generations**.
- **Feature:** It makes **clear commitments** and achieves concrete deliverables on a range of issues, with strong attention to human rights, gender and sustainable development.
- It formulates **various commitments** in the areas of
 - Sustainable development and financing for development,
 - International peace and security,
 - Science, technology, and innovation and digital cooperation,

- Youth and future generations and
- Transforming global governance.

2.9.5. INTERNATIONAL CRIMINAL COURT (ICC)

International Criminal Court welcomed Ukraine as 125th State Party to the Rome Statute.

About the ICC

- It is the **first international permanent court** to investigate and prosecute individuals accused of serious international crimes: genocide, war crimes, crimes against humanity and the crime of aggression.
- **Established** under the **Rome Statute (adopted in 1998 entered into force in 2002)**.
- India is not party to the **Rome Statute**.
- **Hq:** The Hague, Netherlands.

2.9.6. E3 COUNTRIES

Iran was recently threatened of snapback sanctions by **E3 countries amidst the derailed U.S.-Iran nuclear talks**.

- Snapback sanctions (under 2015 **Joint Comprehensive Plan of Action (JCPOA)**) - are provisions that allow reimposition of sanctions against Iran if it violates its nuclear commitments.

About E3 countries

- **About:** E3 is an **informal** foreign and security cooperation arrangement between the **UK, Germany and France**.
- **Origin:** The E3 met for the first time after the US attacked Iraq in **2003** to identify a trilateral strategy towards Iraq, and manage nuclear risks coming from Iran.

2.9.7. GLOBAL PEACE INDEX, 2025

19th edition of the Global Peace Index (GPI) has been released by the Institute for Economics and Peace (IEP).

About Global Peace Index (GPI)

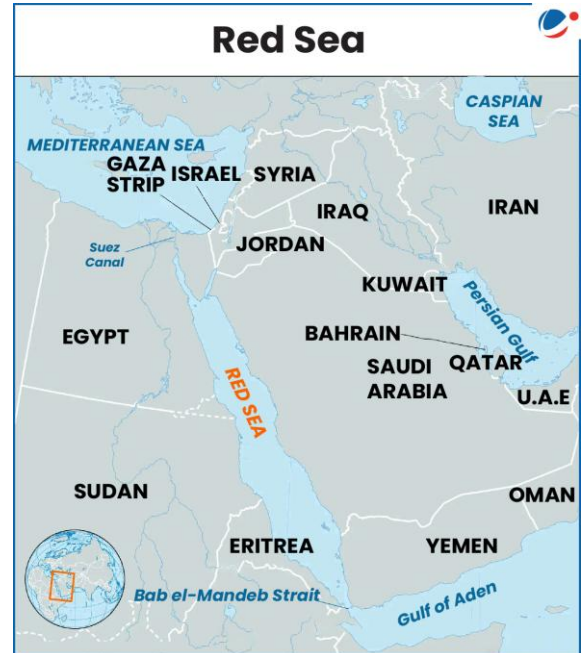
- It included 163 independent state and territories.
- It uses 23 qualitative and quantitative indicators across three domains:
 - Level of Societal Safety and Security.
 - Extent of Ongoing Domestic and International Conflict.
 - Degree of Militarisation.
- **Key Findings:**
 - Average level of global peacefulness deteriorated.
 - South Asia, the **second least peaceful region globally**, experienced the largest regional decline in peacefulness.
 - **Ranking:** Iceland has been placed at first place.
 - > India's rank is 115th.
 - > Russia (163 Rank) is the least peaceful country.

2.9.8. RED SEA

Red Sea cargo ships face new attacks as Houthis (Yemen) claim to have sunk vessel.

Red Sea

- Red Sea marginal sea in the north-west of the **Indian Ocean**.
- It is connected to the **Gulf of Aden** via Strait of **Bab El Mandeb** and to the **Mediterranean sea** via **Suez Canal**.
- **Bordering Nations:** Egypt, Sudan and Eritrea(West), Israel & Jordan(North East) via the **gulf of Aqaba** and Saudi Arabia & Yemen(East).
- **Northern Split:** Red Sea in its northern part splits into two parts, the **Gulf of Suez** (Northwest) and **Gulf of Aqaba** (Northeast).
- It contains one of the **world's most saline seawater**.
 - The Red Sea receives **very little precipitation in any form**, and no water enters the Red Sea from rivers.



2.9.9. NEW CALEDONIA

France announces an agreement to give New Caledonia more autonomy.

- The agreement would create the **“State of New Caledonia”** within the **French Republic**, that would give the **semiautonomous Pacific territory** more freedoms but stops short of granting it independence.

New Caledonia

- **Location:** French overseas territory in the Pacific Ocean.
- **History:** During the 1840s, Islanders were kidnapped by European traders as slaves or for forced labour in sugarcane plantations, later in 1853 annexed by France.
- **Present Demand:** Deep divisions between its **indigenous Kanak population** and **Europeans**, over its independence.

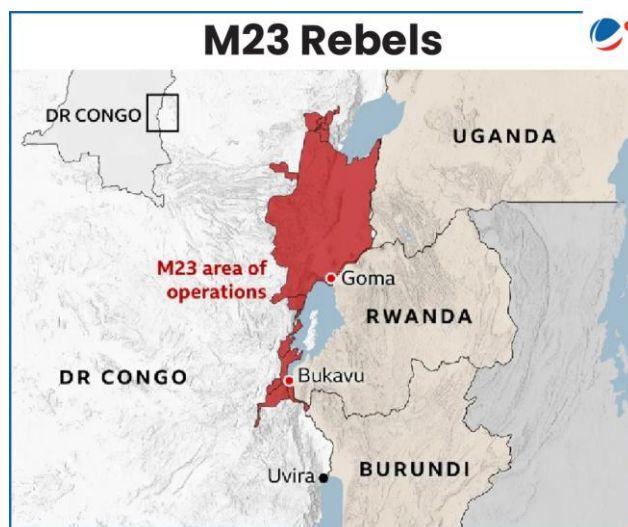


2.9.10. M23 REBELS

Democratic Republic of Congo (DRC) and Rwanda-backed M23 rebels have committed to a permanent ceasefire in eastern Congo.

About M23 rebels

- **M23, or March 23 Movement** primarily consists of ethnic **Tutsis** is a major armed group fighting **Congolese forces** in **mineral-rich eastern DRC**.
- It is named after date in **2009** of the signing of an **accord** between **CNDP, a Tutsi-led rebel group**, and the **Congolese government** to end a revolt led by the Tutsi people.
- CNDP members formed the M23 movement in **2012** to protest the **failed implementation of the 2009 accord**, for protecting minorities and distributing resources evenly.



2.9.11. HENLEY PASSPORT INDEX 2025

India's ranking in **Henley Passport Index** jumps from **85 (2024)** to **77 (2025)**.

- Indian citizens can now travel to **59 destinations** without **needing to secure a visa beforehand**.

About Henley Passport Index

- It is the **original, authoritative ranking** of all the world's passports according to the number of destinations their holders can access without a **prior visa**.
- It is **based** on exclusive data from the **International Air Transport Association (IATA)**.
- **Singapore** holds the top spot in the Index.



SMART QUIZ

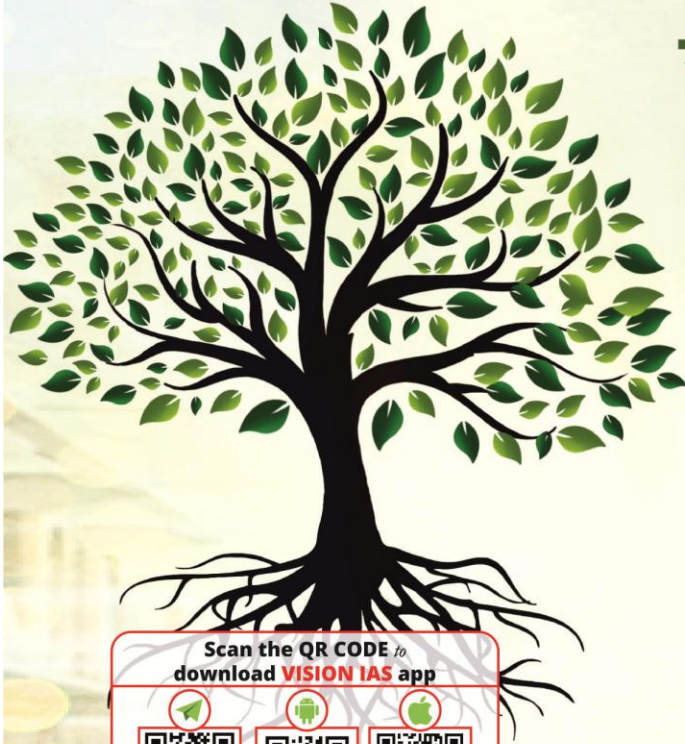
You can scan this QR code to practice the Smart Quiz of International Relations at our open test online platform for testing your understanding and recalling of the concepts.



फाउंडेशन कोर्स सामान्य अध्ययन

प्रारंभिक एवं मुख्य परीक्षा **2026**

इनोवेटिव क्लासरूम प्रोग्राम



- प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक का विस्तृत कवरेज
- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करंट ओरिएंटेड अप्रोच
- नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन
- प्री फाउंडेशन कक्षाएं
- सीसेट कक्षाएं
- PT 365 कक्षाएं
- MAINS 365 कक्षाएं
- PT टेस्ट सीरीज
- मुख्य परीक्षा टेस्ट सीरीज
- निबंध टेस्ट सीरीज
- सीसेट टेस्ट सीरीज
- निबंध लेखन - शैली की कक्षाएं
- करंट अफेयर्स मैगजीन

नोट: ऑनलाइन छात्र हमारे पाठ्यक्रम की लाइव वीडियो कक्षाएं अपने घर पर ऑनलाइन प्लेटफॉर्म पर देख सकते हैं। छात्र लाइव चैट विकल्प के माध्यम से कक्षा के दौरान अपने संदेह और विषय संबंधी प्रश्न पूछ सकते हैं। वे अपने संदेह और प्रश्न नोट भी कर सकते हैं और दिल्ली केंद्र में हमारे कक्षा सलाहकार को बता सकते हैं और हम फोन/मेल के माध्यम से प्रश्नों का उत्तर देंगे।

DELHI : 28 अगस्त, 2 PM

JAIPUR : 20 जुलाई

JODHPUR : 10 अगस्त

3. ECONOMY

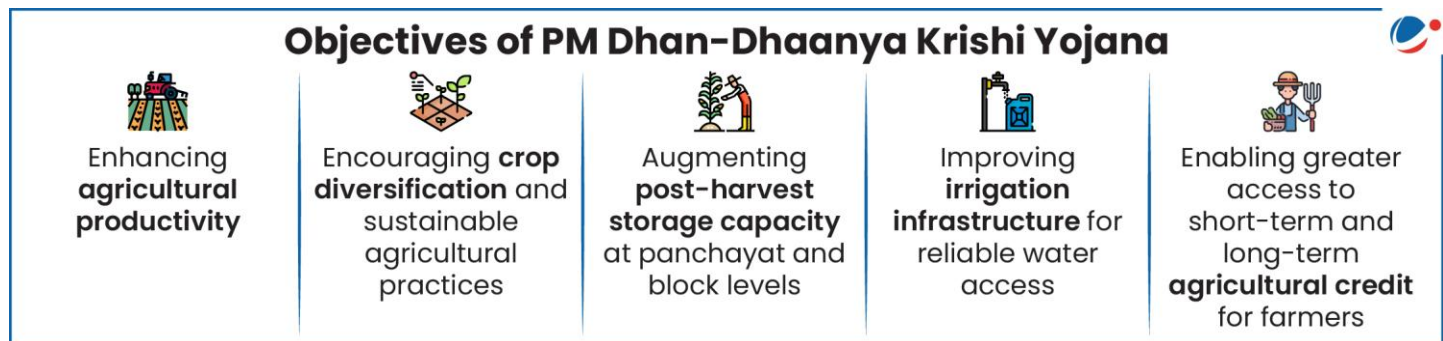
3.1. PRIME MINISTER DHAN-DHAANYA KRISHI YOJANA (PMDDKY)

Why in the news?

In pursuance of the Union Budget 2025–26 announcement, PMDDKY was approved for a period of six years.

More on the news

- Inspired by **NITI Aayog's Aspirational District Programme**, the scheme focuses exclusively on agriculture and allied sectors.
- It focuses on **100 low-performing districts facing issues** such as low yields, water scarcity, and limited resource access.



Salient Features of the scheme:

- Budgetary Allocation:** ₹24,000 crore annually for a period of six years starting FY 2025–26.
- Implementation:** The scheme is implemented by the Ministry of Agriculture and Farmers' Welfare and monitored through a three-tier structure:
 - National-level oversight bodies**
 - State-level nodal committees, and
 - District Dhan Dhaanya Samitis chaired by District Collectors.
 - These Samitis will prepare a **District Agriculture & Allied Activities Plan** through Extensive stakeholder consultations.
 - NITI Ayog will also review and guide the district plans** and Central Nodal Officers appointed for each district will review the scheme on a regular basis.
- Saturation-based convergence: Consolidates 36 existing agricultural schemes across 11 ministries** (PM-KISAN, PMFBY etc.), other State schemes and local partnerships with the private sector.
- Progress tracking:** Of each Dhan-Dhaanya district using 117 Key Performance Indicators (KPIs)
- Transparency and Accountability:** Through a digital dashboard, farmer app, and district ranking system
- Criteria and Selection of Districts:** NITI Aayog will finalize 100 districts based on:
 - Low Crop Productivity:** Yields below national averages.
 - Moderate Cropping Intensity:** Below national average(155%).
 - Low Credit Access:** Limited penetration of bank loans or Kisan Credit Cards.
 - Geographic Representation:** At least one district per state and Union Territory.

Significance of PMDDKY

Issues in Agriculture	Factors Responsible	Provisions under PMDDKY
Low Crop Productivity	<ul style="list-style-type: none"> Degraded soil, outdated farming methods, or insufficient irrigation, land fragmentation(~ 86% of farmers own less than 2 hectares(NSSO 2019)). Eg. Rice yields in Seemanchal (Bihar) average 1.8 tonnes/hectare compared to the national 2.7 tonnes. 	Provides access to high-yielding seeds, bio-fertilizers , and mechanized tools like seed drills.
Lack of assured Irrigation	Over 52% of India's farmland relies on monsoons Eg. Bundelkhand's 2023 drought affected 30% of crops.	Drip and sprinkler systems to ensure water availability , enabling year-round farming in dry regions.
Lack of Financial Support	Lack of Modern Resources due to high costs of high-quality seeds, bio-fertilizers, or mechanized equipment like tractors or harvesters.	Includes subsidies and loans through Kisan Credit Cards or NABARD .
Absence of Storage Facilities	Up to 20% of crops , such as tomatoes and mangoes, spoil due to inadequate storage facilities (ICAR 2023).	Provision of Village and block-level warehouses and cold storage to prevent spoilage.
Low Farmer Income	Market inefficiencies and reliance on middlemen reduce profits	Promotes diversification into high-value crops like pulses and vegetables , and direct market access through digital platforms like e-NAM and new PMDDKY app to connect farmers directly to buyers.
Unsustainable Farming	Excessive use of chemicals, pesticides and mono-cropping practices .	Use of organic fertilizers, water-saving irrigation , and climate-resilient crops.
Lack of Training and Skill Development	Illiteracy, lack of awareness and low participation in skilling programmes especially among women.	<ul style="list-style-type: none"> Free workshops: by Krishi Vigyan Kendras (KVKs), agricultural universities, and private partners on modern farming, drone use, and allied activities like beekeeping. Global Exposure: Fully funded overseas training for 500 farmers in countries like Israel (drip irrigation), Japan (precision farming), and the Netherlands (greenhouse technology) Women Empowerment: Support for 10,000 women producer groups with training, loans, and market linkages for activities like dairy or organic farming.

Conclusion

PMDDKY is a flagship initiative to revitalise Indian agriculture, benefiting 1.7 crore farmers across 100 underperforming districts. Through irrigation, storage, credit, training, market access, and modern technology, it empowers small farmers, women, and youth, fostering sustainable and profitable farming.

3.2. PUBLIC DEBT IN INDIA

Why in the News?

Reserve Bank of India (RBI) in its **Biannual Financial Stability Report (FSR) 2025** found rising public debt in the Indian economy.

More on the news

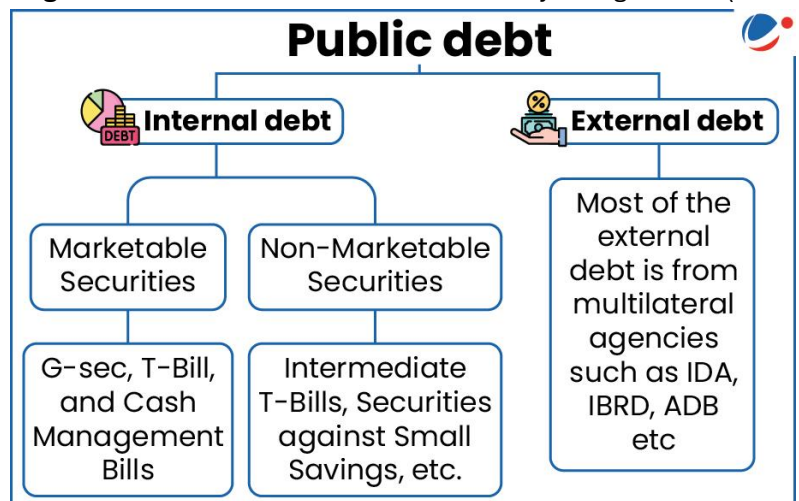
- FSR presents the Sub-Committee of the **Financial Stability and Development Council's (FSDC)** assessment of the strength of India's financial system and risks to its stability.
- FSDC, established in 2010, is chaired by **Finance Minister** and includes **heads of regulators like RBI, SEBI, PFRDA, and IRDA**.
 - It is responsible for ensuring financial stability and coordination among regulators.

Key highlights of the report

- India still driver of Global Growth**
 - Resilience of Indian Economy:** India's real GDP is projected to **grow at 6.5% in 2025–26**, driven by strong domestic demand and an uptick in investment activity.
 - Strong Financial Institutions:** E.g., gross non-performing asset ratio (GNPA) ratio and Net NPA (NNPA) of Scheduled Commercial Banks (SCBs) declined to multi-decadal lows of 2.3% and 0.5% respectively.
 - Strong corporate sector performance:** Large borrower cohort's GNPA ratio declined from 3.8% in September 2023 to 1.9% in March 2025
- Inflation Trends**
 - Domestic inflation:** CPI inflation dropped to a 6-year low of 2.8% in May 2025.
 - Imported Inflation:** Slower global growth may ease commodity and oil prices, though tensions in the Middle East add some uncertainty.
- Rising Public debt:** India's Public Debt as a **percentage of GDP in 2024** have remained relatively on higher side (More than 80%) compared to peer **Emerging Market Economies (EMEs)**.
 - According to IMF, global public debt is projected to reach above **95% in 2025** and **100 % by the end** of 2030.

About Public Debt in India

- Public debt**, also known as 'national debt', is the accumulated amounts of borrowing that **government, and other public sector bodies**, owe to the private sector and foreign governments.
 - It includes debt of Central Government and State Governments, excluding inter-Governmental liabilities.
- Public debt can be **internal** (borrowed within India) and **external** (borrowed from foreign sources).
 - Internal debt is 96.59%** and external debt is **3.41%** of total public debt of 18,174,284 crore (Union Budget 2025-2026).
- Potential impact of High Public debt:** Increased interest costs, limited fiscal space, potential inflationary pressures, crowding out of private investment and impact growth and intergenerational equity.



Legal framework for management of public debt in India

- **Fiscal Responsibility and Budget Management (FRBM) Act, 2003:** It provides a legislative framework for reduction of deficit and thereby debt, of Central Government to a sustainable level over a medium term.
 - It sets a target of containing Central Government Debt to 40% and **General Government debt to 60% of GDP** by 2024-25.
- **RBI Act, 1934:** Under Section 20 of the act, RBI was obliged to manage the Central Government public debt.
- **Government Securities Act, 2006:** It amends the law relating to Government securities and its management by RBI, with this the Public Debt Act, 1944 ceased to apply to the government securities.

Reasons of high Public Debt in India

- **Persistent Fiscal Deficits:** Central Government gross fiscal deficit stood at **₹15.77 lakh crore** for FY 2024-25, against revised estimates of ₹ 15.69 lakh crore (Controller General of Accounts)
- **High Revenue Expenditure:** Total expenditure stood at **₹46.56 lakh crore**, with revenue expenditure recorded at **₹36.04 lakh crore**.
 - Large outgo on **subsidies** (food, fertilizer, fuel), Salary and pension obligations etc.
- **External Debt Growth:** India's external debt rose **10%** to \$736.3 billion at the end of March 2025 from \$668.8 billion a year earlier. (RBI)
- **Pandemic-Era Spending:** Central government debt rose driven by Covid-related healthcare and welfare spending.

Way Forward to manage and reduce Public Debt in India

- **Shift towards "debt-GDP ratio" as the fiscal anchor:** Beginning 2026-27 financial year, central government has targeted a declining debt-GDP ratio to **50±1 %** by March 31, 2031.
- **Active Debt Management via Bond Switching:** A bond switch is a **mechanism** through which the government replaces existing shorter duration sovereign bonds with long-duration papers.
 - The weighted average maturity of outstanding stock of central government market borrowings has risen from 10.4 years in 2018-19 to 13.2 years in 2024-25.
- **Subsidy Rationalization & Tax Reforms:** E.g., Over **4 Crore** duplicate LPG Connections deactivated to Curb Misuse under **PAHAL** scheme; GST compliance drives (e-invoicing, AI-based analytics etc.) etc.
- **Establish Public Debt Management Authority:** It would enable RBI to focus on its core function of monetary policy (flexible inflation-targeting) and regulating banks.

Conclusion

India's high public debt, driven by persistent fiscal deficits and elevated expenditure, has helped sustain growth and welfare but now constrains fiscal space and raises sustainability risks. Going forward, targeted fiscal consolidation, improved revenue mobilisation, and efficient spending will be essential to reduce debt levels while supporting long-term growth.

3.3. EMPLOYABILITY AND SKILLING IN INDIA

Why in the News?

Recently the Union Cabinet approved the **Employment Linked Incentive (ELI) Scheme** which is expected to enhance youth employability, nurture skills and facilitate job retention in private sector.

About Employment Linked Incentive (ELI) Scheme

- **Background:** Announced in the Union Budget **2024-25** as **part of PM's package of five schemes to facilitate employment, and skilling opportunities for youth**.
- **Nodal Ministry:** Ministry of Labour & Employment
- **Purpose:** Promote job creation, enhance employability, and expand social security across sectors, specifically manufacturing
- **Target:** 3.5 crore jobs (including first-time employees)

Employment Linked Incentive (ELI) Scheme

Part A- Incentives for First-Time Employees



Eligibility

First-time employees registered with EPFO: salary up to ₹1,00,000.



Benefit

One month's EPF wage (max ₹15,000) paid in two instalments after 6 month & 12 months



Payment Mode

Direct Benefit Transfer (DBT) to employee.

Part B Support to Employers



Coverage

All sectors, manufacturing gets extra benefits.



Employer Eligibility

EPFO-registered establishment.



Benefits for Additional Hiring

Financial assistance for each additional employee with sustained employment of at least 6 months.

• Key Conditions

- Salary cap for incentives up to ₹1,00,000
- Additional hiring norm at least 2 hires (<50 employees) or 5 hires (≥50 employees)



Incentive to Employers

₹1,000-₹3,000 per employee per month for 2 years, manufacturing sector gets an extra 2 years



Payment Mode

Directly into PAN-linked accounts

About Employability and Skilling In India

According to the India Skills Report 2025:

- **Employability:** Over **50% of graduates (53.47% for Male and 46.53% for Female)** are employable in 2024, up from **33% a decade ago (17% rise)**.
- **Drivers:** Growth driven by focus on emerging technologies like **AI, cloud computing, and automation**.

Challenges Existing In India's Employability and Skilling Landscape

India is expected to add 10 million workers annually over the next decade. However, in FY 2023-24 only, 4.67 crore jobs were created. To fully reap the benefits of the demographic dividend, the key challenges are as follows

- **Mismatch Between Education and Industry Needs:** Universities focus more on theory than practical skills. Graduates often lack hands-on experience and technical competencies leading to lower employability in technical fields.
- **Threat from Automation:** Graduates are significantly less prepared for technical roles, even in high-demand fields like AI and data science. 69% of jobs in India face automation risk (World Bank)
- **Limited Emphasis on Soft Skills Development:** The growing importance of soft skills such as communication, teamwork, and critical thinking remains undervalued in many university programs.
 - This oversight contributes to **graduates who are not only technically unprepared but also lack the interpersonal skills** necessary for success in the workplace.

Key Initiatives Taken for Employability And Skilling

- **Skill India Mission (SIM):** Launched by Ministry of Skill Development and Entrepreneurship. The restructured Scheme constitute PM Kaushal Vikas Yojana (PMKVY) 4.0, National Apprenticeship Promotion Scheme (NAPS), and Jan Shikshan Sansthan (JSS).
- **PMKVY 4.0:** the focus is to empower trained candidates to choose their varied career path and they are suitably oriented for the same.

- **NAPS:** Promotes apprenticeship by offering financial support for apprentice stipends. Training includes both basic and on-the-job/practical training in industries.
- **JSS:** Vocational training for non-literates, dropouts, and disadvantaged groups (ages 15–45). Trained 26+ lakh people since 2018–19.
- **Skill India Digital Hub (SIDH) platform:** Launched to integrate skilling, education, employment, and entrepreneurship ecosystems.
- **India Skills Accelerator:** A public-private collaboration platform launched by Ministry of Skill Development and Entrepreneurship (**MSDE**), in collaboration with the **World Economic Forum (WEF)**
- **Skill Impact Bond:** Led by the **National Skill Development Corporation (NSDC)** its first development impact bond in India dedicated to skills training and job placement.

Conclusion

Harnessing the demographic dividend needs strong skills. Immediate investment in education, training, healthcare, and social protection is key. Strengthening human capital, fixing labour market gaps, and matching technology with workforce needs will drive inclusive and sustainable growth.

3.4. THE FUTURE OF WORK

Why in the News?

Tata Consultancy Services (TCS) recent announcement to **lay off 12,000 employees** has raised implications on **Future of Work**.

More about the News

- Many experts have alleged that the **"future of work" is currently marked by significant job displacement due to automation and AI**, leading to increased layoffs across various sectors.
- Other than TCS, many **Multinational corporations** (Meta, Amazon etc) have let go more than **1,05,000 positions** worldwide this year (Layoffs Landscape study).
 - **20% of there were in India** and some 45% of the layoffs were in HR, support, content and coding.
 - Although TCS has clarified that this decision is based **on skills mismatch and not AI**, it raises concerns on the **future of work and unemployability of our youth** currently and in the years to come.

About Lay Offs

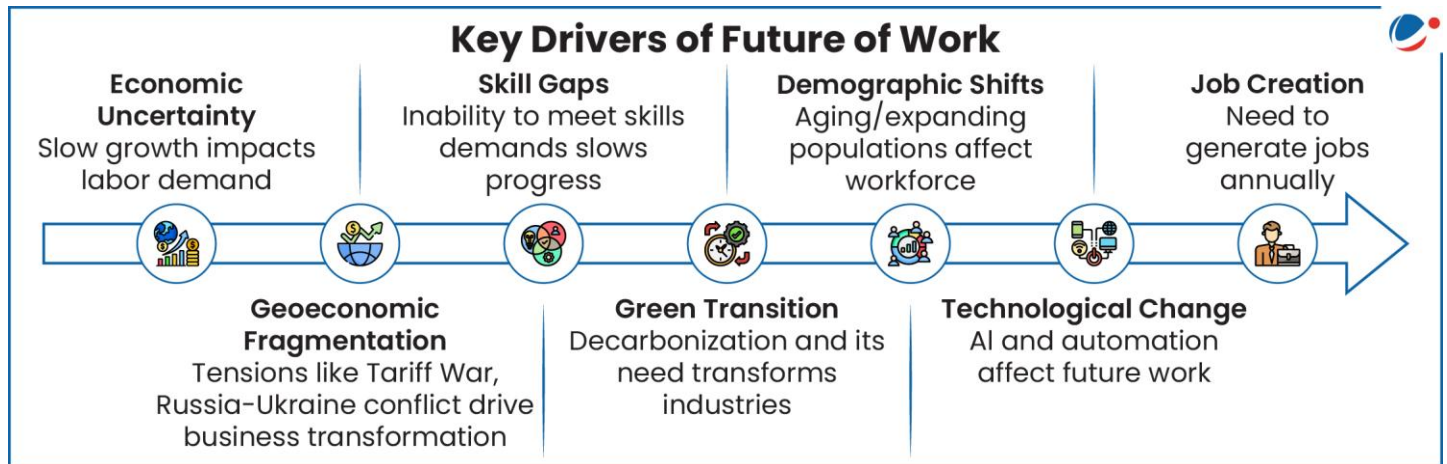
- Lay-off means the **failure, refusal or inability of an employer** due to various reasons (shortage of coal, power or raw materials or natural calamity etc.) to give employment to a workman in worker list.

Legal Provisions related to Layoffs

- **Industrial Disputes Act, 1947:** This is a **key legal framework governing layoff** in India.
 - **Karnataka High Court** in **Commissioner of Income Tax v. Texas Instruments India Pvt Ltd** held **Software Engineers as "workmen"** under Industrial Disputes Act, 1947.
- **Four Labour codes**
 - **Code on Industrial Relations:** Regulates the process of layoffs by setting rules for notice periods, government approvals (in certain establishments), and worker-employer dispute resolution.
 - **Code on Wages:** Ensures workers affected by layoffs receive timely payment of wages and compensation, protecting them from sudden income loss.
 - **Code on Occupational Safety, Health and Working Conditions:** Mandates that even during layoffs or closures, employers must maintain certain safety and welfare provisions until separation is complete.
 - **Code on Social Security:** Provides access to benefits such as gratuity, provident fund, and unemployment allowances for laid-off workers.

About Future of Work

- The future of work refers to the **ongoing transformation** of how work is performed, organized, and experienced, driven by technological, economic, and demographic shifts.



How these drivers impact the Future of Work?

- Economic Impact**
 - Shift in job types:** 170 million new jobs are projected. The movement from routine, manual jobs to high-skill, knowledge-based and service-oriented roles. E.g. Big Data Specialists, Fintech Engineers etc.
 - Vulnerable Jobs:** **Microsoft researchers** argue that **jobs involving** writing, research, and communication, such as translators, journalists, and historians, may be replaceable by AI tools.
 - Productivity boost:** Generative AI could boost productivity adding an estimated \$2.6–\$4.4 trillion to the economy each year. (Mckinsey Report)
 - Sectoral shifts:** ILO estimates 54 million green jobs will be created between 2021 and 2030.
- Workforce & Skills Impact**
 - Reskilling & up skilling:** The future-ready skills such as Analytical thinking, creative thinking, resilience needed for workers.
 - Skill Instability:** According to WEF, 39% workers core skills will change by 2030.
- Social Impact**
 - Inequality concerns:** Wage and opportunity gaps may widen between high-skilled and low-skilled workers. E.g. Difference between Software developer and data entry operator.
 - Gender inequality may widen:** ILO study estimated average Gender pay gap of 34% for India in comparison to global average of 20%.
 - Tribal growth and development** will be impacted. E.g. The literacy rate of Scheduled tribes is 13 percent lower than that of the average literacy rate of India hence affecting skill development.
- Ethical**
 - Social Responsibility:** IT firms have a social responsibility to ensure fair and humane workforce management practices, especially given the substantial investment in employee development.
 - Worker rights:** Striking a balance between business efficiency and employee well-being is crucial in era of hire and fire.
 - Psychological impact:** Work life Balance, anxiety, stress, and other mental health issues among the workforce.

Initiatives taken by Government for Future of Work

- Skilling, Upskilling and Reskilling**
 - Pradhan Mantri Kaushal Vikas Yojana (PMKVY),** Scheme for imparting skill development training through Short-Term Training (STT) and Up-skilling and Re-skilling through Recognition of Prior Learning (RPL).
 - FutureSkills Prime** is a digital skilling initiative by NASSCOM & MEITY, aimed at making India a Digital Talent Nation.

- **For adoption of New & Emerging Technologies**
 - **AI for India 2030 initiative:** By the Ministry of Electronics and Information Technology.
 - **National Mission on Interdisciplinary Cyber Physical System (NM-ICPS):** By Department of Science & Technology, to enhance start-ups, Human Resource and skill-sets in emerging areas.
- **For Health and Well-being**
 - **National Tele Mental Health Programme** to improve access to mental health counseling and care services.

Conclusion

There is to need to strike a balance between business competitiveness and workforce well-being. Sustained investment in skill development, social safety nets, and ethical corporate practices will be crucial to ensuring that the future of work remains inclusive, resilient, and equitable.

To read more about impacts of workplace automation, refer to Article 6.1. Workplace Automation in April 2025 Monthly Current Affairs Magazine.

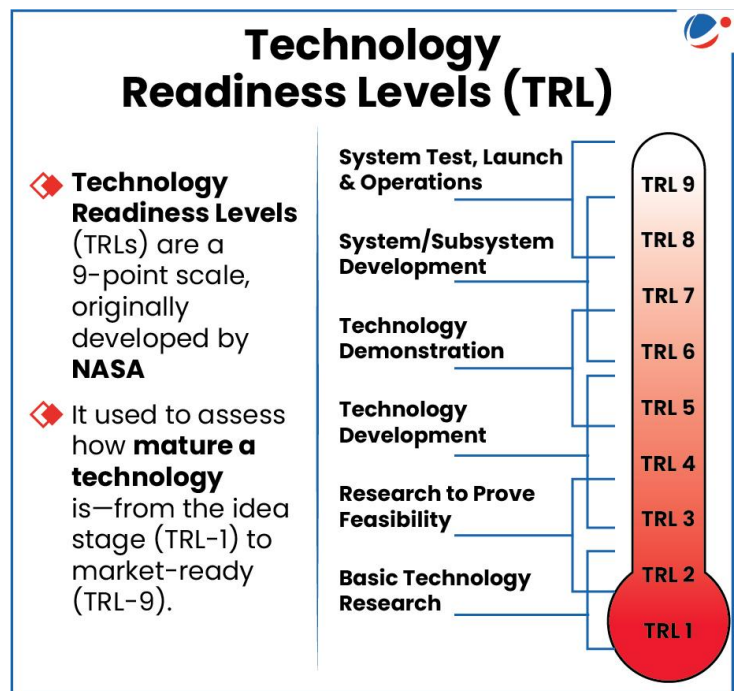
3.5. RESEARCH DEVELOPMENT AND INNOVATION (RDI) SCHEME

Why in the News?

The Union Cabinet recently approved RDI Scheme with a corpus of ₹1 lakh Crore.

About RDI Scheme

- **Nodal Department:** Department of Science and Technology.
- **Key objective of the scheme**
 - **Encourage the private sector to scale up** research, development, and innovation (RDI) **in sunrise domains** and in other sectors relevant for economic security, strategic purpose, and self-reliance;
 - **Finance transformative projects** at higher levels of Technology Readiness Levels (TRL)
 - **Support acquisition of technologies** which are critical or of high strategic importance;
 - **Facilitate setting up of a Deep-Tech Fund of Funds.**
- **Funding and Financial Support**
 - **Total Budget:** ₹1 lakh crore
 - **Modes of Financing:**
 - > Long-term loan at low or nil interest rates.
 - > Equity infusion, especially in case of startups.
 - > Contributions to Deep-Tech Fund of Funds
 - **Exclusions:** Grants and short-term loans are not supported
 - **Coverage**
 - > Financing can cover up to 50% of assessed project cost for transformative RDI projects at TRLs 4 and above;
 - > Exceptions may be approved by the Empowered Group of Secretaries (EGoS)
- **Implementation Structure**
 - **Special Purpose Fund:** Being set up under the Anusandhan National Research Foundation (ANRF) to serve as the first-level custodian.
 - > The governing board of ANRF also provides strategic direction to RDI Scheme.



- **Second-Level Fund Managers:** May include Alternate Investment Funds (AIFs), Development Finance Institutions (DFIs), Non-Banking Financial Companies (NBFCs), or Focused Research Organizations (FROs) such as Technology Development Board (TDB), IIT Research Parks, or similar entities

Significance of the Scheme

- **Recognize Private sector role in R&D:** It directly addresses and **overcomes critical funding constraints** and challenges faced by the private sector, by providing growth & risk capital.
- **Catalyst for Private Sector Investment:** The RDI scheme, in partnership with ANRF, aims to boost private sector investment in R&D.
 - Public R&D expenditure can have a “leverage” effect on catalyzing private R&D activity.
- **Driving Commercialization:** Unlike public R&D, industrial R&D primarily focuses on marketable, profitable products, essential for real-world economic impact.
- **Fostering Self-Reliance:** It supports technologies where **indigenisation is essential** for strategic or economic reasons, aligning with the vision of Atmanirbharta.
- **Creates and maintains jobs:** Incentivizing R&D will create more opportunities, especially for graduates.

Do you know ?

- > **Triple helix** means interactions between
- **universities / academia** that engages in providing knowledge and research;
 - **‘industry’** that focuses on producing commercial goods and deployment;
 - **government/policy** that creates a regulating market environment to foster economic and social development.

Challenges in Research and Development in India

- **Low R&D Investment and Diversification:** India’s R&D expenditure stands at only 0.6–0.7% of GDP over the past two decades, significantly lower than global leaders like South Korea (4.8%) and Israel (5.6%).
 - Moreover, in FY 2021–22, the private sector **contributed just 36.4% of GERD (Gross Expenditure on Research and Development)**, compared to over 70% in countries like the US and China.
- **Limited State-level R&D funding:** During 2020–21, States accounted for only 6.7% of national R&D spending.
- **Limited Collaboration between Industry and Academia:** The “**Triple Helix**” model (seen in the US) remains underdeveloped, hindering commercialization and innovation.
- **Underutilization of Funds:** Departments such as DBT and DST utilized only 72% and 61% of their budgets in 2022–23, reflecting systemic inefficiencies.
- **Insufficient Recognition of Scientific Talent:** Although India produces over 40,000 PhDs annually, systemic issues like bureaucracy and lack of incentives deter innovation despite available human capital.

Way forward

- **Increase and Diversify R&D Funding:** Raise Gross Expenditure on R&D (GERD) to at least 2% of GDP by 2030 in line with National STI Policy targets.
 - Incentivise private sector investment through tax rebates, innovation-linked funding, and credit guarantees.
- **State-Specific S&T Need Mapping:** Establish State Science, Technology & Innovation Councils to design localized R&D roadmaps.
 - Promote regional innovation hubs like Kerala’s Startup Mission or Bengaluru’s biotech cluster.
- **Strengthen Institutional Structures:** Implement research cluster models like CSIR innovation hubs to pool expertise and avoid duplication.
- **Foster Industry–Academia Collaboration:** Set up joint R&D centres funded by industry and government (e.g., Semiconductor Mission partnerships).
 - Use models like ISRO–industry partnerships in satellite manufacturing for other sectors.
- **Efficient Resource Utilisation:** Adopt output-based funding, linking budget allocations to research publications, patents, and societal impact.
- **Recognise and Retain Scientific Talent:** Expand fellowships like Prime Minister’s Research Fellowship (PMRF) and introduce global talent repatriation schemes.

- Provide fast-track funding for young innovators and women scientists through schemes like CURIE and KIRAN.

Government initiatives to boost R&D in India :

- **Anusandhan National Research Foundation (ANRF)** - Launched under the ANRF Act, 2023, it aims to increase R&D funding and promote partnerships between researchers, industries, and universities.
- **National AI Mission** - It focuses on advancing Artificial Intelligence. It applies AI in healthcare, agriculture, education, and governance for better innovation and services.
- **Atal Innovation Mission (AIM)** - It promotes innovation and startups. Also sets up **Atal Tinkering Labs (ATLs)** in schools and **incubation centers** for young entrepreneurs.
- **National Quantum Mission (NQM)** - Under this mission, **four Thematic Hubs (T-Hubs)** have been established in key technology verticals of **Quantum Computing, Quantum Communication, Quantum Sensing & Metrology and Quantum Materials & Devices**.

3.6. FINANCIAL INCLUSION IN INDIA

Why in the News?




The RBI Financial Inclusion Index (FI-Index) has risen to **67** in 2025, up by 24.3% since 2021

More on the News:

- **FI-Index** captures financial inclusion across the country while representing different sectors such as banking, investment, insurance, pension etc.
- With boost in the index, the **growth** was witnessed across **all three sub-indices of index i.e. Access, Usage and Quality**.
- Improvement in the FI-Index in FY2025 is a reflection of enhancement in usage and quality dimensions, which indicates **strengthening of financial inclusion and financial literacy initiatives**.

Understanding Financial Inclusion Index:

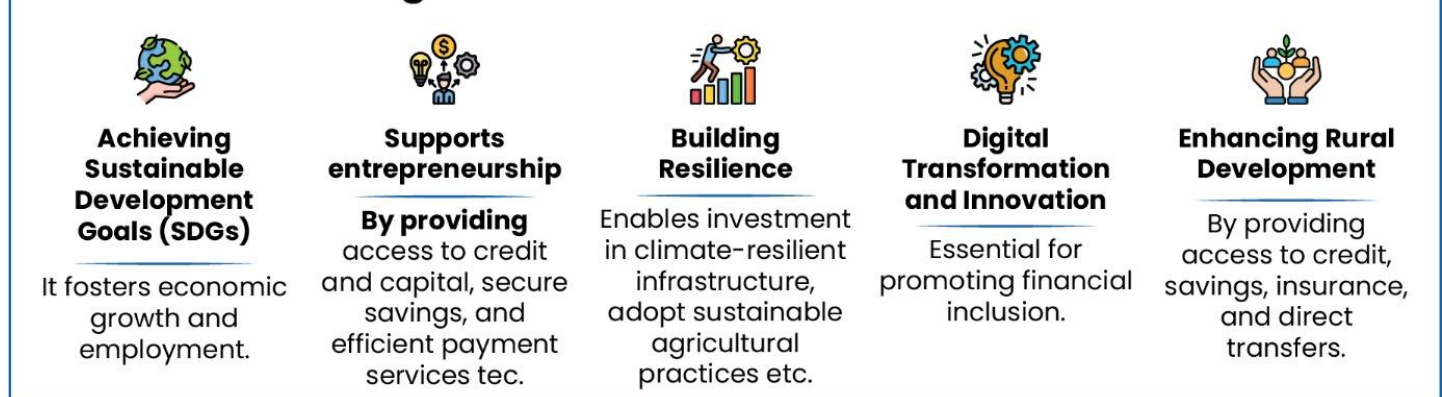
- **RBI's FI-Index** is designed to provide a comprehensive measure of financial inclusion in India.
 - **Planning Commission (2009)** viewed financial inclusion as "universal access to a wide range of financial services at a reasonable cost," including banking, insurance, and equity products.
- **Score of Index:** It operates on a scale from **0 to 100**.
 - 0 signifies complete financial exclusion and 100 represents full financial inclusion.
- **No base year:** Released annually since 2021 and reflects cumulative progress of all stakeholders over the years towards financial inclusion.
- **Structure of Index:** Comprises **three broad parameters (sub-indices)**, each with assigned weights and numerous indicators:

Sub- index	Indicators	Weight	Components
 Access	26	35%	Reflects supply-side of financial inclusion , focusing on availability of physical and digital infrastructure across banking, digital, pension, and insurance services .
 Usage	52	45%	Representing demand-side of financial inclusion , it measures how frequently individuals engage with financial infrastructure. E.g. UPI transaction volumes.
 Quality	19	20%	Assesses quality of financial inclusion and captures efforts to educate citizens on financial services, their rights, and effective grievance redressal mechanisms.

Key Driving Factors of Financial Inclusion in India

- **Government Initiatives**
 - **Pradhan Mantri Jan Dhan Yojana (PMJDY) (2014):** Facilitating the opening of over 56 crore bank accounts.
 - **National Strategy for Financial Inclusion (NSFI 2019-2024):** Provides a roadmap for universal access to financial services.
 - **Aadhaar:** Simplified KYC processes, significantly aiding account opening and direct benefit transfers. Boosted Direct Benefit Transfer (DBT) efficiency.
 - **Digital India:** Expanded access to digital financial services.
- **Transformative Role of Technology:**
 - **Unified Payments Interface (UPI):** UPI has become the most preferred transaction mode for nearly 38% of individuals in rural and semi-urban India, especially those aged 18-35.
 - **JAM Trinity (Jan Dhan-Aadhaar-Mobile):** This framework has provided the necessary digital public goods infrastructure to leverage increasing mobile penetration, forming the backbone of digital financial inclusion.
 - **Artificial Intelligence (AI) and Machine Learning (ML):** AI is revolutionizing financial services by Inclusive Credit Scoring, Chatbots and Voice Assistants, Fraud Detection etc.
- **Role of Financial Institutions:**
 - **Microfinance Institutions (MFIs):** India holds the position of having the **second-largest global outreach in microfinance** (after China), with over 140 million clients.
 - **Self-Help Groups (SHGs):** Over 13.4 million SHGs, with 84.25% comprising women, impact 160 million households (2023).
 - > They provide platforms for savings and credit, fostering financial literacy, and significantly reducing reliance on high-cost informal credit.
 - > **"Bank Sakhis" (women business correspondents)** are key for last-mile service delivery.
 - **Commercial Banks:** RBI mandates **Priority Sector Lending (PSL)** to critical sectors like agriculture and MSMEs.

Significance of financial Inclusion



Challenges to Financial Inclusion

- **Account Inactivity:** Approximately **35% of accounts (2021) in India remain inactive** due to **lack of trust in banks, physical distance, insufficient funds, and discomfort** in using accounts independently.
- **Gender Disparities:** In digital payments, a notable gender gap persists i.e. **45% of men** have made or received digital payments, whereas **only 32% of women** have done so.
- **Rural and Geographical Barriers:** Remote areas lack access to basic banking services due to **limited physical infrastructure and low digital device penetration**. E.g. Rural smartphone penetration remains low at 28%.
- **Financial Illiteracy:** Financial literacy levels among women are lower than man, highlighting the need for targeted education.
- **Digital Divide:** Technological barriers, including lack of internet-enabled smartphones and low digital literacy, prevent certain segments from accessing digital financial services.
 - Smartphone ownership stands at **82% in rural areas and 91% in urban areas**.

- **Other Challenges: Limited access to credit due to lack of knowledge,** High Transaction Costs, Quality of Services, Lack of Trust and Documentation, Inadequate Risk Protection etc.

Way Forward: To achieve universal and meaningful financial inclusion, India needs a multi-pronged, collaborative approach:

- **Focus on Under-banked and Unbanked Segments:** The immediate goal for under-banked individuals is to subscribe to more financial products, while for the unbanked; it is to open a bank account by **ease of application and reduced costs**.
- **Develop a Tech-Driven Financial Ecosystem:** Leveraging AI and advanced automation to provide personalized, accessible, and secure financial services in rural and remote areas.
 - E.g. Successful case studies include **use of Robot investment assistants (RIAs) and central bank digital currency Yuan (e-CNY) in china**.
- **Promote Open Systems:** Advocate for and adopt interoperable open banking systems like **Open Network for Digital Commerce (ONDC) and Open Credit Enablement Network (OCEN)** to foster innovation and inclusion.
- **Consumer Protection:** Strengthen **data privacy laws and cyber security measures to protect individuals' financial information**.
- **Targeted Policies:** Encourage banks to **provide affordable and accessible credit to women, small and marginal farmers, microenterprises,** and the informal sector.
 - Financial institutions can offer **tailored financial products suited to the needs of low-income groups,** such as **microinsurance and pension schemes**.
- **Public-Private Partnerships:** Collaborations between governments, financial institutions, and telecom companies can accelerate financial inclusion.
 - Public policies should encourage **private sector involvement** in providing mobile money services and digital payment platforms.

Conclusion

By persistently addressing challenges and integrating successful strategies, India can deepen meaningful financial engagement, enhance resilience, and continue its trajectory toward becoming a global leader in inclusive finance, fostering greater economic opportunities for all citizens.

3.7. DIGITAL INDIA MISSION

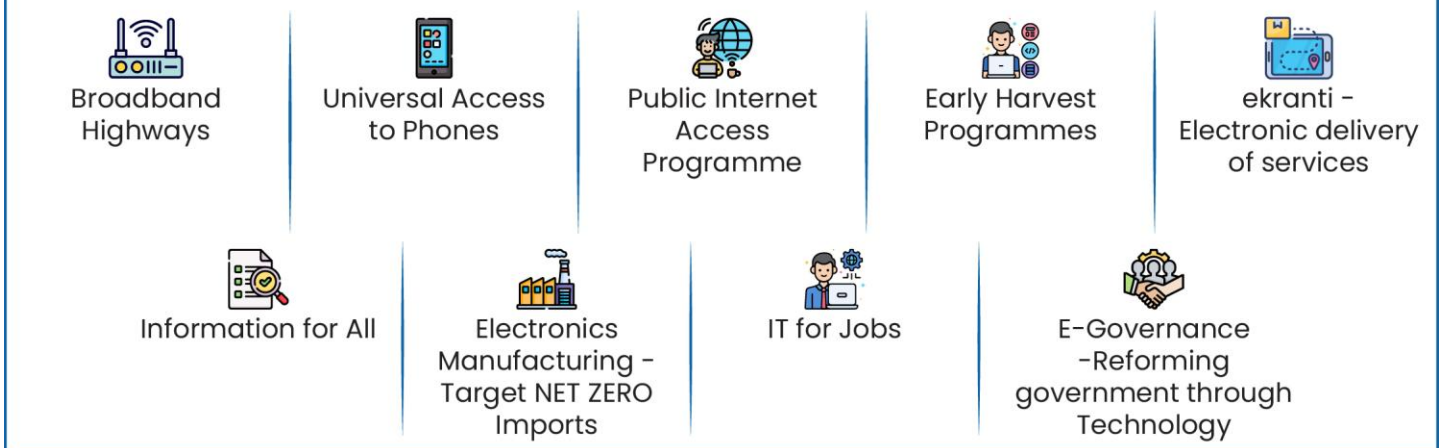
Why in the News?

India is celebrated **10th years of the Digital India Mission** launched in 2015.

About Digital India Mission

- **Nodal Implementing Ministry:** Ministry of Electronics and Information Technology (MeiTY)
- **Purpose:** To transform India into a **digitally empowered society and knowledge economy**
- **Nature:** Umbrella programme that **clubs together various e-governance initiatives** across **Ministries and Departments**
- **Leveraging private sector: Public Private Partnerships (PPP)** are preferred wherever feasible to implement e-Governance projects.
- **Objectives**
 - To **transform India into a digitally empowered society and knowledge economy**.
 - To **ensure digital access, digital inclusion, digital empowerment** and bridge the digital divide.
 - To ensure that **Government services are available to citizens electronically**.
- **Vision is centred on three key areas**
 - Digital Infrastructure as a Utility to Every Citizen
 - Governance & Services on Demand
 - Digital Empowerment of Citizens

Nine Pillars of Digital India



Key Achievements of Digital India Mission

- **Digital Economy:** India now ranks **third globally** in terms of digital economy size (State of India's Digital Economy Report 2024) and is expected to contribute **nearly 20% of GDP by 2030**.
- **Rising internet penetration:** Internet connections grew **285%** (2014–2024) while data costs dropped from ₹308/GB to ₹9.34/GB, making it more **affordable**.
- **Financial Inclusion:** India leads globally in real-time payments (49% of global transactions in 2023). **DBT** transferred ₹44 lakh crore till May 2025, removing ineligible beneficiaries for targeted delivery.
- **Inclusivity & Language Access:** Initiatives like **BHASHINI** are breaking language barriers by supporting over 30 Indian languages with different AI models.
 - It is integrated into platforms like IRCTC ticketing, NPCI payment systems, and police documentation.

Challenges that Hinder Harnessing Full Potential of Digital India Mission

- **Digital Literacy Gap:** Only **38%** of households are digitally literate.
 - Internet usage is uneven, **31%** in rural areas compared to **67%** in urban areas (Oxfam 2022).
- **Poor Connectivity & Broadband Quality:** Access is often unreliable due to outages, call drops, and weak signals.
 - Outdated broadband definition (**2 Mbps**) compared to the global standard (**25 Mbps+**).
- **Cybersecurity Risks:** India's cyber regulatory framework is inadequate, leaving systems vulnerable to hacking and DDoS attacks.
 - Average data breach cost rose **13%** to ₹220 million in 2025 (IBM).
- **Healthcare Digitization Gaps:** Projects like NDHM and e-Sanjeevani are hampered by weak infrastructure and low literacy.
 - CoWIN vaccination drive excluded many without smartphones or digital skills.

Way Ahead to Reap the Full Potential of Digital India Mission

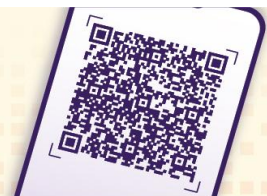
- **Universal Broadband & Connectivity:** The BharatNet Phase-II project should be fast-tracked through state-led, private sector, and CPSU models.
 - Radio and satellite technologies can bridge gaps in remote Gram Panchayats.
- **Improve Quality of Service:** Adequate contiguous spectrum must be allocated, with a push towards advanced technologies.
 - Encourage private investment in network upgrades. Keep devices and data affordable to ensure inclusivity.
- **Expand & Standardize e-Services:** The National e-Governance Division of MeitY must periodically audit state compliance to improve delivery standards.
- **Strengthen Cybersecurity:** Develop a comprehensive framework for data security and complaint redressal. Strengthen national and cross-border cybercrime response teams.
 - Increase research and development for secure IT networks.

- **Boost Digital Literacy & Skills:** Digital literacy should be integrated into school and college curricula, with the National Digital Literacy Mission training students to pass on knowledge within their communities.
 - Include cybersecurity awareness in all training programs.

Scan the QR code to know more about Digital inclusion in India

WEEKLY FOCUS #113

Digital Inclusion in India: Building a Connected and Empowered Nation



3.8. INTELLECTUAL PROPERTY RIGHTS IN INDIA

Why in the news?

India's Intellectual Property (IP) filings rose by **44% in last 5 years**, led by a **380% surge in Geographical Indications**.

Reasons for Increase in IP Boom

- **Legal & Procedural Simplification of IP laws & rules** E.g. Patent examination timeline reduced from 48 months to 31 months and **mandatory e-submission** for patent documents.
- **Modernization of IP Offices:** IP offices have been digitized with a comprehensive e-filing system, leading to over 95% of applications being filed online.
- **International standards:** E.g. adoption of international classification under Locarno Agreement for Industrial Designs.
 - **Locarno agreement** is an **international agreement under the World Intellectual Property Organization (WIPO)** signed in 1968.
- **Awareness & Capacity Building** E.g. **SPRIHA Scheme** aims to integrate IPR education into higher learning institutions across the country
 - **National Intellectual Property (IP) Awards:** To recognize and reward the top achievers for their IP creations and commercialization.
- **Other: Fee Concessions** (10% fee reduction for online filings), **Digital initiatives** (IP Sarthi Chatbot for applicant support and IP Dashboard to provide real-time IP data) and use of AI and Machine Learning etc.

India's Global Position in IP Filing

- India granted the **highest number of patents in FY24** (1,03,057 patents)
- India ranked **4th globally in trademark filings in 2023**, with a 6.1% increase over the previous year.
- India rose from **9th (2020) to 6th (2023)** position in global patent filings (**WIPO**)

Intellectual Property Rights (IPR)

- **Definition:** IPR are the rights given to persons over the **creations of their minds**. They usually give the creator an exclusive right over the use of his/her creation for a certain period of time.
 - 8 types of IPR are covered under **IPR Policy Management (IPRPM) framework:** (i) Patents, (ii) Trade mark, (iii) Industrial Designs, (iv) Copyrights, (v) Geographical Indications, (vi) Semiconductor Integrated Circuit Layout Design, (vii) Trade Secret, and (viii) Plant Varieties.
- **Administered by: Controller General of Patents, Designs and Trademarks** which is under the control of the **Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry**.
 - **Act on Layout-Design of Integrated Circuits** is administered by Ministry of Electronics and Information Technology (MeitY).
 - Ministry of Agriculture administers the **Act on Plant Variety**.

Details of legal and regulatory considerations for different IP areas:

IPR Area	Subject	Legal Provision	Term of Protection
Geographical Indication (GI)	Goods bearing unique characteristics due to geographical linkage - agricultural goods, natural goods,	Geographical Indications Act 1999 &	10 years, Renewed for 10 years on

	manufactured goods, handicrafts and foodstuff.	GI Rules 2002 amended in 2020.	payment of additional fees
Design	New or original designs (Ornamental / visual appearance discernible to the human eye) which can be replicated industrially.	The Design Act, 2000 & Designs (Amendment) Rules 2021	10 + 5 years
Patents	Must qualify requirements of being novel, Inventive and having industrial utility.	The Patents Act, 1970 & Patent Rules, 2003 (Amended in 2014, 2016, 2017, 2019, 2020 and 2021)	20 years
Copyright	Creative, artistic, literary, Musical and audio-visual works	The Copyrights Act, 1957 & Copyrights Rules 2013 amended in 2021.	Author- Lifetime+ 60 years; Producers - 60 years Performers- 50 years;
Trademarks	Protects brand name, logo, and design for a business or commercial enterprise.	The Trade Marks Act, 1999 & Trademark Rules 2017	10 years; renewed for 10 years on payment of additional fees
Semiconductor Integrated Circuits Layout- Designs (SICLD)	A layout of transistors and other circuitry elements including lead wires connecting such elements and expressed in any manner in semiconductor integrated circuits.	The Semiconductor Integrated Circuits Layout- Design Act, 2000 & Rules, 2001.	10 years
Trade Secret	Confidential information having commercial value.	Common Law approach (covered through Contract Act, IP Act, and Copyright etc.)	Till the time confidentiality is safeguarded.
Plant Varieties	Traditional varieties and landraces, all developed varieties (non-traditional and non-landrace) in trade/use for older than 1 year and not older than 15 years or 18 years (in case of trees and vines), and new plant varieties.	Protection of Plant Varieties and Farmers Rights Act (PPVFRA), 2001	6-10 years.

Significance of Growth in Intellectual Property Rights



Economic Impact: 1% increase in trademark, patent, and copyright protection can increase Foreign Direct Investment (FDI) by 3.8%, 2.8%, and 6.8% respectively.



Global Competitiveness: The surge in patent filings indicates India's evolution into a producer of innovation, fostering breakthroughs in critical sectors.



Startup Ecosystem: The increase in patent grants aligns with the rapid growth of the Indian startup ecosystem, with over 1.25 lakh recognized start-ups (March 2024).



Diversity and Inclusivity: India's share of women patent filers surged from 10.2% (2021) to 11.6% (2022)

Challenges related to IPR in India:

- **Low Research and Development (R&D) Spending:** India spends a mere 0.7% of its GDP on R&D, significantly lower than countries like China (2.1%) and Brazil (1.3%).
- **Patent Disputes and Evergreening:** The pharmaceutical sector often faces issues related to patent evergreening, where companies make minor modifications to existing drugs to extend their patent life.
 - Section 3(d) of the Patents Act, 1970, prevents this, leading to disputes with multinational corporations.
- **Compulsory Licensing Concerns:** In the pharmaceutical sector, the government can allow the production of patented products (e.g., medicines) without the patent holder's consent.
 - While this ensures access to essential medicines, it has led to **tensions with global pharmaceutical companies**.
- **IP Financing in Nascent Stage:** Due to lack of awareness, complexities in IP valuation, reliance on traditional tangible assets, and vulnerability of IP as collateral.
 - IP financing is the use of IP assets (trade marks, design rights, patents and copyright) to **gain access to credit**.
- **Ambiguity of "Patent Pending" Status:** Unlike countries like the USA, India lacks a clear provision for marking products as "patent pending," which could deter competitors and act as a marketing tool.
- **Other:** Delays in IPR Granting and Backlog, Weak Enforcement of IPR Laws, Commercialisation Gap (High filings don't guarantee successful market-ready products) etc.

Way Forward

- **Holistic Review of National IPR Policy:** To address new and emerging trends in innovation, identify implementation gaps, and incorporate changes for **expanding innovation ecosystem and IP financing**.
- **Strengthen State Government Participation:** To formulate and implement their own IPR policies, focusing on awareness, innovation in educational institutions, establishing State-level Innovation Councils, and curbing IP crimes.
- **Strengthening Enforcement Mechanisms:** Improve coordination between law enforcement, customs, and IP offices and provide specialized IPR training. Establish more specialized IPR courts with technically trained judges.
- **Create IP Fund:** Establish a dedicated IP fund to support initiatives fostering IP culture in remote and traditional knowledge-rich regions, such as tribal belts, hilly, and North-East states.
- **Enhancing International Collaboration e.g.** Cooperate with global IP bodies (e.g., WIPO) and adopt best practices.
 - Ensuring that **trade agreement's IP provisions** balance innovation, public health, and national interest.
- **Other:** Promoting Innovation & Research through R&D incentives (tax breaks, grants), Strengthening Cyber security & Digital IPR Protection to combat online piracy, enhance IP awareness through educational initiatives etc.

3.9. NEWS IN SHORTS

3.9.1. ALTERNATIVE INVESTMENT FUND

RBI has issued revised guidelines capping investment by Regulated Entities at 20% of the corpus of an AIF scheme.

About Alternative Investment Fund (AIF)

- Any fund established or incorporated in India which is a **privately pooled investment vehicle** which collects funds from sophisticated investors, whether Indian or foreign, **for investing it in accordance with a defined investment policy** for the benefit of its investors.
- AIFs are **regulated by the SEBI**, as per the SEBI (Alternative Investment Funds) Regulations, 2012.

Categories of AIFs

- **Category I AIF:** Invest in start-ups, early-stage ventures or sectors considered socially or economically beneficial.
 - E.g. Venture Capital Funds, Angel funds, SME Funds, Infrastructure Funds
- **Category II AIF:** They do not use leverage or debts other than to cover their day-to-day operational expenses.
 - E.g. Private Equity Funds, Debt Funds, Real Estate Funds.
- **Category III AIF:** It may use leverage including through investment in listed or unlisted derivatives.
 - E.g. Hedge Funds, Private investment in public equity (PIPE).

3.9.2. DIGITAL PAYMENTS INDEX (DPI)

The Indian digital payment landscape has witnessed over 65,000 crore digital transactions amounting to more than Rs. 12,000 lakh crores in the last 6 Financial years.

About DPI

- RBI has developed the DPI (**published Semi-annually**) to measure the extent of digital payment adoption across India.
- **DPI comprises these broad parameters:** Payment Enablers; Payment Infrastructure – Demand-side factors & Supply-side-factors; Payment Performance; Consumer Centricity.
- The latest RBI-DPI indicates over fourfold growth in digital payment penetration since 2018.

3.9.3. FINANCIAL CONDITIONS INDEX (FCI)

A study of RBI has proposed the construction of a FCI for India to track market trends with daily frequency.

About Financial Conditions Index (FCI)

- It assesses the **degree of relatively tight or easy** financial market conditions with reference to its historical average **since 2012**.
- The chosen indicators represent five market segments: **money market, G-sec market, corporate bond market, forex market**, and equity market.
- **A higher positive value** of the FCI indicates **tighter financial conditions**.

3.9.4. GLOBAL FINDEX 2025

The World Bank report titled '**Global Findex 2025**' released reflecting achievements in digital and financial inclusion.

India specific Highlights

- India has **account ownership at or close to 90 percent**.
- **16 percent of account owners do not have an active account**, the average for all other low- and middle-income economies is 4 percent.
- The **share of both women and men** with only inactive accounts **decreased** between 2021 and 2024.
- The **primary barrier to mobile phone ownership** is the **cost of the device, and lack of reliable mobile network coverage**.

3.9.5. STABLECOINS

GENIUS Act has been enacted in the US to establish a **regulatory framework** for **stablecoins**.

- Stablecoins are a type of **cryptocurrency** whose value is linked to that of another **currency, commodity**, or financial instrument. E.g., **Tether (USDT)**, is pegged to the US dollar
- They have the potential to **bring efficiencies to payments**.

Why has the use of Stablecoins increased?

- **Linked to an underlying asset:** Due to this, they can maintain a **steadier value, making them a more reliable medium of exchange than other volatile cryptocurrencies** like bitcoins.
 - Underlying assets are backed by **an identifiable issuer**, unlike many **unbacked crypto assets**.
 - Issuers could be banks, nonbank financial entities, and large technology conglomerates.
- **Regulation:** Decisions for stablecoin arrangements are usually taken by a **governance body**.

Regulation of Cryptocurrency or Crypto Assets in India

- Currently, **Crypto Assets are unregulated in India**.
- However, **Government**, through the **Finance Act, 2022**, brought a comprehensive taxation regime **for the transfer of Virtual Digital Assets (VDAs)**.

- It imposed a **30% tax** on **capital gains** from **VDAs**.
 - The **Income Tax Act 1961** defines **VDA** as any information or code or number or token, generated through **cryptographic** means or otherwise; transferred, stored, or traded electronically. E.g. cryptocurrencies, Non-fungible token (NFT), etc.
- In 2023, VDAs were brought under the purview of the **Prevention and Money-laundering Act, 2002**.

How Cryptocurrency Works



Based on **blockchain**, a **distributed public** ledger recording all transactions.



Created via **mining**, where computers solve complex problems to generate coins.



Can be bought from brokers and stored or spent through **cryptographic wallets**.

To read more about Crypto Currencies, refer to Article 7.2. Strategic Crypto Reserve in March 2025 Monthly Current Affairs Magazine.

3.9.6. CROPIC

This initiative is part of digital innovations in agriculture for fostering financial resilience.

About CROPIC (Collection of Real Time Observations & Photo of Crops) initiative

- It is a **mobile app** launched by **The Ministry of Agriculture under Pradhan Mantri Fasal Bima Yojana (PMFBY)**.
 - To take geotagged pictures of **crops four-five times during their cycle**.
- It will use an AI-based cloud platform for photo analysis and information extraction, and a web-based dashboard for visualisation.
- Funding:** Through Fund for Innovation and Technology (FIAT) under PMFBY.

3.9.7. AGRICULTURAL OUTLOOK 2025-2034 RELEASED BY OECD-FAO

- Released By: OECD and FAO.**
- Provides a comprehensive assessment of the ten-year prospects for agricultural commodities (Including fish) and their markets at national, regional, and global levels.
- Global Market Trends (2024) according to the report**
 - Biofuels:** Its demand is projected to **grow at 0.9% annually**, led by India, Brazil and Indonesia.
 - Cotton:** Global use increased; **India** is set to overtake China as the top producer.

3.9.8. OFFSHORE AREAS ATOMIC MINERALS OPERATING RIGHT RULES, 2025 NOTIFIED

These rules are notified in accordance with the provision of the **Offshore Areas Mineral (Development and Regulation) Act, 2002**.

About the Rules

- Objective** - To regulate the exploration and mining of atomic minerals like uranium and thorium in offshore areas
- Rules will only apply if concentration of atomic minerals above a **certain minimum level**.
- Under the rules **entities nominated** by Govt can be granted exploration licences or production leases.
 - In case of **foreign entities**, undertaking exploration operations, prior approval shall be obtained from the Government authorities.

Key Atomic Minerals in India

- Uranium**
 - Key Reserves:** **Jharkhand, Andhra Pradesh, Meghalaya, Rajasthan** etc.
 - Jaduguda (Jharkhand)** is the **first mine** in the country to produce uranium ore on a commercial scale.

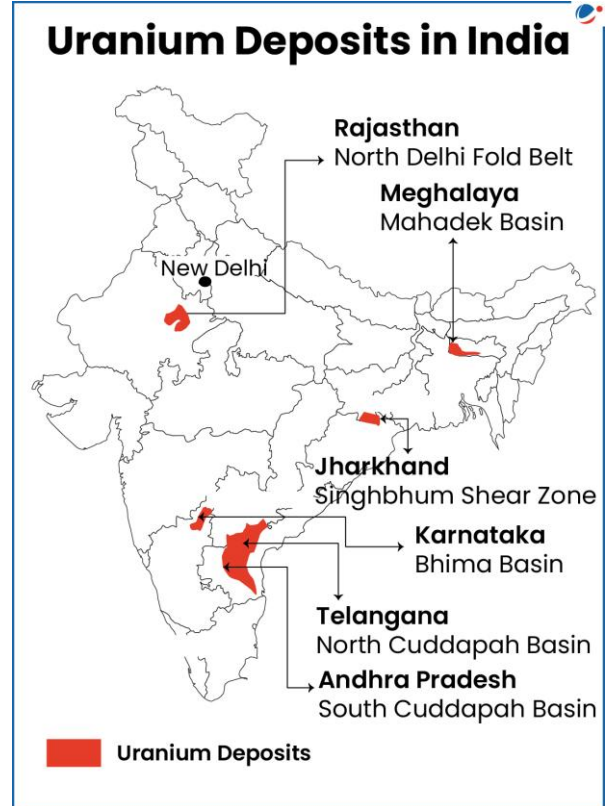
- **Other Important Mines:** Lambapur-Peddagattu (AP), Bagjata mine (Jharkhand), etc.
- Most of uranium deposits in India small and of far lower grade compared to those in the leading uranium-producing countries in the world.
- **Thorium**
 - India has a limited resource of uranium but a large resource of thorium.
 - Monazite contains about **8 – 10% thorium**.
 - The beach sands of **Kerala** and **Orissa** have rich reserves of monazite.

3.9.9. GLOBAL CAPABILITY CENTRE (GCC)

The Finance Minister urged industry & government to work together to boost the setup of GCC and attract more Fortune 500 companies which are yet to establish their presence in India. (On an average 1 new GCC per week was set up in the year 2024)

About GCCs

- It is also known as **global in-house centres or captives (GICs)**.
- GCCs are **offshore centres** established by **global firms** to provide various services to their parent organisations.
 - E.g. IT services, Research and Development (R&D), customer support
- They operate **within the internal organization structure** of the global corporate organization.
- **Major Drivers in India:** **Cost efficiency**, **Digital and Policy Readiness** (e.g Smart Cities, Digital India), **Talent availability** (Highly skilled & cost-effective workforce with english proficiency), **Large Consumer Market** etc.



Status of GCC in India

Global Presence: India hosts >1,800 GCCs, accounting for ~50% of all GCCs worldwide.	Economic Contribution: Direct gross value addition (GVA) is \$68 billion (expected to increase to \$150-200 billion by 2030).	Employment Figures: Employs ~2.16 million people (expected to reach 2.5-2.8 million by 2030).	Growth Rate: At 11% CAGR over the last 5 years (contributing 1.6% to the national GDP).
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Challenges in development of GCCs in India: Limited availability of skilled **workforce** (in Tier-II and III cities), **Infrastructure** gaps (physical and digital connectivity), Complex **regulatory** structures, **cybersecurity** threats.

Strategic Interventions Required

- **Embrace Next-Gen Technologies:** e.g. AI, automation, cloud computing etc.
- **Navigate Geopolitical Complexities:** Adopt agile governance models to respond swiftly to complex geopolitical scenarios and resulting regulatory uncertainty.
- **Redefine Workforce Strategies:** Upskilling of talent, adoption of new-age skills and hybrid work models.
- **Sustainability:** Aligning GCCs with environmental, social, and governance (**ESG**) goals.

3.9.10. DOT RELEASES DRAFT NATIONAL TELECOM POLICY (NTP)-2025







NTP-2025 seeks to build on progress made under **National Digital Communications Policy 2018**.

- It addresses emerging challenges by next-generation technologies such as **5G/6G, Artificial Intelligence (AI), Internet of Things (IoT), Quantum Communications, Satellite Network, and Blockchain**.
- It positions India to become **“Nation of Choice” for Telecom Technology**, under the vision of **“Bharat – A Telecom Product Nation”**.

About NTP-2025

- Vision:** transform India into a digitally empowered economy by ensuring universal and meaningful connectivity, building secure and sustainable telecommunications networks.
- Mission:** It outlines six strategic missions:
 - Universal and Meaningful Connectivity:** Expand telecom networks, improve service quality, and integrate technologies to ensure inclusive digital participation.
 - Innovation:** Promote research, startups and strengthen industry -academia -government.
 - Domestic Manufacturing:** Boost economic growth through skilled workforce, investments, and design-led manufacturing.
 - Secure and Trusted Telecom Network:** Enhance security, **promote cyber hygiene**, and build a resilient, trustworthy telecom ecosystem.
 - Ease of Living and Ease of Doing Business:** Simplify telecom access, foster digital inclusion, and create a business-friendly environment.
 - Sustainable Telecom:** Promote green technologies, circular economy, and renewable energy to reduce telecom’s environmental impact.

Aims and Objective

 <p>Coverage: Ensure universal and meaningful connectivity for all.</p>	 <p>Double contribution of the telecommunication sector to India’s GDP.</p>	 <p>Investment: Attract ₹1,00,000 crore annual infrastructure investment.</p>	 <p>Employment and Skilling: Create 1 million new jobs and upskill/reskill 1 million workers.</p>	 <p>Secure critical telecom infrastructure with quantum-resistant cryptography.</p>	 <p>Sustainability: Cut sector’s carbon footprint by 30%.</p>
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3.9.11. ALUMINIUM AND COPPER

Central Government recently unveiled Aluminium and Copper Vision Documents.

About Vision Document

- Provides a **long-term strategy to meet growing domestic demand** while **ensuring raw material security**.
- Copper Vision Document:** Anticipates a **six fold increase in demand by 2047** and outlines **plans to add 5 Million Tonnes Per Annum (MTPA)** of smelting and refining capacity by 2030.
- Aluminium Vision Document:** Outlines a strategic roadmap to scale up **aluminium production six fold by 2047** and aims to **expand bauxite production capacity to 150 MTPA**.

Distribution of Copper and Aluminium

Aluminium/Bauxite

- India**
 - Reserve:** Odisha (41%) followed by Chhattisgarh and Andhra Pradesh for bauxite.

> Odisha is leading producing State (73%).

• **World**

- **China is the leading producer of aluminium (58%)** which is followed by Australia, Brazil and India.

Copper

• **India :**

- **Reserves:** Rajasthan (52.25%) followed by Madhya Pradesh and Jharkhand.
- **Production:** Madhya Pradesh was the leading producer (57% of the production during 2022-23), followed by Rajasthan (43%).

• **World**

- **Chile has the largest share (19% of world reserves)** followed by Peru and Australia (10%).

Strategic Role of Copper & Aluminium



Copper

Key for energy transition, infrastructure, EVs, and solar power.



Aluminium

Essential for clean energy, electric mobility, and infrastructure.



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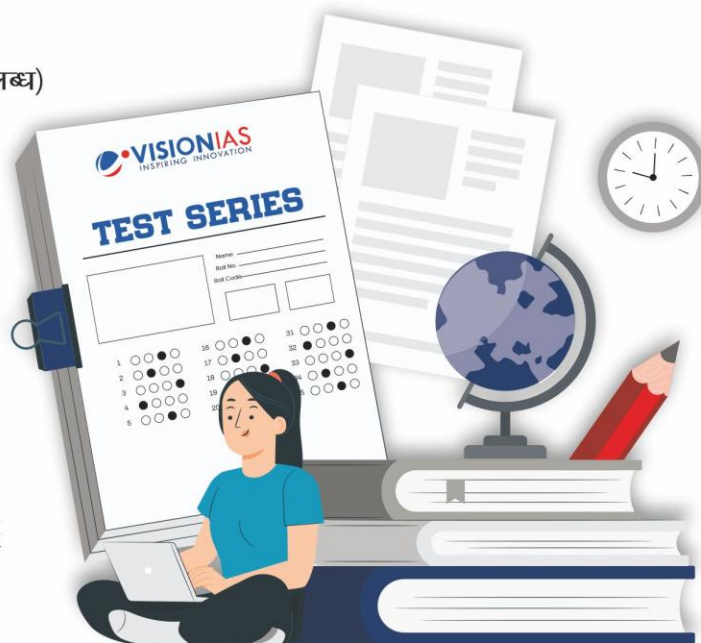
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4. SECURITY

4.1. QUANTUM CYBER READINESS

Why in the News?

MeitY, CERT-In, and cybersecurity firm SISA jointly launched a whitepaper titled “**Transitioning to Quantum Cyber Readiness**” to prepare for disruptive potential of quantum technologies, especially in cybersecurity.

More on the news

- The whitepaper warned that Quantum computers pose a **serious threat to current encryption algorithms** by breaking asymmetric cryptographic protocols such as Rivest-Shamir-Adleman (RSA).
 - Quantum computers can solve **complex, intractable mathematical problems** - and perform tasks in machine learning, optimization, and logistics - orders of magnitude faster than conventional computers.
- As per the paper, **any data requiring protection beyond 2030** should be considered at immediate risk.

Cyber Threats related to Quantum Technology

- Harvest Now, Decrypt Later (HNDL) Attacks:** These attacks **involve adversaries** collecting and storing encrypted data today with the intention of decrypting it once quantum computers become capable of breaking current cryptographic systems.
- Secure channel decryption:** Quantum computing can break encrypted network communications and “**listen in**” on sensitive conversations like defence communications.
- Signature impersonation:** Quantum computing can enable attackers to forge digital certificates, enabling malware distribution and targeted phishing.
- New “Zero-Day” vulnerabilities:** This includes the potential for yet unknown quantum algorithms to break existing cryptographic systems and challenges associated with transitioning to quantum-resistant cryptography.

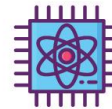
India's initiatives to prevent Quantum cyber threats



National Quantum Mission (NQM), 2023
One of its objective is to implement **quantum-secured** communication spanning 2000 km



DRDO's Projects
- **Inaugurated the Quantum Technology Research Centre (QTRC)**
- Successfully demonstrated **quantum entanglement**-based secure communication over a 1 km free-space optical link



Other Efforts
- **C-DOT:** Working on Quantum Key Distribution (QKD), Post-Quantum Cryptography (PQC), and Quantum Secure Video IP Phones.
- **ISRO:** Successfully demonstrated free-space **Quantum Key Distribution (QKD)** over 300 m.

Way Forward: Roadmap for Quantum Cyber Readiness recommended by whitepaper

Area	Recommendations
Foundational Assessment & Strategic Planning	<ul style="list-style-type: none"> Quantum Bill of Materials (QBOM): To support key initiatives including risk prioritization, procurement decisions that demand post-quantum compatibility, upgrade planning and compliance audits AI-Enhanced Risk Assessment: Machine learning algorithms for pattern recognition in cryptographic usage.
Technology Readiness & Capability Building	<ul style="list-style-type: none"> Organizations must rigorously test and validate Post-Quantum Cryptography (PQC) implementations before deploying them into production environments.

	<ul style="list-style-type: none"> • Hybrid Cryptography Adoption approach to provide a strategic pathway for organizations transitioning to quantum-safe security by integrating both classical and quantum-resistant algorithms during the migration phase.
Phased Organizational Rollout	<ul style="list-style-type: none"> • PQC should also be embedded into workflows, ensuring secure software development, automated key management and signing processes. • Key actions include updating security and ICT policies to mandate standards bodies approved PQC algorithms, define approved toolsets and enforce standards across internal and vendor systems.
Resilience, Monitoring & Futureproofing:	<ul style="list-style-type: none"> • QKD Exploration: For a complementary, physics-based security model grounded in the principles of quantum mechanics. • Use both ML-DSA (Module Lattice-based Digital Signature Algorithm) and SLH-DSA (Stateless Hash-based Digital Signature Algorithm): These introduce larger cryptographic payloads and significantly increased computational demands- for critical document signing in government applications, financial transactions, and legal document.

Conclusion

The quantum revolution is inevitable, but organizations that act decisively and strategically will not only protect their data from quantum risks but also lead the way in shaping a quantum-resilient future.

To know more about **Quantum computing** refer to **Article 7.2. Quantum Chip** in *December 2024 Monthly Current Affairs magazine*.

4.2. NEWS IN SHORTS

4.2.1 OPERATION MAHADEV

About Operation Mahadev

- A **joint counter terror mission** of Indian Army, CRPF & J&K Police.
- **Objective:** Eliminate foreign terrorists who have infiltrated into Kashmir valley with support from Pakistan-based groups like LeT.

4.2.2. OPERATION- MED MAX

It was an operation **conducted by Narcotics Control Bureau (NCB)** for cracking down on illegal pharmaceutical drug trade.

- Under it, NCB **dismantled a transnational drug trafficking syndicate** that smuggled controlled medicines **across four continents**.
- The syndicate used **encrypted digital platforms, drop shipping models, and cryptocurrency** to smuggle the controlled substances.
- The network showcases the growing convergence of digital platforms, cryptocurrency, and transnational logistics in modern illicit trade.

4.2.3. PROJECT 17A

INS Udaygiri, the second ship of Project 17A's stealth frigates, was delivered to the Indian Navy.

Project 17A

- The Project is follow-on of the Shivalik class (Project 17) frigates active in service.
 - **Frigate is a multi-role vessel** utilized for fleet surface ship protection against surface combatants or incoming aerial threats.
- **P-17A ships** have enhanced **stealth features** and fitted with '**State of the Art**' weapons and sensors, a **significant upgrade from the P17 class**.

- These multi-mission frigates are **capable of operating in a ‘Blue Water’ environment** dealing with both **conventional and non-conventional threats** in the area of India’s Maritime Interests.

4.2.4. EXTENDED RANGE ANTI-SUBMARINE ROCKET

India has tested the indigenous anti-submarine rocket systems.

About ERASR

- ERASR is a totally **indigenous anti-submarine rocket** used to **combat submarines and fired from onboard** of Indian Naval Ships.
- It has **twin-rocket motor configuration** to meet a wide spectrum of range requirements with high accuracy and consistency.
- It uses an indigenously developed **Electronic Time Fuze**.
- Designed and developed by **DRDO’s Armament Research & Development Establishment (ARDE)**, Pune.

4.2.5. ASTRA MISSILE

DRDO & Indian Air Force (IAF) successfully conducted the flight-test of **‘Astra’ equipped with indigenous Radio Frequency (RF) Seeker from Su-30 Mk-I platform**.

About Astra Missile

- It is Indigenous **Beyond Visual Range Air-to-Air missile (BVRAAM)**.
- The missile is designed **to engage and destroy highly manoeuvring supersonic aircraft**.
- **Developed by** Defence Research and Development Organisation (DRDO).
- The missile has **all weather day and night capability**.
- Its **range exceeds 100 kms** and is equipped with state-of-the art **guidance and navigation systems**.

4.2.6. PRALAY MISSILE

DRDO conducted two consecutive successful flight tests of the Pralay missile at Odisha coast.

About Pralay missile:

- A **surface-to-surface short range solid propellant quasi-ballistic missile** which can fly at **hypersonic speed (Above Mach 5)**.
 - Quasi ballistic missiles are a class of missiles that have low trajectory and take ballistic trajectory but **can change course and make maneuvers during the flight if required**.
- **Developed indigenously by:** Hyderabad-based DRDO facility Research Centre Imarat in collaboration with other facilities.
- **Strike Range:** From 150 to 500 km.

4.2.7. EXERCISES IN NEWS

Exercise Bold Kurukshetra	<p>14th Edition of India–Singapore Joint Military Exercise, Exercise Bold Kurukshetra 2025 commenced.</p> <p>About Exercise Bold Kurukshetra</p> <ul style="list-style-type: none"> • The exercise will be conducted as a Table Top Exercise and Computer-Based Wargame, aimed at validating operational procedures for mechanised warfare.
Bharat NCX	<p>Bharat NCX 2025 had been officially inaugurated.</p> <p>About National Cybersecurity Exercise (Bharat NCX 2025)</p> <ul style="list-style-type: none"> • Conducted by National Security Council Secretariat (NSCS) in collaboration with Rashtriya Raksha University (RRU), Gandhinagar, Gujrat.

	<ul style="list-style-type: none"> Objectives: Strengthen national cyber resilience and readiness. Simulate real-world cyberattacks. Key Features: Live-Fire Cyber Simulations, AI-Integrated Cyber Defence Training
SIMBEX Exercise	<p>Indian Navy participated in 32nd Singapore India Maritime Bilateral Exercise (SIMBEX) exercise in Singapore.</p> <p>About SIMBEX Exercise</p> <ul style="list-style-type: none"> Genesis: It began as Exercise Lion King in 1994. It is an annual exercise held between the Indian Navy and the Republic of Singapore Navy. <ul style="list-style-type: none"> One of the longest uninterrupted maritime drills for India. It aligns with India's Vision SAGAR (Security and Growth for All in the Region) and Act East Policy.
Talisman Sabre Exercise	<p>Australia's largest multilateral military exercise, Exercise Talisman Sabre 2025, officially commences in Sydney.</p> <p>Exercise Talisman Sabre</p> <ul style="list-style-type: none"> It involves 19 nations and >35,000 military personnel across land, sea, air, space, and cyberspace. Major Participants: U.S., Canada, France, Germany, India, Indonesia, Japan, New Zealand, Norway, U.K. etc. <ul style="list-style-type: none"> Observers: Malaysia and Vietnam It involves live-fire exercises, field training activities, amphibious landings, ground force manoeuvres, and air combat and maritime operations.
Jaa Mata	<p>Japanese Coast Guard ship, Itsukushima, arrived in Chennai for joint exercise, Jaa Mata.</p> <p>About Jaa Mata ('See you later' in Japanese)</p> <ul style="list-style-type: none"> It is a joint sea exercise between Japan and India Coast Guard. Aim: Enhance operational capabilities, refine combat skills and strengthen interoperability for effective joint operations.

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5. ENVIRONMENT

5.1. URBAN RESILIENCE

Why in the News?

Recent World Bank report titled “**Towards Resilient and Prosperous cities in India**” highlights the **significant challenges** faced by Indian cities due to **rapid urbanization and climate change**.

More on the News:

- India is undergoing rapid urbanization, with its urban population projected to nearly double from 480 million in 2020 to 951 million by 2050, and further **increase to 1.1 billion by 2070**.
 - This massive demographic shift means that over **70% of new jobs in India** are expected to be generated in cities by **2030**.

What is urban resilience?

- It refers to ability of an urban system **to maintain or rapidly return to desired functions in the face of a disaster**, to adapt to change, and to **quickly transform systems that limit future adaptive capacity**.

Key Observations of Report regarding Vulnerable Indian Cities:

- Urban Flooding:** Pluvial (storm water) flooding risk is rapidly increasing, with a forecasted rise of 3.6 to 7 times by 2070.
 - Annual losses from pluvial flooding are estimated at \$4 billion currently, projected to increase to **\$5 billion by 2030**.
- Coastal Flooding:** 40% of Indian population lives within 100 kilometers of the coast.
 - Annual costs of coastal flood damage in urban areas are projected to increase dramatically from \$2.4 billion in 2010 to **\$21 billion by 2030 and \$75 billion by 2050**.
- Rising Urban Heat Island (UHI) effect** exacerbates heat stress, with nighttime temperatures in major Indian cities exceeding surrounding rural areas by 3°C to 4°C.
 - Economic output loss due to labor productivity** effects is significant; for example, Chennai could lose 3.2% of its GDP by 2050.
- Cascading Infrastructure Failure:** Cities are highly interconnected systems. E.g. flooding can lead to road closures, electricity outages, and economic losses, paralyzing urban areas.
- Concretization of Urban spaces:** It leads to urban flooding, **Urban Heat Island** effect etc. further exacerbating climate extremities and increasing risk factors.

Challenges in building urban disaster resilience:

- Fragmented Governance:** Responsibilities for urban development, disaster risk management, and climate action are fragmented across multiple departments and levels of government, hindering coordinated action.
- Lack of Master Plans and Technical Capacity:** Over half (52%) of Indian towns and cities lack an approved master plan, and there's a shortage of urban planners in Urban Local Bodies (ULBs).
- Limited Municipal Finance:** Cities' own-source revenue is low (approx. 1% of GDP) and often insufficient to cover operational costs.



Components of urban resilience

-  **Social Resilience:** e.g. Social capital, Demographic profiles etc.
-  **Institutional Resilience:** Efficient management of governmental and nongovernmental systems that assist communities.
-  **Economic Resilience:** Employment options, investments, and access to financing DRR projects and economic success.
-  **Infrastructure Resilience:** Effective building designs, improving shelter facilities, health care facilities, critical infrastructure, and roads networks.
-  **Environmental Resilience:** Low-carbon projects, revitalizing water bodies, and open green spaces etc.

Know the term

- Urban Heat Island (UHI) effect:** The **altered thermodynamic, aerodynamic properties** of the cities tend to trap more heat, making cities warmer than their rural and suburban counterparts.

- **Crumbling Infrastructure:** E.g., inadequate sewerage and drainage systems to cope with heavy rainfall.
- **Limited Private Sector Role:** Private sector contributes only 5% of urban infrastructure financing despite having project planning and efficiency capabilities.
- **Other issues:** Insufficient health infrastructure; Departments focusing on water, transport, energy, etc. operating in silos; Stagnant Private funding etc.

Government initiatives related to urban resilience



Government Schemes:

Swachh Bharat Mission, AMRUT, Housing for All (Urban) Schemes and the Smart Cities Mission etc.



Climate Smart Cities Assessment Framework:

Consisting of indicators across categories like urban planning, green cover and biodiversity; water management etc.



C-FLOOD: A web based platform executed, provides 2-day advance flood inundation forecasts up to village-level.



Urban Mobility and Sustainability Initiatives:

National Urban Transport Policy (2006), **Regional Rapid Transit Systems (RRTS)**, Promotion of e-mobility and walkable streets in cities.



Coalition for Disaster Resilient Infrastructure (CDRI):

To promote the resilience of infrastructure systems to climate and disaster risks ensuring sustainable development.

Recommendations by Report

- **Flood and Extreme Heat Resilience Program:** Comprehensive city-level climate-action plans for sustainable urban development.
- **Extending provisions of 74th Constitutional Amendment Act 1992:** Transfer of urban planning function from States/UTs to elected urban local governments to develop a Funding and Financing Strategy.
- **Improve cost recovery and financial sustainability of municipal services:** Improve municipal revenue and cost recovery from water, urban roads, sanitation, and solid waste management.
 - Indian cities will require a **substantial investment of \$2.4 trillion by 2050** to build climate-resilient infrastructure and services.
- **Re-engineering of urban governance:** Clear division of roles and responsibilities among various authorities and extensive adoption of technology for service delivery, etc.
- **Fulfilling Global Commitments:** E.g. **SDG Goal 11** (making cities inclusive, safe, resilient, and sustainable), **new urban agenda adopted at Habitat III in 2016** etc.
- **Inclusive Development:** Development of smaller cities like **Tier 2 and Tier 3 cities**, creation of satellite towns, focus on **circular economy** and adopting a combination of **mixed and Transit Oriented Development (TOD)** etc.

Conclusion

“Let's consider urbanization as an opportunity. Gone are the days when it was seen as a challenge or obstacle, Cities are not only growth centers. Our cities have strength & capacity to mitigate poverty.” – PM. Modi.

5.2. ETHANOL BLENDING

Why in the News?

Union Minister for Petroleum and Natural Gas announced India's **achievement of 20% Ethanol blending target** in petrol.

More on the News

- The target was achieved as envisaged in **Ethanol Blended Petrol (EBP) Programme**.
- Ethanol blending in petrol **increased from 1.5% in 2014 to 20% in 2025** (Nearly 13-fold increase).

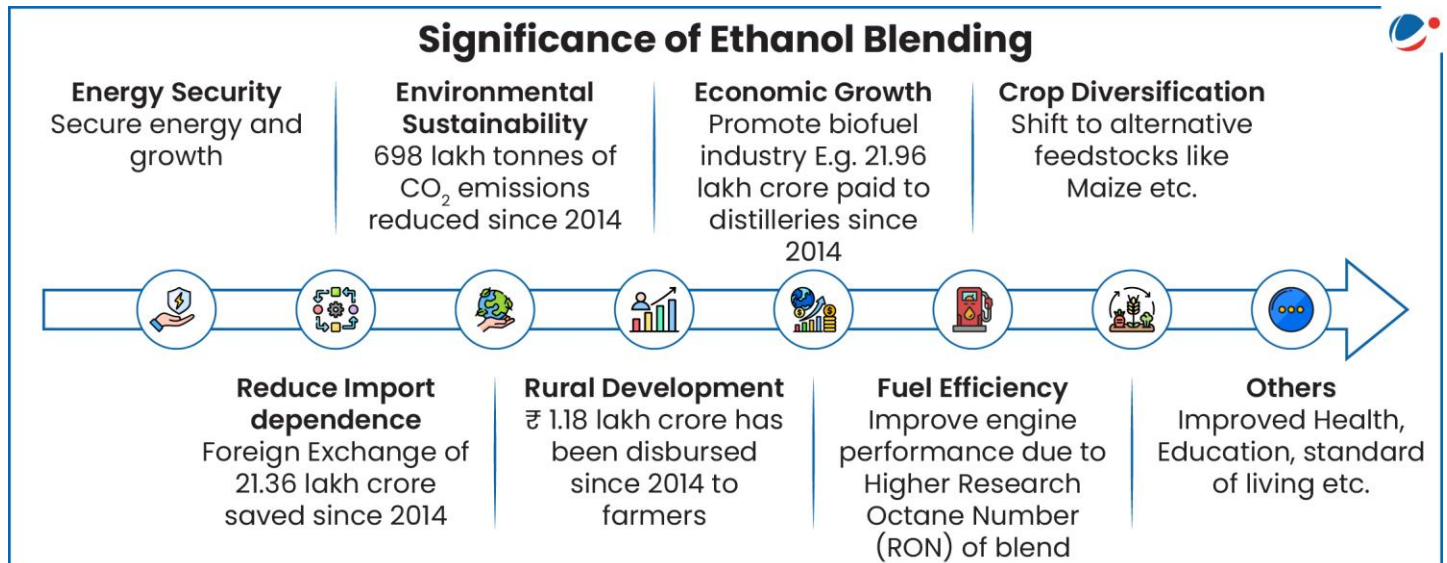
About Ethanol

- **Ethanol (C₂H₅OH), considered a renewable fuel**, is an anhydrous ethyl alcohol produced from sugarcane, maize, wheat, and other crops with high starch content.
- It is naturally produced by the **fermentation of sugars** by yeasts or via **petrochemical processes** such as ethylene hydration.
- **Types of Ethanol:**
 - **1st Generation Ethanol:** It is made from food crops such as cereals (rice, wheat, barley, corn and sorghum), sugarcane, sugar beet etc.
 - **2nd Generation Ethanol:** It is made from ligno-cellulosic or woody biomass, or agricultural residues/waste such as wheat straw, corn stover, wood etc.
 - **3rd Generation Ethanol:** It includes those derived from aquatic biomass such as algae.
 - **4th Generation Ethanol:** It is derived from engineered plants and microorganisms.

About Ethanol Blended Petrol (EBP) Programme

- **Genesis:** Launched in 2003 to promote blending of ethanol in petrol.
- **About Ethanol Blending**
 - **Definition:** Ethanol blending refers to the **process of mixing ethanol with petrol** to create a more sustainable and cleaner burning fuel.
 - **Types:** E10 (10% Ethanol by Volume), E20 (20% Ethanol), E85 fuel (85% ethanol by volume).
 - > The use of E-20 gives better acceleration, better ride quality and lowered carbon emissions by approximately 30% as compared to E10 fuel.
- **Target:** National Policy on Biofuels (2018), as amended in 2022, advanced the target of 20% blending of ethanol in petrol to 2025-26 from 2030.
 - **National Policy on Biofuels:**
 - > **Use of Sugarcane Juice, Sugar Beet, Cassava,** Damaged food grains, Rotten Potatoes, unfit for human consumption for ethanol production.
 - > **Use of Surplus food grains** to be used for ethanol production and blending with petrol.
 - > **Achievement:** Ethanol production increased from 38 crore liters in 2014 to over 660 crore liters in 2025.

Significance of Ethanol Blending



Challenges of Ethanol Blending in India

- **Food Security and Inflation:** Biofuel expansion could **exacerbate food insecurity**, particularly for vulnerable populations as per **FAO Report 2023**. E.g. Over diversion of food crops for ethanol production.
- **Environment:** Ethanol blending is heavily dependent on Sugarcane in India, a water intensive crop affecting water aquifers.

- **Technological and Vehicle Cost:** India's vehicle fleet transitioning to E20 and beyond requires modifications in engine design and fuel systems, which may be costly.
 - Many older vehicles and two-wheelers **lack ethanol-compatible parts, making them less tolerant to higher blends.**
- **Fuel efficiency and Vehicle Integrity:** Ethanol, being lower in energy density than petrol, results in a marginal decrease in mileage.
 - Older engines **may struggle with air-fuel adjustments on ethanol blends**, resulting in drivability and emissions problems.
 - Ethanol is prone to **water absorption and phase separation**, increasing the risk of **clogging and fuel system failures.**
- **Supply of Ethanol:**
 - **Availability of ethanol across the country:** E.g. Ethanol blending has not been taken up in North-East states due to non-availability of feedstock or industries or high cost of logistics.
 - Restrictions on **inter-state movement of ethanol** due to non-implementation of the amended provisions of Industries (Development & Regulation) Act, 1951 by all the States.
 - **The high cost of logistics and transport** related emissions due to Transport of ethanol to different places.
 - The need for **storage infrastructure** for ethanol at marketing terminals / depots.

Initiatives facilitating Ethanol Blending

- **PM JIVAN (Jaiv Indhan- Vatavaran Anukool fasal Awashesh Nivaran)** Yojana: For providing financial support to integrated bio-ethanol projects for setting up Second Generation (2G) ethanol projects
- **Ethanol Interest Subvention Schemes (EISS)** launched to foster the establishment of Dedicated Ethanol Plants (DEPs).
- **Reduction in GST on ethanol** meant for EBP Programme from **18% to 5%.** However, crude ethanol still continues to be taxed at 18%.
- **Amendment to Industries (Development & Regulation) Act, 1951** for smooth movement of ethanol across country.

Conclusion

India's commitment to ethanol blending represents a **transformative approach to energy security, environmental sustainability, and economic development.** With **potential biodiesel in pipeline**, care must be taken to cater to the challenges encountered in the ethanol-blended petrol introduction. A **phased roll-out** is thus the need of the hour.

5.3. CSS-INTEGRATED DEVELOPMENT OF WILDLIFE HABITATS SCHEME (CSS-IDWH)



Why in the news?

Gharial and Sloth Bear were recommended for inclusion under the Species Recovery Programme of Centrally Sponsored Scheme- Integrated Development of Wildlife (CSS-IDWH).

About CSS-IDWH Scheme

- **Nodal Ministry:** Ministry of Environment, Forest and Climate Change
- **Type:** Centrally Sponsored Scheme
- **Purpose:** Conducting wildlife protection and conservation activities.
- **Financial Assistance:** Financial assistance is provided to State/UT Governments for
 - **Supporting Protected Areas** (National Parks, Wildlife Sanctuaries, Conservation Reserves and Community Reserves)
 - Protection of **wildlife outside protected areas**
 - **Recovery programmes** for saving critically endangered species and habitats
 - > So far, 22 species including Snow Leopard, Asiatic Lion, Great Indian Bustard, Gangetic River Dolphin, etc. are included under it.
- **Key Components:** Development of Wildlife Habitats; Project Tiger ; Project Elephant

About the Animals

Gharial	Sloth Bear
<ul style="list-style-type: none"> • Habitat: Gharial prefers deep fast flowing rivers. • Range: <ul style="list-style-type: none"> ○ Nepal: Rapti–Narayani River ○ India (Ganges tributaries): Girwa (UP), Son (MP), Ramganga (Uttarakhand), Gandak (Bihar), Chambal (UP, MP, Rajasthan), Mahanadi (Odisha). • Features: <ul style="list-style-type: none"> ○ Specialised teeth for catching fish. ○ Thinnest and most elongated snout among crocodilians. ○ Adult males have a bulb-like structure on snout tip called GHARA. ○ Only visibly sexually dimorphic crocodilian. ○ Most aquatic crocodilian species. • Threats <ul style="list-style-type: none"> ○ Dams, barrages, water diversion leading to habitat degradation. ○ Snout makes them prone to getting trapped and drowning in fishing nets. • Conservation Status <ul style="list-style-type: none"> ○ IUCN Red List: Critically Endangered ○ CITES: Appendix I ○ WPA, 1972: Schedule I • Conservation Efforts <ul style="list-style-type: none"> ○ PROJECT CROCODILE (1975), supported by UNDP & FAO ○ Gharial Conservation Breeding Program ○ National Gharial Conservation & Management Plan 	<ul style="list-style-type: none"> • Habitat: Found in forests and grasslands. • Range: Native to India, Nepal, and Sri Lanka. • Features: <ul style="list-style-type: none"> ○ Name comes from long claws and unusual teeth, resembling a sloth. ○ Shaggy black coat, long snout ○ Specializes in eating termites and ants. ○ Does not hibernate unlike other bear species. ○ Solitary and mostly nocturnal. ○ Agile and known as one of the most aggressive animals in the Indian subcontinent. • Threats <ul style="list-style-type: none"> ○ Habitat loss and degradation. ○ Human retaliation due to conflict. ○ Global population estimated at fewer than 20,000. • Conservation Status <ul style="list-style-type: none"> ○ IUCN Red List: Vulnerable ○ CITES: Appendix I ○ WPA, 1972: Schedule I • Conservation Efforts: Daroji Sloth Bear Sanctuary (Karnataka) is first dedicated sloth bear sanctuary in Asia.
<p style="text-align: center;">Gharial</p> 	<p style="text-align: center;">Sloth Bear</p> 

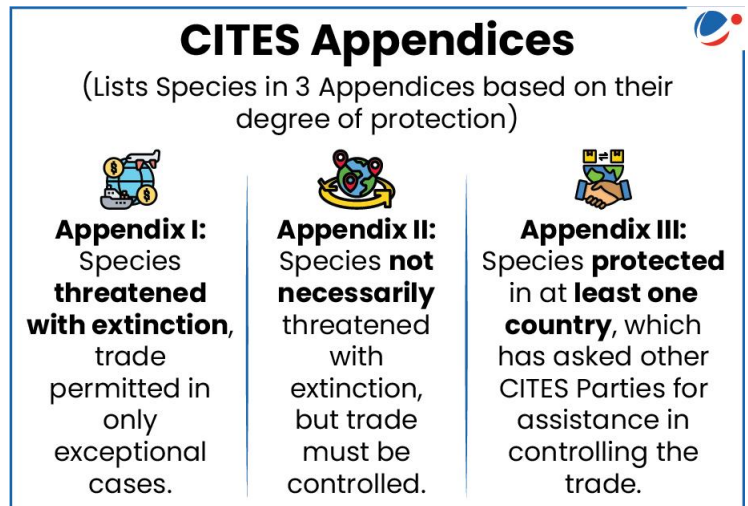
5.4. CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA (CITES)

Why in the News?

In 2025, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is celebrating its 50th anniversary.

About CITES

- **Genesis:** Originally conceived in 1963 at the International Union for Conservation of Nature (IUCN) meeting, it entered into force in 1975.
- **Aim:** Voluntary international agreement between governments ensuring international trade in specimens of wild animals and plants does not threaten their survival.
 - It subjects international trade to certain controls covering all import, export, re-export, through a licensing system.
- **Secretariat:** The CITES Secretariat is administered by UNEP and is located at Geneva, Switzerland.
 - IUCN provides scientific and technical services to the CITES Secretariat.
- **Parties:** 185 parties (States or regional economic organizations). India ratified in 1976.
 - Although CITES is legally binding on the Parties, it does not take the place of national laws, rather each party implements it through its own domestic legislation.
- **Conference of Parties (CoP):** Highest Decision making body. CoP3 was held in New Delhi in 1981.
- **CITES Trade Database:** Managed by the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) on behalf of the CITES Secretariat.



Key Initiatives of CITES

- **Protects** more than **40,000 animal and plant species** through its Appendices. (see infographic)
- **MIKE Programme** helps range States make appropriate management and enforcement decisions by monitoring trends in levels of **illegal killing of elephants**.
 - E.g. of MIKE sites in India- Chirang-Ripu Elephant Reserve; Dihing Patkai Elephant Reserve.
- **Strategic Vision 2021–2030:** Guides CITES' efforts to ensure wildlife trade supports global biodiversity goals and sustainable development Goals.
- **CITES Tree Species Programme (CTSP):** To support the sustainable and legal trade of CITES-listed tree species.
- **International Consortium on Combating Wildlife Crime (ICCWC), 2010:** To strengthen criminal justice systems and provide coordinated support at national, regional and international level to combat wildlife and forest crime.

Conclusion

Through its evolving strategies, collaborative mechanisms like the MIKE Programme and ICCWC, and a strong legal framework implemented by member countries, CITES continues to play a crucial role in safeguarding biodiversity.

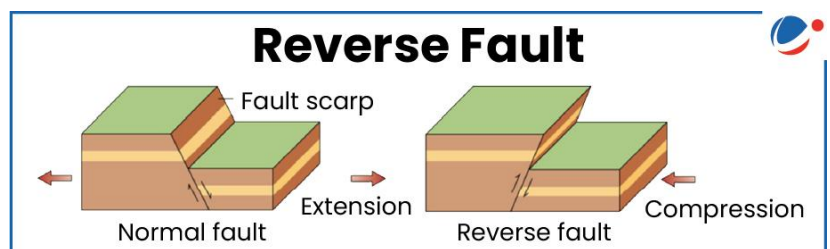
5.5. PACIFIC RING OF FIRE

Why in the News?

A powerful magnitude 8.8 earthquake struck near Russia's Kamchatka Peninsula which is part of the seismically active Pacific Ring of Fire triggering tsunami waves that hit coastal towns in Russia and Japan.

More on the news

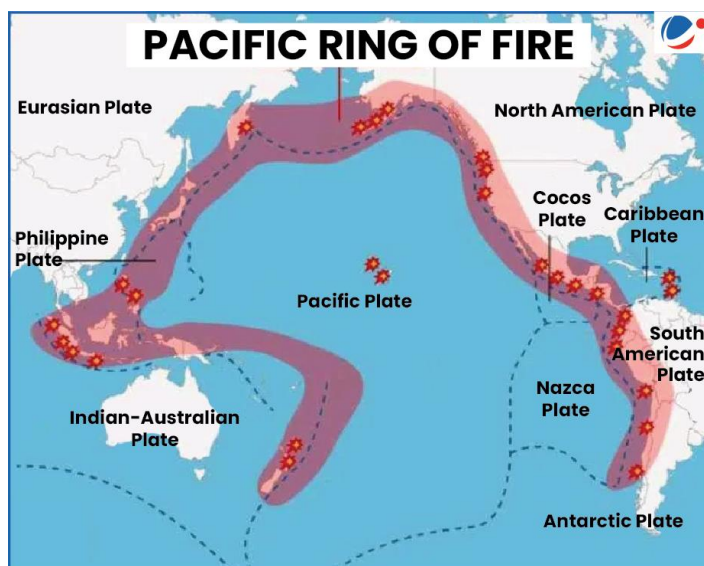
- Scientists believe the quake was caused by **shallow reverse faulting**.
- **Reverse faulting (or thrust faulting)** occurs when one block of Earth's crust is pushed up over another due to **compressional forces**.



- **“Shallow” Reverse faulting** means rupture occurred near the Earth's surface.
 - It can cause strong ground shaking, powerful aftershocks, tsunamis, and serious damage to infrastructure.

About Pacific Ring of Fire

- Also referred as Circum-Pacific Belt, It is a **horseshoe-shaped belt** of intense seismic and volcanic activity encircling the Pacific Ocean basin.
- **It accounts for:**
 - ~75% of the world's active volcanoes
 - ~90% of the world's earthquakes
- **Location & Extent**
 - Extends for ~40,000 km around the Pacific Ocean.
 - It traces boundaries between several tectonic plates including the Pacific, Juan de Fuca, Cocos, Indian-Australian, Nazca, North American and Philippine Plates.



Features of Circum-Pacific Belt:

- **Geography:** It has led to the formation of mountains, island arcs, deep underwater trenches, like the Mariana Trench (world's deepest spot).
- **Source of geothermal energy:** More than 40% of global geothermal energy resources are stored in that region.
- **Minerals:** Home to many rich mineral deposits, such as gold, copper, molybdenum, and other metals.
- **Agricultural Significance:** Volcanic soils are fertile (good for crops like rice, coffee)

Cause of Frequent Earthquakes and Volcanism along pacific ring of fire

- **Subduction zones:** Along Ring of Fire, tectonic plates overlap at convergent boundaries called subduction zones where the lower plate is pushed down by the upper plate.
 - Subducted rock melts into magma near earth surface, an ideal condition for volcanic activity. E.g. Taupo Volcanic Arc, near New Zealand where dense Pacific Plate is **subducting beneath Australian Plate**.
- **Zone of transform boundary/fault:** In places like the San Andreas Fault (California), plates slide past each other laterally. This shearing motion causes powerful earthquakes but little volcanism.
- **Mid-oceanic Ridges/Divergent Boundaries:** Tectonic plates pulling apart create seafloor spreading and rift valleys.
 - E.g. **East Pacific Rise** exemplifies **major seafloor spreading in Ring of Fire**, located where Pacific Plate diverges from **Cocos, Nazca, and Antarctic Plates**, featuring both volcanism and hydrothermal vents.
- **Hot Spots:** Areas deep in Earth's mantle where rising heat melts rock in the upper mantle. This magma pushes through crustal cracks to form volcanoes.

Conclusion

The Ring of Fire exemplifies Earth's dynamic geology, where converging tectonic processes create the vast majority of global volcanic eruptions and seismic activity, profoundly shaping Pacific civilizations and ecosystems.

5.6. NEWS IN SHORTS

5.6.1. SUSTAINABLE DEVELOPMENT GOALS REPORT 2025

SDGR is the only **UN official report** that monitors **global progress on the 2030 Agenda for Sustainable Development**.

Key highlights of the Report

Goal 1: No poverty	<ul style="list-style-type: none"> • 8.9% population still living in extreme poverty.
Goal 2: Zero hunger	<ul style="list-style-type: none"> • Nearly 1 in 11 people worldwide faced hunger in 2023.

Goal 4: Quality education	<ul style="list-style-type: none"> Since 2015, 110 million more children and youth have entered school. 272 million children and youth remained out of school in 2023.
Goal 5: Gender equality	Globally, women occupy less than a third of managerial positions.
Goal 8: Decent work and economic growth	<ul style="list-style-type: none"> Unemployment rate fell to a record low of 5.0% in 2024. ~58% of workers remained informally employed.
Goal 10: Reduced inequalities	In 2024, 57% of working-age people were employed worldwide, impacting the lives of 3.6 billion workers and their families.
Goal 11: Sustainable cities and communities	Up to 3 billion people worldwide struggle to afford a place to live, and 1.12 billion live in slums or informal settlements.
Goal 13: Climate action	2024 marked the hottest year on record, at approximately 1.55°C above pre-industrial levels.
Goal 16: Peace, justice and strong institutions	In 2024, nearly 50,000 lives were lost to conflict and 123.2 million people were forcibly displaced.

Note: Sustainable Development Goals Report 2025 is different from the Sustainable Development Report (SDR) 2025 released by the SDG Transformation Center, an initiative of the Sustainable Development Solutions Network (SDSN).

5.6.2. NATIONAL INDICATOR FRAMEWORK (NIF) PROGRESS REPORT 2025

NIF launched by MoSPI reflects India's commitment to the **Sustainable Development Goals (SDGs)** and serves as the backbone for monitoring SDGs at the national level.

Key Progress Highlighted in the Report

Zero Hunger (SDG 2)	<ul style="list-style-type: none"> Agriculture productivity improved, income per worker rose from ₹61,247 (2015-16) to ₹94,110 (2024-25).
Clean Water and Sanitation (SDG 6)	<ul style="list-style-type: none"> Rural access to safe drinking water increased from 94.57% (2015-16) to 99.62% (2024-25).
Clean Energy (SDG 7)	<ul style="list-style-type: none"> Renewable energy in the total installed electricity generation rose from 16.02% (2015-16) to 22.13% (2024-25). Renewable energy generation capacity grew from 64.04 (2014-15) to 156.31 watts per capita (2024-25).
Decent Work and Economic Growth (SDG 8)	<ul style="list-style-type: none"> Social protection coverage expanded from 22% in 2016 to 64.3% in 2025.
Industry and Innovation (SDG 9)	<ul style="list-style-type: none"> Emission intensity of GDP reduced by 36% from 2005 to 2020, showing greener growth.
Reduced Inequality (SDG 10)	<ul style="list-style-type: none"> From 2011-12 to 2023-24, Gini coefficient of household expenditure has decreased from 0.283 to 0.237 in rural areas and from 0.363 to 0.284 in urban areas.
Responsible Consumption (SDG 12)	<ul style="list-style-type: none"> Percentage of waste processed has increased from 17.97% in 2015-16 to 80.7% in 2024-25
Life on Land (SDG 15)	<ul style="list-style-type: none"> Forest cover rose from 21.34% (2015) to 21.76% (2023).

5.6.3. DRAFT RULES FOR CARBON CREDIT TRADING SCHEME ISSUED

MoEFCC Issued Draft Emission Targets Rules for Industries Under Carbon Credit Trading Scheme (CCTS).

- Draft **Greenhouse Gas (GHG) Emission Intensity Target Rules, 2025** are issued under the **compliance mechanism of CCTS**.

About Draft Rules

- Defines **Greenhouse gas emission intensity (GEI)** as **tonnes of CO2 equivalent emitted per unit of output or product**.
- Proposes **legally binding GHG emission targets** for over 400 industrial units.
- **Bureau of Energy Efficiency (BEE)** will determine the emission **targets**.
- Applies to sectors such as **aluminium, iron and steel, petroleum refining, petrochemicals, and textiles**.
- Failure to comply will result in financial **penalties** under the **Environment (Protection) Act, 1986 (EPA 1986)**.

About CCTS

- **Goal:** Lower GHG emissions by promoting carbon pricing (i.e., **imposes a cost on GHG emissions**)
- **Legal Backing:** **Energy Conservation Amendment Act (ECA), 2022** empowers the **Central Government**, in consultation with BEE, to specify the CCTS.
- **Key elements:**
 - **Compliance Mechanism (For Obligated Entities):** Obligated entities that emit less than their target get **Carbon Credit Certificates**.
 - **Voluntary Offset Mechanism:** Enables **other sectors to register their projects for GHG emission reduction, removal, or avoidance**, in exchange for the issuance of Carbon Credit Certificates.
- **Administrator:** BEE
- **Regulator of Carbon Trading:** Central Electricity Regulatory Commission (CERC)
- **Significance:** Stepping stones for **Indian Carbon Market** and aligns with India's obligations **under UNFCCC and Paris Agreement**.

World Bank's "**State and Trends of Carbon Pricing 2025**" report has recognized India's growing role **in shaping global climate finance and carbon pricing frameworks**.

5.6.4. NEW RULES FOR CONTAMINATED SITE MANAGEMENT NOTIFIED

Using the power under Environment (Protection) Act, 1986, the MoEFCC has notified the **Environment Protection (Management of Contaminated Sites) Rules, 2025**.

- **Rules will** ensure that polluted sites are cleaned up (remediation) by those responsible.
- Contaminated sites are areas where **hazardous waste has been previously disposed of**, polluting the soil and water and posing risks to health and the environment.

Key highlights of the Rules

- **Contaminants Covered:** 189 hazardous substances as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
- **Exclusions:** Contamination from **radioactive waste, mining, oil spills at sea, and solid waste dumps** (governed by separate legislation).
- **Response levels:** Different response levels are set for **agricultural, residential, commercial, and industrial areas**.
- **Contaminated Site Management**
 - **Site Identification:** Local bodies/District Administrations must report **suspected sites twice a year to State Pollution Control Boards (SPCBs)**
 - **Site Assessment:** SPCBs shall inspect the **suspected sites** and list of probable contaminated sites and inform to the CPCB on the centralised online portal.
 - **Polluter Identification:** SPCBs identify the polluter. If land is sold, the new owner is liable.
 - **Clean-Up Plan:** **Polluter must** carry out a clean-up plan using an approved agency, and pay for it.
 - > **However, in case the polluter is not identified**, SPCB execute clean-up plan.
- **Funding** for assessment and remediation: Initial assessment costs may be covered by the Central Government from the **Environmental Relief Fund under Public Liability Insurance Act, 1991** and also by the State Government.
 - If the polluter is found, these costs must be repaid within 3 months.
- **Penalties:** The **State Board may impose fines for failure to clean up**, especially if health is at risk.

Rules address the legal vacuum around the remediation of legacy pollution sites while also providing **provision for voluntary remediation**.

5.6.5. GLOBAL WETLAND OUTLOOK 2025 RELEASED

The report was released by Secretariat of the Ramsar Convention.

Key Highlights

- **Coverage:** Inland freshwater, coastal, and marine wetlands extend over **1,800 million hectares**.
- **Wetland Degradation:** **22 per cent of the world's wetlands have been lost** since 1970.
- **More wetlands are reported as being in poor condition** for lower income/lower middle income countries (LICs/LMICs).
 - Africa's wetlands are among the most degraded globally.
- The **Ramsar Convention's strategic goals align with the Kunming-Montreal Global Biodiversity Framework (KM-GBF) Targets**.
 - KM-GBF is a **non-binding framework** adopted at the 15th Conference of Parties (COP) to the Convention on Biological Diversity.
- **Threats faced by Wetlands** includes unplanned urbanisation, rapid industrial and infrastructure development.

Best Case Studies

- **Regional Flyway Initiative**, a US\$3 billion partnership across Asia, is restoring more than 140 wetlands critical to migratory birds and nearly **200 million people**.
- **Seychelles** issued the world's first sovereign **"blue bond"**.

Way Forward

- **Integrating wetlands into national planning:** Embedding wetlands into good natural capital accounting.
- Recognising their **central role in the global hydrological cycle**.
- **Embedding and prioritising wetlands in innovative financial solutions:** Like debt instruments (such as green bonds, blue bonds) results-based financing instruments.

5.6.6. UTTARAKHAND TO ASSESS 'TOURIST CARRYING CAPACITY' IN NAINITAL DISTRICT

The survey aims to **formulate a long-term strategy** to protect the popular hill towns in the district from **increasing pressure due to unregulated tourism, mounting vehicular traffic, population pressure**, among others.

- Previously, in September 2024, **National Green Tribunal** directed the state government to classify the Nainital district based on **carrying capacity and environmental sensitivity**.

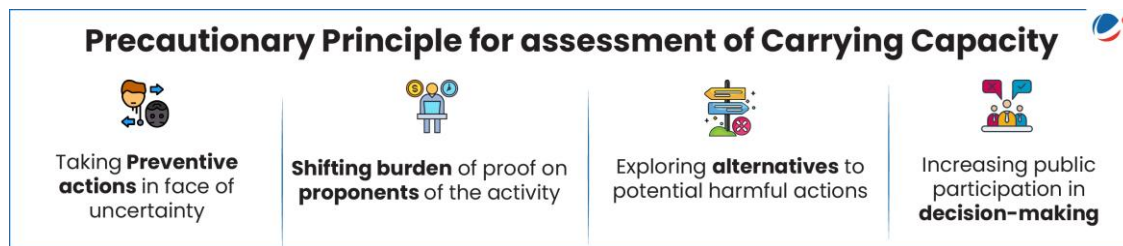
What is Carrying Capacity?

- It refers to the **maximum threshold of population an area can bear in relation to the available resources**.
- It depends on both **biotic (e.g. vegetation, hydrology)** and **abiotic (e.g. terrain, climate) factors**.
- **Two major approaches for assessing Carrying Capacity:**
 - **Planetary boundaries approach:** Applied in the context of environmental crises such as global warming, land degradation, pollution, water stress.
 - **Biocapacity Overshoot approach:** It is sustainability metric about the demand humans put on the earth systems by consuming total annual productivity of natural systems within a few months every year. **e.g., Earth Overshoot Day**.

- **Significance of carrying capacity in planning for sustainable development:**

Carrying capacity assessment based

on **precautionary principles** (refer infographic) provides the option to practically deal with the tussle between **'developmental governance'** and **'sustainability of development'**.



Proactive regulation, backed by scientific evidence and adaptive planning as per precautionary principles, can help balance economic aspirations with ecological limits. Institutionalizing such foresight can guide sustainable tourism models, prevent irreversible damage, and serve as a template for governance in other environmentally fragile regions.

5.6.7. ICJ DELIVERS DECISION ON TACKLING CLIMATE CHANGE

The case on **global responsibilities toward climate action**, especially to **protect vulnerable Small Island States (SIDS)** was led by the **Pacific Island nation of Vanuatu** and supported by more than 130 countries.

- In **2023**, the **UN General Assembly** adopted a resolution requesting the ICJ to issue an advisory opinion on:
 - States' **obligations under international law** to protect the environment
 - Legal consequences** for failing to meet these obligations

Key Highlights of ICJ Ruling

- Clean, Healthy, and Sustainable Environment is Human Right:** States are bound by treaties like the Universal Declaration of Human Rights and must act on climate change to protect these rights.
- States Obligated to Limit Emissions:** States must prevent harm from greenhouse gas (GHG) emissions, and **ensure meeting the Paris Agreement target** of limiting global warming to 1.5°C above pre-industrial levels.
- Consequences for Non-Compliance:** If states fail to meet obligations, they:
 - incur legal responsibility** and may be required to cease the wrongful conduct, and
 - may be required to offer guarantees** of non-repetition, and **make full reparation** depending on the circumstances.

Some countries, like the US and Russia, have opposed any court-mandated emission cuts. But ICJ's opinion adds growing legal pressure.



International Court of Justice (ICJ)



Established: 1945 as UN's main judicial body.



Functions: Settles disputes between states and gives advisory opinions to authorised UN organs.



Limitation: Hears cases only when requested by states.



Composition: 15 independent judges, elected for 9 years by UNGA & UNSC.



Relevance: World Court for resolving disputes among 193 UN member states.

5.6.8. ADEETIE SCHEME LAUNCHED

Assistance in Deploying Energy Efficient Technologies in Industries & Establishments (ADEETIE) scheme can help **Micro, Small, and Medium Enterprises (MSMEs)** reduce energy consumption by **30-50%**, improve power-to-product ratio, and support creation of **green energy corridors**.

About ADEETIE

- Ministry:** Ministry of Power.
- Eligible Enterprises:** MSMEs with **Udyam ID**.
 - Entities must demonstrate 10% energy savings** of the implemented technologies.
- Implementation:** Bureau of Energy Efficiency (BEE).
- Scheme Duration:** 3 years (FY 2025-26 to FY 2027-28).
- Budgetary outlay:** ₹1000 crore.
- Target Sectors:** Covers **14 energy-intensive** sectors like Brass, Bricks, Ceramics, Chemicals, Fishery, Food Processing, etc.
- Implementation Approach:** Phased roll-out, **First phase** with **60 industrial clusters**, and additional **100 clusters** in the **second phase**.

- **Scheme components**
 - **Interest Subvention: 5% for Micro and Small Enterprises and 3% for Medium Enterprises** on loans.
 - **Streamlined Project Implementation:** Support for Investment grade energy audits and preparation of Detailed Project Reports, etc.
 - **Support Provided:** Technical handholding, financial incentives, Assistance in conducting Investment Grade Energy Audit, etc.

Bureau of Energy Efficiency (BEE)



Legislative Framework: Energy Conservation Act 2001



Objective: Reduce energy intensity of Indian economy



Other Initiatives: BEE-SME Program for energy efficiency, National Programme on Energy Efficiency and Technology Upgradation, SIDHIEE portal

5.6.9. CHANGING NATURE OF FLOODS

Patterns of floods in terms of magnitude, size and intensity undergoing changes reveals IIT Study.

- **IIT Delhi and IIT Roorkee have found that riverine floods in India are changing over the past 40 years (1970–2010) based on data from >170 monitoring stations across the country.**

Key highlights of the study

- **Decline in Flood Magnitude: 74% of stations** showed decreasing flood magnitude trends whereas 26% showcased increasing trends. Larger catchment experienced reduced flood magnitudes
 - **Region Specific:-**
 - > **West and Central Ganga basin: 17% decline** per decade in monsoon floods (due to **declining precipitation and soil moisture**)
 - > **Narmada basin:** Consistent decrease in magnitude of floods (mainly on account of dam construction)
 - > **Marathwada region: River flows are decreasing by 8%** during monsoon and 31% in pre-monsoon season
- **Rise in Pre-Monsoon Flood Intensity: Malabar Coast** -Increase of **8% per decade** in pre-monsoon flood intensity (due to rising pre-monsoon rainfall). It affects rivers such as Chaliyar, Periyar, Bharathapuzha etc.
- **Shift in Flood Timing: Upper Ganga (delayed floods), Central India (earlier floods), Southern India** (generally sees later floods).

5.6.10. C-FLOOD, A UNIFIED INUNDATION FORECASTING SYSTEM INAUGURATED

C-FLOOD will act as a **unified system integrating flood modelling outputs** from **national and regional agencies**, offering a comprehensive decision-support tool for **disaster management authorities**.

- Over 40 million hectares (mha) (~12% of total area) out of 329 mha is flood prone in India.

About C-FLOOD

- It is a **web-based platform** providing **2-day advance flood inundation forecasts** up to **village-level**.
 - It uses advanced **2-D hydrodynamic modelling** to simulate flood scenarios.
- It offers **flood inundation maps** and **water level predictions** to aid **disaster preparedness**.
- **Jointly developed by:**
 - **Centre for Development of Advanced Computing (C-DAC), Pune.**
 - **Central Water Commission (CWC), nodal organisation** entrusted with the task of **flood forecasting & early flood warnings** in the country.
 - the **Department of Water Resources**, River Development & Ganga Rejuvenation, Ministry of Jal Shakti.
 - **National Remote Sensing Centre (NRSC)** has also collaborated in its development.
- **Execution:** Under the **National Supercomputing Mission (NSM)**
 - **NSM** was launched in 2015 with the aim to empower India in supercomputing capabilities.
 - **Jointly steered by** the **Ministry of Electronics and Information Technology (MeitY)** and **Department of Science and Technology (DST).**

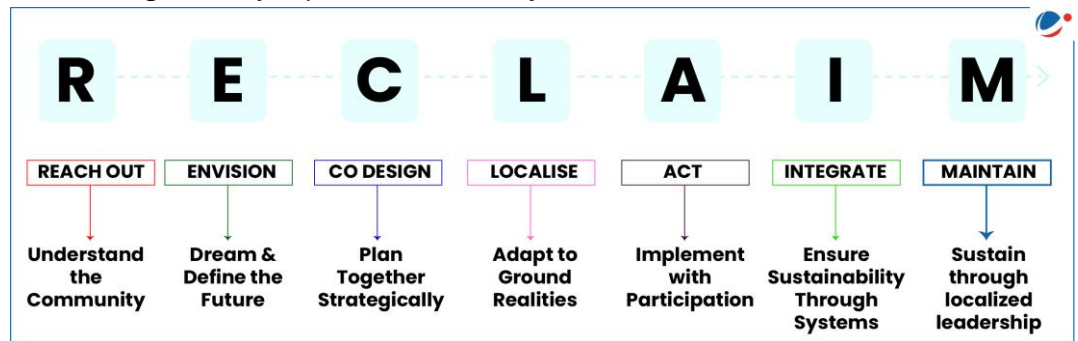
- **Present Coverage:** Mahanadi, Godavari, and Tapi river basins. Planned to expand to cover **all river basins** across India.
- Forecasts to be integrated with the **National Disaster Management Emergency Response Portal (NDEM)**.

5.6.11. RECLAIM FRAMEWORK

Coal Ministry has launched the RECLAIM **framework** - A Community Engagement and Development Framework for Mine Closure and Repurposing.

Reclaim Framework

- **Developed by:** Coal Controller Organisation under the Ministry of Coal in partnership with the Heartfulness Institute.
- **Objective:** serves as a **structured guide** for inclusive community engagement and development throughout the mine closure and post-closure phases.
 - It recognizes that mine closures significantly impact both **landscapes and local livelihoods**.
 - Special emphasis is placed on **gender inclusivity, representation of vulnerable groups, and alignment with Panchayati Raj Institutions**.
- **Framework (Refer Infographic)**



5.6.12. WEATHER DERIVATIVES

India is set to launch its first **weather derivatives**, with National Commodity and Derivatives Exchange Ltd (NCDEX) partnering with India Meteorological Department (IMD) to develop **rainfall-based derivative products**.

- These instruments will help **farmers and allied sectors** hedge against risks like **irregular rainfall, heatwaves, and unseasonal weather**.
- Using **historical and real-time weather data** from IMD, these derivatives will offer **location-specific, seasonal contracts** backed by statistically verified datasets.

About weather derivatives

- Unlike traditional derivatives based on financial assets, **weather derivatives** utilise **meteorological parameters**, such as rainfall and temperature, as the underlying asset, tied to a predefined **weather index**.
- Since these have no inherent market value, weather derivatives are considered part of an **incomplete market**.
- Globally, over-the-counter trading in such products began in **1990s**, and India now takes its first significant step forward.

5.6.13. HUMAN-MADE DAMS HAVE SHIFTED EARTH'S POLES

A recent study revealed that dam construction has shifted **Earth's rotational axis by over 1 meter** since 1835 i.e., they have driven **True Polar Wander (TPW)**.

What Is True Polar Wander (TPW)?

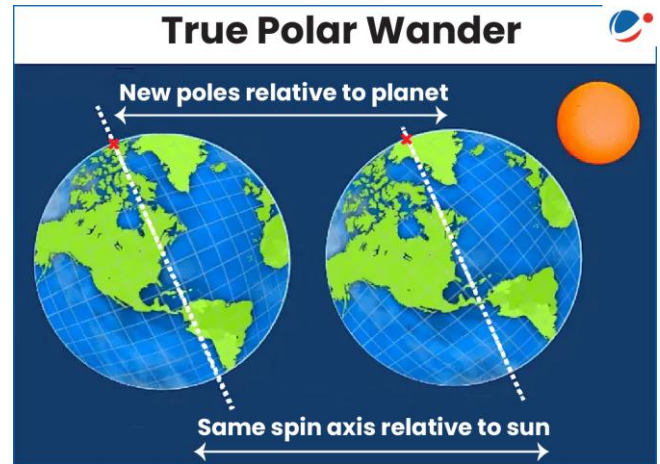
- **Definition:** TPW, or planetary reorientation, is the **rotation of the solid Earth** (crust and mantle) **about the liquid outer core**.
 - It helps the Earth **maintain rotational balance** due to **mass redistribution**.
- **Natural Factors driving TPW:** Traditionally, TPW has been linked to **natural processes** such as **glacial melting, ice sheet melt, tectonic plate shifts, and ocean swell**.

How Dams Are Driving TPW?

- **Reservoirs trap large volumes of water** that would otherwise remain in oceans.
 - This **redistributes Earth's mass inland**, causing shifts in the planet's rotation.
- The study also revealed that the shift was **not smooth**—it varied depending on the **size and location** of dams built over time.

Effects of Shifting Poles

- **Navigation Problems:** Shifting poles can affect satellites and space telescopes, which depend on Earth's rotation for accurate positioning.
- **Longer Days:** The days on Earth are growing slightly longer, and this change is accelerating.



5.6.14. WINTER FOG EXPERIMENT (WIFEX)

Winter Fog Experiment (WiFEX) completes 10 years of dedicated research into North India's dense winter fog and its impact.

About WiFEX

- It is **one of the world's few long-term open-field experiments** focused solely on fog.
- **Institutions:** Led by **Indian Institute of Tropical Meteorology** under the Ministry of Earth Sciences (MoES).
- **Objective:** To develop better now-casting (next 6 hours) and forecasting of winter fog.

5.6.15. KARIYACHALLI ISLAND

Uninhabited Kariyachalli island has sunk significantly over the past few decades due to rapid erosion and rising sea levels.

About Kariyachalli island:

- **Location:** Between Rameshwaram and Thothukudi in the **Gulf of Mannar Marine National Park region, Tamil Nadu**.
- **Tamil Nadu Sustainably Harnessing Ocean Resources (TNSHORE) project** will try to restore the reefs around the island with **artificial modules, planting seagrass beds and reviving marine life**.

5.6.16. CHENAB RIVER

The forest advisory committee has granted '**in-principle**' approval for **diversion of forest land** for construction of **Sawalkot HEP on Chenab River**.

- Sawalkot HEP is one of the six strategic hydropower developments aimed at **optimising India's use of Indus waters**.

About Chenab River

- Origin is **Bara Lacha Pas**.
 - **Two streams namely Chandra and Bhaga** rise on the opposite sides of the pass and join to form Chenab.
- Chenab valley is a **structural trough formed by the great Himalayan and Pir Panjal ranges**.
- **Tributaries include** Miyar Nalla, Sohal, Thiro, Bhut Nalla, Marusudar and Lidrari.
- It was known to Indians in the Vedic period as **Chandrabhaga, also Ashkini or Iskmati**.

5.6.17. TOKARA ISLANDS

More than 1,000 earthquakes have rattled the Tokara Islands in southern Japan.

- Japan is **one of the world's most seismically active countries**, sitting on top of four major tectonic plates along the western edge of the Pacific "ring of fire".

About Tokara Island

- It is an **archipelago** in Japan, south of Kyushu and north of Amami Islands.
- Toshima** (Japan's longest village) is located here.

5.6.18. BITRA ISLAND

Lakshadweep administration is considering acquisition of Bitra for defence purposes.

About Bitra Island

- It is the **smallest inhabited island** in the territory of Lakshadweep having a land area of **0.105 sq km**.
- Location:** Near the Agatti Island, Arabian Sea.
- Climate:** Categorised as 'Aw' i.e., tropical savannah according to the Köppen-Geiger system of climate classification.
 - The average rainfall received is **~1600 mm a year**.

About Lakshadweep

- It is **India's smallest** Union Territory.
- Lakshadweep Island consists of **36 coral islands, located in the Arabian Sea**. Atoll, lagoon and reefs are the three main geographical features.



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Performance and Progress Analysis

6. SOCIAL ISSUES

6.1. 5 YEARS OF NATIONAL EDUCATION POLICY (NEP)

Why in the News?

National Education Policy (NEP) 2020 completed 5 years.

About NEP 2020

- It is the country's **third** education policy **post-independence** (first 2 policies in **1968** and 1986 modified in 1992).
 - It was drafted on the recommendations of **Kasturirangan Committee**.
- Fundamental Principles of NEP**
 - Emphasis on Conceptual Understanding:** Rather than rote learning.
 - Use of Technology:** In teaching and learning, removing language barriers, access for Divyang students.
 - 'Light but tight' Regulatory Framework:** Ensure integrity, transparency, and resource efficiency.
 - Respect for diversity:** Inclusion of local context in all curriculum, pedagogy, and policy.
 - Equity and Inclusion:** For unprivileged sections.
 - Research:** Corequisite for outstanding education and development.
 - Continuous Review of Progress:** Based on sustained research and regular assessment.

Know the term

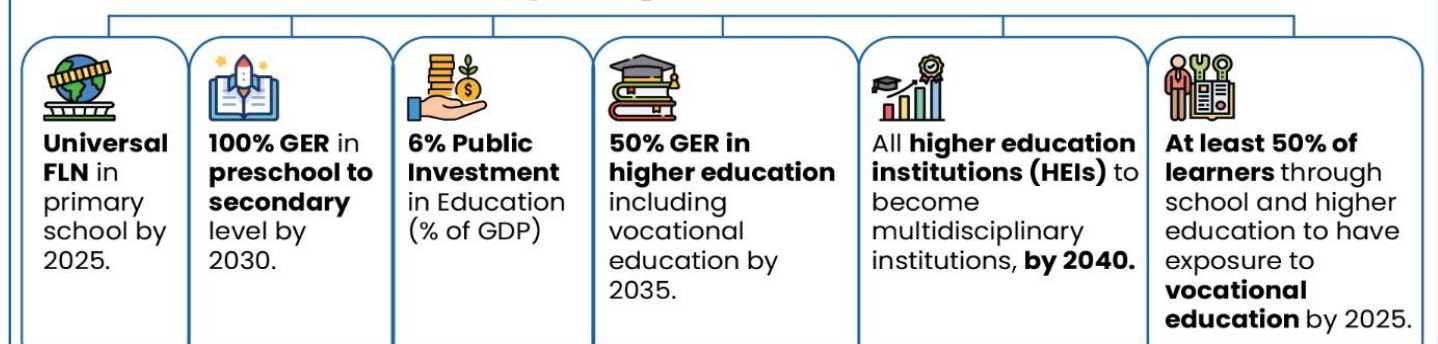
- Gross Enrolment ratio (GER):** Total number of students enrolled in a given level of education, regardless of age.
- Foundational Literacy and Numeracy (FLN):** Ability to read with understanding and perform basic mathematical calculations by end of Grade 3.

Key Focus Areas of NEP 2020

School Education	
Early Childhood Care and Education (ECCE)	<ul style="list-style-type: none"> National Curricular and Pedagogical Framework for Early Childhood Care and Education (NCPFECCE) for children up to age of 8.
Foundational Literacy and Numeracy (FLN)	<ul style="list-style-type: none"> Digital Infrastructure for Knowledge Sharing (DIKSHA)- a national platform for school education providing digital learning resources in 133 Indian languages.
New Pedagogical & Curricular Structure	<ul style="list-style-type: none"> 5+3+3+4 design and National Curricular Framework for School Education (NCFSE) by NCERT.
Multilingualism	<ul style="list-style-type: none"> Medium of instruction until at least Grade 5 (preferably Grade 8 and beyond) in local language.
Assessment Reforms	<ul style="list-style-type: none"> National Assessment Centre, PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development)- a standard-setting body for student assessment and evaluation.
Teachers	<ul style="list-style-type: none"> Pupil-teacher ratio (PTR) under 30:1 at each school level. Strengthening Teacher Eligibility Tests (TETs). Each teacher to participate in at least 50 hours of Continuous Professional Development every year.
Standard-setting and Accreditation	<ul style="list-style-type: none"> Department of School Education, apex state-level body for monitoring and policymaking.
Higher Education	
Quality Universities and Colleges	<ul style="list-style-type: none"> 3 or 4 year Undergraduate degree courses with multiple exit options. Academic Bank of Credit (ABC) to digitally store academic credits earned from various recognized HEIs.

Teacher Education	<ul style="list-style-type: none"> Use of technology platforms like SWAYAM/DIKSHA for online training of teachers. National Mission for Mentoring offers access to quality mentoring sessions from experienced professionals as Mentors to the teachers.
Regulatory Transformation	<ul style="list-style-type: none"> Umbrella institution, i.e., Higher Education Commission of India (HECI), with four independent verticals.
Other Key Areas	<ul style="list-style-type: none"> National Committee for the Integration of Vocational Education (NCIVE) Professional Education Adult Education and Lifelong Learning Promotion of Indian Languages, Arts and Culture Technology Use and Integration through an autonomous body, the National Educational Technology Forum (NETF), etc.

Key Targets of NEP 2020



Key Achievements of National Educational Policy 2020

- School education** (Economic Survey 2024-25)
 - Near universal GER** at primary level: 93 %
 - Decline in School dropout rates:** 1.9 % for primary, 5.2 % for upper primary, and 14.1 % for secondary levels.
 - Digitalization:** Increase in schools equipped with computers (38.5% to 57.2%) and internet facilities (22.3% to 53.9%) from 2023-2024 to 2019-20.
- Higher Education (18–23 age group)** (Economic Survey 2024-25)
 - Increase in GER:** From 23.7% (2014-15) to 28.4% (2021-22)
 - Increase in Total Higher Education Institutions (HEIs):** 13.8% from 2014- 15 to 2022-23.
- Rural schools** (Annual Status of Education Report (ASER) 2024)
 - FLN Directives:** Over 80% of 15,728 rural schools reported receiving FLN directives.
 - Overall school enrolment rates among 6-14 age group:** > 95% for close to 20 years.
 - Drop in Proportion of 15-16-year-old children not enrolled in school:** From 13.1% in 2018 to 7.9% in 2024.
- Teacher Training:** 12.97 lakh teachers trained under **NISHTHA (Teacher Training Programme)**.
- Innovation:** Patent filings reached **92,168 in 2023–24**, with HEIs contributing 25%.
- Inclusivity:** 7.58 lakh girls enrolled in inclusive residential schools.
- Internationalisation:** Prestigious institutions like **Deakin and Wollongong Universities (Australia)** and **University of Southampton (UK)** have campuses in India.
- Literacy:** Ladakh became the first fully literate administrative unit followed by Mizoram, Goa and Tripura.
- Multilingualism:** **National Tests** like CUET, JEE (Mains), and NEET (UG) are conducted in 12 Indian languages.
- Monitoring and Assessment:** PARAKH Rashtriya Sarvekshan (Dec 2024) covered 21.15 lakh students across 74,000 schools.

Hurdles in implementing NEP 2020

- Inadequate funding:** Overall education expenditure hovers **around 3% of GDP** against the **NEP target of 6% of GDP**.
 - Financing is **heavily input driven**, focusing on infrastructure, recruitment, and material distribution falling short of improving actual learning outcomes.

- **Centre-States Policy divide:** E.g. States like Kerala, West Bengal refused to sign MoUs for PM-SHRI schools which requires full adoption of NEP.
- **Institutional Delays:** Formation of Higher Education Commission of India (HECI) as a successor to UGC and National Curriculum Framework for Teacher Education delayed.
- **Over-regulation:** Regulatory framework (UGC/AICTE) currently includes over 50 regulations addressing different aspects of education and research.
- **Challenges with retention rates:** E.g., it stands 45.6% for higher secondary (classes I to XII). (Economic Survey 2024-25)
- **Other issues:**
 - Teachers **facing technical barriers** including difficulties in connecting laptops to smart boards etc.
 - Opposition from states like Tamil Nadu regarding the imposition of **Three-Language Formula**.
 - **Lack of effective learning time** (only 35 minutes per day) on Early Childhood Education
 - **Implementation of Four-Year Undergraduate Degrees** faces challenges due to infrastructural and faculty constraints.

Key Government Schemes/Initiatives under NEP 2020

- **PM SHRI (PM Schools for Rising India):** Revamping over **14,500 schools (2022-2027)**
- **National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat):** Ensures FLN by the end of Grade 3 by 2026-27.
- **One Nation One Subscription (ONOS):** A **Central Sector Scheme** for providing **country-wide access to scholarly research articles and journal publication** on a single platform.
- **Initiatives for Children with Special Needs (CwSN):** PM e-Vidya DTH Channel for Indian Sign Language; Disability Screening-PRASHAST etc.
- **PRERNA:** Residential program for selected students of classes IX - XII focusing on experiential learning.
- **ULLAS or Nav Bharat Saaksharta Karyakram (New India Literacy Programme - NILP):** Centrally sponsored initiative to empower adults aged 15 and above, who missed formal schooling.
- **Vidyanjali:** School volunteer program encouraging community engagement and corporate social responsibility (CSR) participation.
- **Rashtriya Vidya Samiksha Kendra (RVSK):** Provides **real-time data** on key performance indicators (KPIs) of school education for **evidence-based decision-making**.

Way forward on Improving the Implementation of NEP 2020

- **Outcomes-based financing (OBF):** Funding approach where payments are **tied to achievement of pre-defined, verified outcomes**, as opposed to **inputs or activities**.
- **Stronger coordination:** Shared framework for **monitoring progress and adapting reforms** to local contexts.
- **Technology Enabled Learning Ecosystem:** Implemented with continuous monitoring, it can improve engagement and retention.
 - E.g., Leveraging AI for teachers' professional development and providing AI-driven personal tutors for students.
- **Integrating structured peer learning:** E.g., Mission Ankur in Madhya Pradesh and Gujarat focuses on engaging schools and communities for holistic development of primary students, ensuring they achieve FLN skills.
- **Capacity Building:** Investing in faculty development programs, creating a support system for teachers, and strengthening institutional leadership.
- **Decentralization and Flexibility:** Providing **flexibility to institutions** to adapt the NEP to their **specific context** fostering innovation and ownership.

Conclusion

Five years into its rollout, NEP 2020 has laid a strong foundation for transforming India's educational landscape by focusing on inclusivity, quality, and relevance. While progress in enrolment, digital access, and teacher development is commendable, increased funding, improved governance, and overcoming infrastructural and policy hurdles are critical to realizing its full potential.

6.2. RISING SUICIDES AMONG STUDENTS

Why in the News?

Noting the ‘**deepening crisis**’ of suicides, Supreme Court (SC) in **Sukdeb Saha v State of Andhra Pradesh** issued guidelines to **Protect Mental Health of Students In Colleges & Coaching Centres**.

Rising Mental Health Crisis amongst Students

- **National Crime Records Bureau (‘NCRB’)** in its “**Accidental Deaths and Suicides in India**” (2022) found that out of the total cases of suicides, **7.6% corresponds to students**.
- **Male student suicides** surged to **99% while female jumped to 92%** (2012-2022).



Other related SC Judgements



Amit Kumar v. Union of India (2025)

National Task Force constituted to address the mental health concerns of students and prevent suicides in Higher Educational Institutions.



Shatrughan Chauhan v. Union of India (2014) and Navtej Singh Johar v. Union of India (2018)

Held that Mental health is an integral component of Right to Life under Article 21 of the Constitution.

Factors contributing to Student’s Mental Health Crisis

- **Academic Pressures:** Narrow definition of success, Academic dissatisfaction, academic stress and academic failure, particularly related to competitive exams.
- **Systemic Issues:** Discrimination and harassment in educational setting e.g., Ragging, Bullying, Sexual Assault, etc. erodes a sense of belonging and trust.
- **Culture of Silence:** Lack of open discussion and stigma on mental health coupled with insufficient safeguards acts as a social barrier.
- **Legislative and Regulatory Vacuum:** Absence of unified, enforceable framework to deal with student’s mental health issues, hinders social protection and right based approach towards mental health.
- **Family Issues:** E.g. Family conflict and instability (divorce, separation, financial hardships, etc.), parental neglect, loss of a loved ones, history of depression or other mental illnesses, adverse childhood experiences, addiction to social media etc.
- **Others:** Low Self Esteem; social isolation; Socio-economic discrimination (Caste-based, gender-based) etc.

Initiatives taken to improve Mental Health of Students

- **Mental Healthcare Act, 2017:** Rights based legislation recognising **every person’s right to access** mental healthcare and protection.
 - **Section 18** guarantees mental health services to all, and **Section 115** explicitly decriminalises attempted suicide, acknowledging the need for care and support rather than punishment.
- **National Strategy for Suicide Prevention (2022):** Aims to **reduce suicide mortality by 10% by 2030**.
- **National Tele Mental Health Programme (Tele MANAS):** Provide Access to mental health care services to all through a **centralized toll-free helpline**.
- **Manodarpan Initiative:** By the **Ministry of Education** to monitor and promote the mental health issues of students and teachers during conditions like COVID 19 and beyond.
- **Integrated approach for Promoting Positive Mental Health, Resilience, and Wellbeing:** Initiated by the **Ministry of Education** under the **Malaviya Mission Teacher Training Programme** in sync with the **National Education Policy 2020** to empower faculty to address student mental health concerns for early intervention.
- **Guidelines for Regulation of Coaching Centers to States/UTs:** By the **Ministry of Education** encompassing aspects like prioritization of counsellors’ support within coaching centres; no batch segregation; maintenance of records etc.

Way Forward: Key guidelines Issued by the SC

- **Uniform Mental Health Policy:** To be adopted and implemented by all educational institutions, **reviewed and updated annually** and made publicly accessible.
- **Appoint Qualified Counsellor/Psychologist/Social Workers:** At least one in all educational institution with **100 or more enrolled students**.
- **Mandatory Training:** For all teaching and non-teaching staff at least twice a year, conducted by certified mental health professionals, on psychological first-aid, identifying warning signs, etc.
- **Grievance Redressal Mechanism:** Robust, confidential, and accessible to be established by all educational institutions.
- **Sensitizing Parents and Guardians:** To **avoid placing undue academic pressure** and to recognise signs of psychological distress, and to **respond empathetically and supportively**.
- **Extracurricular Activities:** Including sports, arts, and personality development initiatives to be prioritised.
- **Coaching Institutions and Hubs:** Implement **heightened mental health protections** and preventive measures, regular, structured career counselling services for students and parents/guardians.
- **Residential Educational Institutions:** Take **proactive steps** to ensure that campuses remain free from harassment, bullying, drugs, and other harmful substances.

Conclusion

Improving student mental health requires a **holistic approach** that combines **peer support, adequate funding for trained professionals, responsible media practices**, and strong **institutional accountability**. Grassroots monitoring, stigma reduction, safe digital engagement, and integrating mental health services into educational settings are essential to ensure early identification, timely intervention, and accessible care for all students.

Scan the QR code to know more about the issue of suicides in India

WEEKLY FOCUS #110

Suicides: An Emerging Social Problem in India



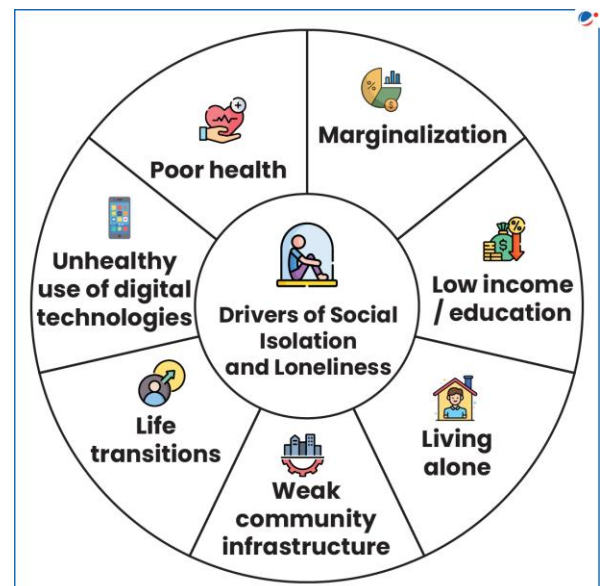
6.3. SOCIAL ISOLATION

Why in the news?

The recently released WHO report 'From Loneliness to Social Connection: Charting a Path To Healthier Societies' Report 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).

Roadmap for Improving Social Connection

- **Policy:** National Policy to encourage social connection as adopted by Eight countries including Denmark, Finland and Germany.
- **Research:** Building global and national research capacity and launch Grand Challenges in Social Connection.
- **Interventions:** Launch an intervention accelerator and strengthen social infrastructure (community spaces and services).
- **Improved Measurement:** Developing a global Social Connection Index.
- **Public Engagement:** Large public campaigns, events, group activities and social prescribing (suggestion by doctors to participate in community activities).

6.4. NEWS IN SHORTS

6.4.1. ROLE OF SOCIAL ORGANISATIONS

Lok sabha Speaker emphasizes role of Social Organisations in development of Nation and Society.

- Social organization refers to the way individuals and groups are structured and interact within a society. It can be **formal** (e.g. religious institutions, educational organisation, labour union) or **informal** (e.g. family, friends, peer groups) in nature.

Role of Social Organizations in Nation Building

Social Institutions	Role in Nation Building
Family	primary conduit of social norms and values, transfer good moral behaviours , helps in creating a more harmonious and inclusive society
Religious Institution	provides moral framework & strengthens values such as compassion, forgiveness and charity, promotes social order and community cohesion, charitable and welfare activities can help alleviate poverty
Educational institution	transmission of knowledge and skills , promotion of values such as hard work, discipline, team work, prepare individuals for various roles and responsibilities
Non Government Organisations	Policy Advocacy and Influence. E.g. Mazdoor Kisan Shakti Sangathan's (NGO) role in influencing the RTI act. Awareness & Capacity-Building: E.g Role of SEWA's (trade Union) in gender related issues. Improved Service delivery. E.g Role of Pratham's in education sector Strengthening of Democracy. E.g. Role of Association for Democratic Reforms (ADR) in decriminalisation of politics

Thus, each social institution plays a distinct and vital role in shaping lives of individuals as well as collective fabric of communities and moulds the social, economic, and cultural landscape of human societies. Recognizing and understanding the significance of these institutions is crucial for building sustainable, inclusive, and resilient societies capable of adapting to future challenges.

6.4.2. CHILD ADOPTION

- CARA issues directions to states for strengthening counseling support at all stages of Child adoption.
- These directions are given to State Adoption Resource Agencies (SARAs) under **Juvenile Justice (Care and Protection of Children) Act, 2015** (amended 2021) and in line with **Adoption Regulations, 2022**.

Key Directions given to SARAs:

- Reinforce psychosocial support framework for all key stakeholders **prospective adoptive parents (PAPs), adopted children, and biological parents**.
- SARAs instructed to **designate/ empanel qualified counsellors** at District and State Levels.
- Provisions for psychosocial intervention in any other circumstances as **assessed by the Specialised Adoption Agencies (SAAs) or District Child Protection Units (DCPUs)**.

Child adoption In India

- Nodal Ministry:** Ministry of Women and Child Development
- Primary legislation:** Adoption in India is governed by the **Hindu Adoption and Maintenance Act of 1956** and the **Juvenile Justice (Care and Protection of Children) Act, 2015**.
- Nodal Central Agency:** Central Adoption Resource Authority (CARA), established under the JJ Act, regulates domestic and intercountry adoptions.
- Hague Convention on Protection of Children and Cooperation in Respect of Intercountry Adoption (1993)** ensures ethical, legal, and transparent international adoptions while preventing child trafficking.
- Responsibility of States/UTs:** states and UTs implement the JJ Act through institutions like
 - State Adoption Resource Agencies (SARA)
 - local Child Welfare Committees
 - District Child Protection Units (DCPUs)

Central Adoption Resource Authority (CARA)



Status

Statutory body under Ministry of Women and Child Development



Function

Monitors domestic and international adoptions



Role

Central Authority for inter-country adoptions under Hague Convention (1993), ratified by India in 2003

6.4.3. KASHI DECLARATION ADOPTED IN YOUTH SPIRITUAL SUMMIT FOR DRUG-FREE INDIA

As part of broader **Mera Yuva (MY) Bharat** framework, the **Youth Spiritual Summit** laid the foundation for a **national youth-led anti-drug campaign**.

- MY Bharat is an **autonomous body** set up by the Government of India to provide an institutional mechanism powered by technology for **youth development** and **youth-led development**.

About Kashi Declaration

- Sets a 5 year **roadmap** for De-Addiction Movement.
- Affirms a **national consensus** to treat substance abuse as a **multi-faceted public health** and **societal challenge**.
- Approach to be followed:**
 - Proposes **institutional mechanisms** for **multi-ministerial coordination**, including the formation of a **Joint National Committee, annual progress reporting**, and a national platform for linking affected individuals to support services.

- **Integration** of spiritual, cultural, educational, and technological efforts to prevent addiction.

Other Initiatives taken to reduce Drug Abuse

- The Narcotic Drugs and Psychotropic Substances Act, 1985
- The Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances Act, 1988
- National Action Plan for Drug Demand Reduction (NAPDDR), 2018-25
- Nasha Mukta Bharat Abhiyaan (NMBA), 2020

Status of Drug-abuse in India (as per National Survey on Substance Use, 2019)

- **Prevalence of Alcohol Use:** 14.6% between the age of 10 and 75 years are current users of alcohol.
- **Cannabis and Opioids** (e.g., heroin) are the next commonly used substances in India.

Driving factor behind Drug Abuse



Social Factors:

E.g., Peer pressure, family conflicts, and social isolation



Economic Factors:

E.g., Unemployment and poverty



Psychological Factors:

E.g., Mental health issues like anxiety and depression



Academic/Work Stress:

E.g., High pressure in education and jobs increases risk, especially among youth.



Availability:

India is located between Golden crescent and golden triangle.

6.4.4. TALASH INITIATIVE

The National Education Society for Tribal Students (NESTS), under the Ministry of Tribal Affairs, in partnership with **UNICEF** India launched TALASH (Tribal Aptitude, Life Skills and Self-Esteem Hub) Initiative.

About TALASH

- It is a national- program to support the **all-round development** (both educational and personal growth) of students in **Eklavya Model Residential Schools (EMRSs)**.
 - **EMRS** is a **central sector** scheme under **Ministry of Tribal Affairs** to provide residential schooling to tribal children in blocks having **more than 50% of Scheduled Tribes(ST) population**
- It is an innovative digital platform which offers-
 - **Psychometric Assessments:** Inspired by NCERT's 'Tamanna' initiative
 - **Career Counselling**
 - **Life Skills & Self-Esteem Modules**
 - **E-Learning for Teachers**

6.4.5. STATE OF FOOD SECURITY AND NUTRITION IN THE WORLD (SOFI) 2025 REPORT RELEASED

Key findings of the report

- **Global hunger decreased** to an estimated 8.2% in 2024 from 2022 levels.
 - However, hunger continues to climb in most subregions of Africa and Western Asia.
- **Moderate or severe food insecurity has declined** gradually since 2021.
- **Food prices rose throughout 2023 and 2024**, pushing up the average cost of a healthy diet globally.
 - **The pandemic and the war in Ukraine** have intensified food price inflation worldwide

SOFI 2025



About

Joint initiative of FAO, IFAD, UNICEF, WFP and WHO



Purpose

Annual global monitoring of SDG 2 targets 2.1 and 2.2 to end hunger, food insecurity and malnutrition

- **Despite the increase**, people unable to afford a healthy diet in the world fell from 2.76 billion in 2019 to 2.60 billion in 2024.
- **Anaemia in women** (aged 15–49 years) and **adult obesity** (12.1% in 2012 to 15.8% in 2022) **on the rise** globally.

India related findings

- **Excluding India**, there is an **increasing trend in lower-middle-income countries** in the number of **people unable to afford a healthy diet**.
- **Mobile phone adoption** by fishermen and wholesalers in Kerala **reduced price dispersion and waste**.

Key recommendation

- **Time-bound and targeted fiscal measures**, such as temporary tax relief on essential goods and social protection Programmes.
- **Align fiscal and monetary policies** to stabilize markets.
- **Robust agricultural market information systems** are key to managing price volatility and preventing speculation.



SMART QUIZ

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7. SCIENCE AND TECHNOLOGY

7.1. NISAR (NASA-ISRO SYNTHETIC APERTURE RADAR) SATELLITE

Why in News?

The NISAR satellite was successfully launched from Satish Dhawan Space Centre, Sriharikota.

About NISAR satellite

- NISAR is an L and S-band, global, **microwave imaging mission, with capability to acquire fully polarimetric and interferometric data.**

Objectives of NISAR Mission



Measure the woody biomass and its changes



Track **changes in the extent of active crops**



Understand the **changes in wetlands' extent**



Map Greenland's & Antarctica's ice sheets, dynamics of sea ice and mountain glaciers



Characterize **land surface deformation** related to seismicity, volcanism, landslides, and subsidence & uplift associated with changes in subsurface aquifers, hydrocarbon reservoirs, etc.

- Developed jointly by **ISRO and the American space agency NASA**
 - NASA provided** the L-band radar, GPS receiver, high-rate telecom system, Solid-State Recorder, and the 12-meter deployable antenna.
 - ISRO contributed** the S-band radar, the spacecraft bus, the GSLV-F16 launch vehicle, and associated systems and services.
 - In terms of total investment**, NASA has contributed about \$1.16 billion, while ISRO has pitched in with \$90 million.
- Weight: 2,392 kg**
- Launch Vehicle:** ISRO's Geosynchronous Satellite Launch Vehicle (GSLV)-F16.
- Orbit: Sun Synchronous Polar Orbit**
 - It is the **first time a GSLV rocket was used to place a satellite into a 743 km Sun-Synchronous orbit (SSO).**
 - GSLV is typically used for placement in Geosynchronous Transfer Orbit/GTO (35 786 km).
 - SSO is a polar orbit where satellites are in sync with Sun, matching earth's rotation around sun and appearing to be in the same position relative to sun.
- Mission Life:** 5 years

Technical Features

- SweepSAR (Swept Synthetic Aperture Radar):** It is a technique used in radar imaging to produce high-resolution, wide-swath images across a broad range of terrain.
- Repeat Cycle:** The NISAR mission will **provide high-resolution data every 12 days** to monitor land changes across Earth.
- Dual-band Synthetic Aperture Radar (SAR):**
 - L-band SAR** operates at 24 cm wavelength and can penetrate forest canopy, ice, and soil, useful for biomass and deformation studies.
 - S-band SAR** operates at 12 cm wavelength and will excel at quantifying changes such as tree canopy height and melting snowpack.
 - It is world's **first Earth observation satellite to integrate both L-band and S-band SAR** on a single platform.
- Antenna and Resolution** The satellite features a large, 12-metre diameter common unfurlable reflector antenna.

- This antenna system is capable of producing images with a resolution comparable to those from a simple ground-based antenna 20 km in diameter.
- **Open-Data Policy:** Information collected will be freely available to global scientific community benefiting developing countries.

About SAR

- SAR is a type of **active data collection** where an instrument **sends out a pulse of energy and then records the amount of that energy reflected back after it interacts with Earth.**
- Unlike optical imagery, which is a passive data collection technique based on emitted energy, **SAR imagery is created from the reaction of an emitted pulse of energy with physical structures** (like mountains, forests, and sea ice) and conditions like soil moisture.

Why is it Synthetic?

- For a given wavelength, **the longer the antenna, the higher the spatial resolution.**
- In order to get a spatial resolution of 10 m, a physical radar antenna about **4,250 m long would be needed, which is impractical.**
 - For this, a **Synthetic Aperture Radar** has been developed.
 - In this concept, a **sequence of acquisitions from a shorter antenna are combined to simulate a much larger antenna**, thus providing higher resolution data.

Conclusion

NISAR is a powerful tool for sustainable development, disaster preparedness, and climate resilience. For India, it marks a leap in Earth observation capability, ensuring better planning, policy-making, and fulfilment of developmental goals.

7.2. BLACK HOLE MERGER

Why in the News?

An international network of gravitational wave observatories has recently detected the **merger of two exceptionally massive black holes.**

More in the News

- Two black holes, **one of them 140 times more massive than the Sun, and the other 100 times bigger, merged** to result a black hole estimated to be about 225 times the size of the Sun.
 - This event **actually occurred billions of years ago.**
 - This is the **biggest black hole merger ever observed.**
- The detection of the gravitational waves from this event was made **by the LVK network of observatories**, involving the LIGO detector in the United States, Virgo in Italy and KAGRA in Japan.
- The latest discovery, given the **name GW231123** (The assigned name of the gravitational wave).

Significance of the event

- **Refine Astrophysical and Cosmological Models:** The detection has the **potential to refine the current understanding of black hole formation, the evolution of stars**, and, possibly, the current models of the universe itself.
 - It opens up **new directions in theories of gravity, astrophysics, cosmology, particle physics, or cosmic strings.**

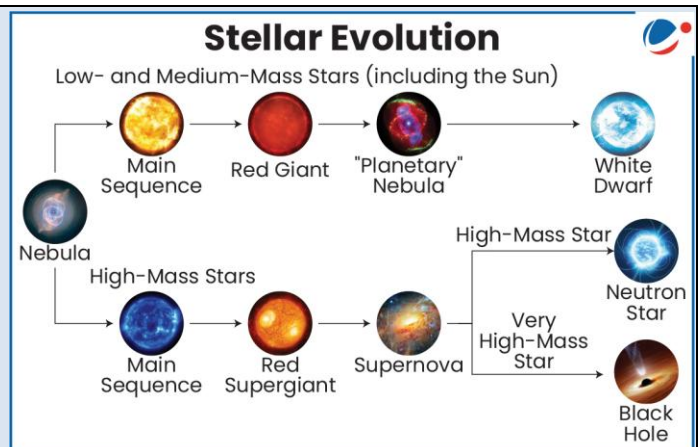
Gravitational Wave Detection Network

- **Laser Interferometer Gravitational-wave Observatory-LIGO:** Supported by the U.S. National Science Foundation (NSF), world's largest gravitational wave observatory.
 - Currently, has two detectors in Hanford, Washington and Livingston Louisiana.
 - LIGO-India is to be developed in Hingoli, Maharashtra by the **Department of Atomic Energy and the Department of Science and Technology**, with the U.S. NSF and several national and international research institutions.
- **Virgo, in Pisa, Italy:** Hosted by European Gravitational Observatory (EGO), a collaboration of Italy and France.
- **KAGRA, Japan:** Located inside the Kamioka mine.

- **Challenges the current understanding of black hole formation:** This merger surpasses all previous detections in mass, resetting our understanding of black hole extremes.
 - In addition to being extremely massive, they were also spinning incredibly fast, making this a uniquely challenging signal to interpret and suggesting the possibility of a complex formation history.
- **Insight into Hierarchical Mergers:** One proposed possibility for the formation of such massive intermediate-mass black holes (like those detected in GW231123) is through a "hierarchy of mergers" of smaller black holes.
 - Such a hierarchical process might be responsible for the formation of **supermassive black holes**, which are the "engine" of any spiral galaxy.
- **Gravitational Waves as a New Tool:** Advancing the Study of Gravitational Waves is particularly crucial for studying **dark matter and dark energy**, which do not interact with electromagnetic waves and are therefore 'invisible' to conventional methods.
 - **Gravitational Waves** are 'ripples' in space-time caused by some of most violent and energetic processes in the Universe.
 - **Albert Einstein** (in his **General Theory of Relativity**) predicted their existence in **1915**.

Black Holes

- A black hole is a place in space **where gravity pulls so much that even light cannot get out**. The gravity is so strong because matter has been squeezed into a tiny space.
- Black holes don't emit or reflect light, making them effectively invisible to telescopes. However, **scientists can see how the strong gravity affects the stars and gas around the black hole**.
 - Scientists can study stars to find out if they are flying around, or orbiting, a black hole.
- **Formation of Black Hole:** Most of black holes are formed from the remnants of a large star that dies in a supernova explosion.
 - When stars are especially large, the core collapses into a black hole. Otherwise, the core becomes an ultra-dense neutron star.
- **Types of Black Hole:** Stellar, super massive, intermediate and primordial.



7.3. NEWS IN SHORTS

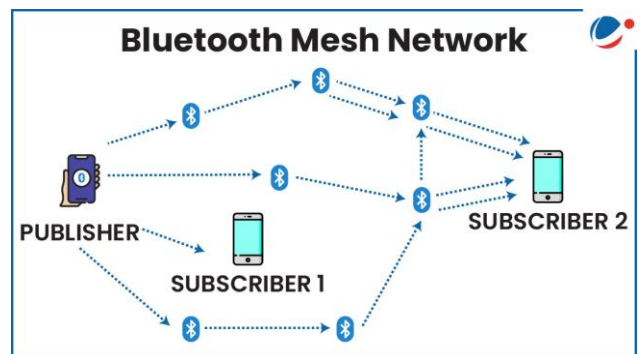
7.3.1. BLUETOOTH MESH NETWORKING

Twitter Co-Founder shared details of Bluetooth Messaging App, Bitchat.

- Bitchat is a new peer-to-peer messaging app that communicates without a **centralised server or phone network**.
- Bitchat relies on **Bluetooth Low Energy Mesh Networking** to enable communication

What is Bluetooth Mesh Networking?

- It relies on **Bluetooth clusters** or **Mesh network** created by devices in a range.
- **Mesh network**, also known as "multi-hop network", is a networking topology.
 - In it, **data can travel from any device** to all others, achieving **many-to-many communication**.
 - Even if one device fails, the network keeps working.
- Messages are broadcast and relayed by **nodes** until they reach the **intended destination**.
 - When a Bluetooth device joins a Mesh network, it becomes a node



Potential Benefits of Bluetooth Mesh Networking

- **No central database:** the **messages** are **stored entirely** on users' devices and are deleted after a short period.
 - This design is created to **prioritise users' privacy**.
 - Also, Messages are **end-to-end encrypted** and do not leave the network.
- **No registration required:** Users are not required to create accounts using their email or phone number, making the communication anonymous.
- **Other:** Low Power Consumption, etc.

Key Limitations: high latency, Complex network management, low data transfer rates, etc.

7.3.2. AI ALLIANCE NETWORK (AIANET)

The **Digital India Foundation (DIF)**, a founding member of the AIANET, has objected to the membership application of Pakistan's AI Technology Centre (AITeC) to AIANET.

- Digital India Foundation (DIF) is a not-for-profit think-tank aiming to foster digital inclusion and adoption, and the use of the Internet and related technologies for the developmental process.

About AIANET

- **About:** It is an **informal voluntary network and community** for its Members to exchange views, share information and expertise.
- **Aim:** Accelerate the development and deployment of AI technologies to enhance sustainable long-term prosperity, social and economic development
- **Members: 17 including India.**
- **Administered by:** AI Alliance Russia

7.3.3. WHO LAUNCHES "3 BY 35" INITIATIVE

Initiative aims to raise prices of any or all of three unhealthy products tobacco, alcohol, and sugary drinks by **at least 50%** through **health taxes by 2035**.

- Launched initiative **can mobilize an additional US\$ 1 trillion** in public revenue globally over next decade.
- This Initiative functions as a **collaborative alliance with** coordinate efforts from **coalition of development partners, civil society, academic institutions, and national governments**.

What is Health Tax?

- **Levied on products** that have a **negative public health impact** e.g. Tobacco, Alcohol etc.
- WHO recommends taxation as one of the most **cost-effective tools for addressing population levels of obesity** and other related non-communicable diseases (NCDs).

Need for Health Tax

- **Health Impact:** Consumption of tobacco, alcohol, and sugary **drinks fuels the NCD epidemic which accounts for over 75% of global deaths**.
- **Economic Impact:** These products create negative externalities (**costs to others**) and **internalities (hidden costs to consumers)**.
 - Tobacco use alone costed the global economy **US\$ 1.4 trillion in 2012**.
- **Revenue Generation:** **50% tax** can generate up to **US\$ 3.7 trillion in new revenue globally within five years**, or an average of **US\$ 740 billion per year – equivalent to 0.75% of global GDP**.
- **Promote Equity:** As NCDs impact **lower-income populations disproportionately**.

Successful Global Case Studies


Colombia (2016): Higher cigarette tax led to 34% drop in consumption


Saudi Arabia: 50% Sugar-Sweetened Beverages (SSB) tax cut consumption by 19% in one year

Steps taken in India for curbing consumption of Unhealthy Products

- **Aerated beverages in India** are taxed at **28% GST** and an **additional 12% Compensation cess**.
- **High-fat sugar Salt (HFSS)** foods in India are taxed at a **12% GST rate**.
- **FSSAI limits Trans fatty acids (TFA)** in food products to 2% by mass of total oils and fats.

7.3.4. WHO/UNICEF DATA ON IMMUNIZATION

WHO/UNICEF 2024 Estimates show significant progress on Immunization in India.

- The data provides the world's largest and most comprehensive dataset on **immunization trends for vaccinations against 14 diseases**.

Key Findings

- **Global:** In 2024, 89% of infants globally received at least one dose of the diphtheria, tetanus and pertussis (DTP) containing vaccine.
- **India:** It reduced its number of zero-dose children by **43% in 2024** (from 1.6 million in 2023 to 0.9 million in 2024).
 - **Zero-dose children** are those who have not received a single vaccine.

Universal Immunization Programme (UIP) of India

- **Genesis:** Initially launched in 1978 as the Expanded Programme on Immunization, it was rebranded as the UIP in 1985.
- **Coverage:** Provides free immunization against 12 diseases:
 - **Nationwide (9):** Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, Childhood Tuberculosis, Hepatitis B and Meningitis & Pneumonia.
 - **Region-specific (3):** Rotavirus diarrhoea, Pneumococcal Pneumonia, and Japanese Encephalitis.
- Under the National Rural Health Mission, **the UIP has become a central component of India's public health efforts**.
- **Under this**, a child is considered fully immunized after receiving all vaccinations as per the national schedule within the **first year of life**.
- **Achievements:** Polio-Free India (2014), Neonatal tetanus elimination (2015).
- **Key Initiatives:** Intensified Mission Indradhanush 5.0 (IMI 5.0) campaign with special focus on improvement of Measles and Rubella vaccination coverage, U-WIN Portal etc.

7.3.5. PHENOME INDIA NATIONAL BIOBANK

National Biobank inaugurated at the CSIR-Institute of Genomics and Integrative Biology (IGIB).

- The newly launched facility marks a significant stride towards building India's own **longitudinal health database**
- It will enhance India's capabilities in **precision medicine** and **biomedical** research.

About National Biobank

- **Launched under:** Phenome India Project
 - It is based on the **UK Biobank model**, but customized for Indian diversity.
- **Purpose:** It will aid in early diagnosis, improve therapeutic targeting, and bolster the fight against complex diseases such as diabetes, cancer, cardiovascular ailments, and rare genetic disorders.
 - It will **generate high-resolution data** that can **power AI-driven diagnostics** and **gene-guided therapies**.
- **Coverage:** It will collect comprehensive genomic, lifestyle, and clinical data from **10,000 individuals**.

About Phenome India Project

- It is officially called as **Phenome India-CSIR Health Cohort Knowledgebase (PI-CheCK)**.
- **Launched by:** Council of Scientific and Industrial Research (CSIR) in 2023.
- **Objective:** It is designed to be a long-term, data-rich study tracking the health trajectories of individuals over several years.

What is Phenome?

- **Phenome** is the entire set of **phenotypes** in a cell, tissue, organ, organism or species.
- **Phenotype** refers to the **observable physical characteristics** of an **organism**.
 - These include the organism's **appearance, development, and behavior**.
 - An organism's **phenotype** is determined by its **genotype** (set of genes the organism carries) as well as by **environmental influences** upon these genes.



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.



OPTIONAL SUBJECT CLASSES 2026

» Geography » Sociology
» Political Science and
International Relations

20 JUNE, 2 PM

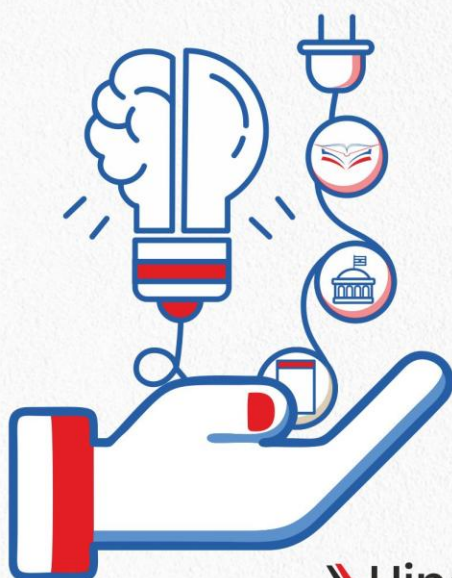
» Physics

15 JULY

» Anthropology **29 AUGUST**

» Hindi Literature » Public Administration

STARTING SOON



8. CULTURE

8.1. CHOLA GANGAM LAKE

Why in the News?

Tamil Nadu government announced to develop **1000-year-old Chola Gangam lake** in Gangaikonda Cholapuram.

More on the News

- The announcement was made during **Aadi Thiruvathirai Festival** to mark birth anniversary of Rajendra Chola I.
- Aadi Thiruvathirai Festival** commemorates **1,000 years of Rajendra Chola's** maritime **expedition to South East Asia** and construction of **Gangaikonda Cholapuram temple**.
 - It honours **Tamil Shaiva Bhakti** traditions, **63 Nayanmars**, saint-poets supported by the Chola dynasty and highlights **Shaiva Siddhanta philosophy**.

About Chola Gangam lake

- Chola Gangam Lake, also known as **Ponneri Lake**, is recognized as the **largest ancient man-made lake** in India.
- Location:** Situated within the vicinity of **Gangaikonda Cholapuram** in the **Ariyalur District** of Tamil Nadu, India.
- Construction:** By **Rajendra Chola I**.
 - Rajendra Chola I (1014 to 1044 CE)** was son of the Rajaraja I, the most powerful Chola ruler.
 - He conquered the Ganga valley earning the title **Gangaikonda Cholan** ("The Chola who conquered the Ganges").
 - > **Gangaikondacholapuram** was created as the capital by Rajendra Chola I to celebrate his Gangetic expedition (victory over several kings including the Kalinga ruler and the Pala ruler Mahipala of Bengal) mentioned in **Tiruvallangadu Copper Plates**.
- History:**
 - The **holy water was brought from Ganges** and poured into the lake and was named Chōlagangam.
 - The lake was the liquid pillar of victory established by the king.
 - The lake **was called as Ponneri** during the **Vijayanagara period**.
- Water Source:** A canal connects lake to **Kollidam River**, tributary of **Kaveri River**.
- Structure:** Its bunds, strengthened with laterite stones, were built in an elliptical shape.
- Purpose:** To supply drinking water to Gangaikonda Cholapuram and irrigation.

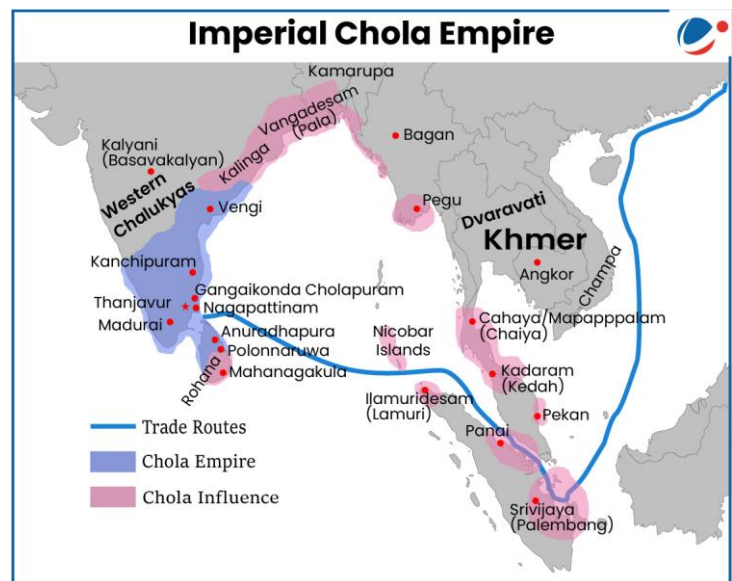
About Imperial Chola Dynasty (9th Century – 13th Century)

- Beginnings:** Started as minor chiefs in **Uraiyur** under Pallava, the Cholas rose to power in the **9th century** under **Vijayalaya Chola**.
- Key Inscriptions:** **Uttaramerur inscriptions** detail the Chola administrative system and elections.
- Administration:** The kingdom was divided into a number of provinces known as **mandalams**. The mandalams in turn were divided into **valanadu** and **nadus**. The next administrative sub divisions were **kurrams** and **kottams**.

Do you know?




> Chola rule is divided into **two periods**:

- Early Cholas:** The Cholas of the **Sangam period**, mentioned for the first time in II and XIII Rock Edicts of Ashoka.
 - Karikala Chola** was the greatest early Chola king, credited with foundation of the city of Puhar at the mouth of the River Cauvery.
- Imperial Cholas:** The Cholas who rose to prominence in the 9th century CE.



- **Local Self Governance:** Village assembly known as the **ur** or the **sabha** whose members were elected by lot, known as **kudavolai system**.
- **Tax System:** **Vetti** (forced labour), and **Kadamai** (land revenue).
- **Maritime:**
 - **Powerful Navy:** Rajaraja Chola established a powerful navy further strengthened by Rajendra Chola (Most prominent example: **Naval expedition against the Srivijaya Empire in Southeast Asia in 1025 CE**).
 - **Diplomatic and trade relations** with Sri Lanka, China, Maldives, and Southeast Asia. (Refer Map)
 - **Famous Ports:** Mahabalipuram, Kaverippumpattinam (also known as Poompuhar), and Korkai.
- **Cultural Marvels:**
 - **Splendid Temples: The Great Living Chola Temples** (Gangaikonda Cholapuram, Airavatesvara, and Brihadeeswara) are UNESCO World Heritage Sites.
 - **Sculptures:** Known for exquisite bronze sculptures, especially the iconic Nataraja.

Important Chola Temples

	About Brihadeeswara Temple	About Gangaikonda Cholapuram Temple	About Airavatesvara Temple
			
Location	Thanjavur district	Gangaikonda Cholapuram	Darasuram in the Thanjavur district
Architecture	Dravidian	Dravidian	Dravidian with main stonework resembles a chariot.
Chief Deity	Lord Shiva	Lord Shiva	Lord Shiva
Time Period	1010 A.D.	1035 A.D.	12 th century.
Built by	Rajaraja Chola I	Rajendra I	Rajaraja Chola II
Fact	Also known as Peruvudaiyar Kovil.	55-meter vimana. Also known as the Brihadeeswara temple .	Named after 'Airavat', the majestic white elephant of Lord Indra.
UNESCO World Heritage Site	Yes	Yes	Yes
Special Feature	The temple's inscriptions and frescoes narrate the tale of the rise and decline of the city's fortunes.	The temple includes stone sculptures on the niches: Nataraja, Dakshinamurthy, Harahari, Lingodbhava, Vishnu,	The carvings and inscriptions tell stories from ancient Indian Puranas.

		Brahma, Mahishasuramardhini, Gnana Saraswathi.	Steps intricately carved to represent seven musical notes.
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Conclusion

The **Chola Gangam Lake and the temples** of the Chola period together stand as enduring symbols of the **Cholas engineering brilliance, maritime might, cultural patronage, and administrative foresight**. The Cholas seamlessly blended utility, artistry, and spirituality. Their legacy seen in **water management systems, architectural marvels, maritime expeditions, and promotion of Shaiva traditions** continues to inspire Indian cultural pride.

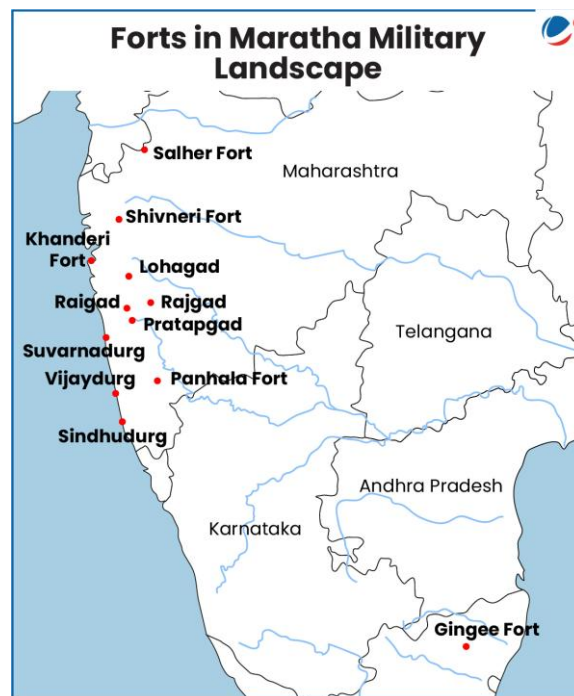
8.2. MARATHA MILITARY LANDSCAPE

Why in the News?

Maratha Military Landscapes of India added to the UNESCO World Heritage List as the 44th site from India.

About Maratha Military landscape

- It was placed on the **Tentative List of World Heritage Sites in 2021**.
- Geographical Spread:** States of Maharashtra and Tamil Nadu.
- Diverse and Strategic Locations:** Situated across varied terrains, from coastal fortifications to hilltop strongholds, including the **Sahyadri mountain ranges**, the **Konkan Coast**, the **Deccan Plateau**, and the **Eastern Ghats**.
- Evolution:** 17th century during the reign of the **Maratha King Chhatrapati Shivaji Maharaj** and continued through subsequent rules until Peshwas in 19th centuries as **strategic military vision and architectural ingenuity** of the Maratha Empire.



Forts in Maratha Military Landscapes (12)	Key Features
Salher Hill fort	Witnessed an important battle in 1672 fought between the Marathas and the Mughals.
Shivneri Hill fort	Birth place of Chhatrapati Shivaji.
Lohgad Hill fort	Located near the Buddhist caves at Bhaje.
Raigad Hill fort	Selected by Chhatrapati Shivaji for his permanent capital.
Rajgad Hill fort	Recognized as the first political base of 'Hindavi Swarajya' ; Rajgad, formerly known as Murumdev (name based on the mountain Murumbadev, on which it was built). Capital of the Maratha Empire. It was one of the 17 forts that Chhatrapati Shivaji Maharaj kept when he signed the Treaty of Purandar in 1665 .
Gingee Hill Fort (Tamil Nadu)	It has three distinct hilltop citadels and a massive boundary of thick walls and cliffs
Pratapgad Hill Forest Fort	Major fight with Afzal Khan took place near this fort.
Panhala Plateau Hill Fort	Became Maratha state capital under Tarabai.
Sindhudurg Island forts	Occupies an islet in the Arabian Sea.

Suvarnadurg Island forts	Presumably built by the rulers of Bijapur in the 16th century A. D.
Khanderi Island forts	Built during the reign of the Maratha king Shivaji in 1679 CE to keep a check on the Siddhis at Murud-Janjira fort
Vijay durg Coastal Fort	Shivaji captured this fort from Adil Shah of Bijapur and renamed it as “Vijay Durg. It was called the “Eastern Gibraltar”.

About Maratha Empire

- **Foundation:** With the rise of Chhatrapati Shivaji in **1674**.
 - Carved out an independent Maratha kingdom from various Deccan states in the 17th century. It dominated a large portion of India during the **17th and 18th century**.
- **Capitals:** Raigad Fort, Gingee, Satara, and Pune.
- **Reigned:** At its peak, the Maratha Empire extended from Peshawar in the north to Thanjavur in the south.
- **Administration:** Known as ‘**Ashtapradhan**’ was formed by Shivaji. It consisted of a council of **eight ministers**.
 - The eight ministers were **Peshwa** (Prime Minister), **Amatya** (Finance Minister), **Sachiv** (Secretary), **Mantri** (Interior Minister), **Senapati** (Commander-in-Chief), **Sumant** (Foreign Minister), **Nyayadhyaksh** (Chief Justice), and **Panditrao** (High Priest).
- **Revenue Policy**
 - **Sardeshmukhi:** 10% tax imposed upon the revenues of the entire Maratha kingdom.
 - **Chauth:** 1/4th of the total revenue from the neighbouring chieftains whose territories did not form part of the Maratha Empire.
- **Decline:** With the defeat of third Battle of Panipat (with Ahmad Shāh Abdali, 1761).

Conclusion

India shows a **strong commitment to preserving its rich cultural and natural heritage**, with **44 UNESCO World Heritage Sites** and an active **Tentative List of 62 properties** for future recognition.

About UNESCO World Heritage Sites (WHS)

- It is any of the areas or objects inscribed on the **UNESCO World Heritage List**, designated as having **outstanding universal value** under the **World Heritage Convention of 1972**.
 - These sites are selected under **three categories: Cultural, Natural, and Mixed**.
- **India’s position:** **6th globally** and **2nd in the Asia-Pacific Region**, in terms of the number of World Heritage Sites.
 - **India** has a total of 44 WHS (36 cultural, 7 natural, and 1 mixed).
- **International Body to protect and preserve such sites:** World Heritage Centre (Paris, France).
 - Established in 1992, the World Heritage Centre is the **focal point and coordinator within UNESCO for all matters related to World Heritage**.
- **Criteria for Selection of World Heritage Sites:**
 - Sites must possess outstanding universal value and meet at least one of ten selection criteria- Masterpiece of human creative genius, exhibiting an important interchange of human values, etc.
 - Each year, **every State Party can nominate only one site** for consideration by the World Heritage Committee for inclusion.
 - **Evaluation of nominations:** By the International Council on Monuments and Sites (ICOMOS) and the International Union for Conservation of Nature (IUCN).
 - **Final decision:** Made by the World Heritage Committee (India is a member from 2021-25).
- **Nodal agency in India:** Archaeological Survey of India.

8.3. INTERNATIONAL CHESS FEDERATION (FIDE) CHESS CHAMPIONSHIP

Why in the News?

Divya Deshmukh became the **first Indian woman to win the FIDE Women’s World Cup** title after defeating fellow Indian Koneru Humpy in the final, in Batumi, Georgia.

More on the News

- With this achievement, Divya joins Koneru Humpy, Dronavalli Harika, and R Vaishali as the **fourth Indian woman to become a Grandmaster**.
- Divya automatically qualifies for the **2026 Candidates Tournament**.

Other recent achievements in Chess by Indian players

- In 2024, **GM Gukesh Dommaraju** became the youngest (at the age of 18) undisputed World Chess Champion, defeating Ding Liren.
- In 2024, Indian **Men's and Women's Chess Teams** made history by **both winning gold medals** at the **45th FIDE Chess Olympiad** in Budapest, Hungary.
- In 2023, **GM Praggnanandhaa Rameshbabu** became the world's youngest (at the age of 18) chess player to reach the World Cup final, and only the second Indian after **Viswanathan Anand** to achieve the feat.

Do you know?

> **Abhimanyu Mishra, an American Chess Player**, is the **youngest international Master in 2019** at the age of 10 and began earning his Grand Master norms in 2021.

About FIDE World Championship Cycle

- FIDE World Cup is one of FIDE's most important events and determines three players who make it to **FIDE Women's Candidates Tournament**.
- **Candidates Tournament** is the final event in the World Championship cycle before the World Championship match.
 - **Winner of the Candidates Tournament** plays the **reigning world champion** in the **championship match**.
 - **Candidates tournament** is an eight-player, **double round-robin** event.
 - **Methods for Qualification in Candidates tournament** include:
 - > The runner-up in the previous World Championship match;
 - > the top three finishers of the FIDE World Cup,
 - > the top two finishers of the FIDE Grand Swiss tournament,
 - > the winner of the FIDE Circuit, which tracks tournament results from January to December of the year before the Candidates Tournament,
 - > and the player with the highest FIDE rating on January of the year of the Candidates Tournament.
- **World Chess Championship** match is played between the reigning World Champion and winner of the Candidates tournament.

About International Chess Federation (FIDE)

- It is the governing body of the sport of chess, and it regulates all international chess competitions.
- **Genesis:** Constituted as a non-governmental institution in Paris in 1924, it was **recognized by the International Olympic Committee** as a Global Sporting Organization in 1999.
- **Headquarters:** Lausanne, Switzerland.
- **Members:** Encompasses 201 countries as affiliate members, in the form of National Chess Federations.

8.4. NEWS IN SHORTS

8.4.1. KASHMIRI PASHMINA SHAWL

Indian Prime Minister during his Ghana visit gifted handcrafted artefacts such as **Kashmiri Pashmina shawl** to the country's top leaders.

Kashmiri Pashmina shawl

- It is woven from the fine undercoat of the **Changthangi goat**.
 - Changthangi goat, also known as the Pashmina goat, is a breed raised in the high-altitude regions of Ladakh, India.
- Celebrated for its softness and warmth,

Other Handicrafts

- **Bidriware vases (Bidar, Karnataka):** The vases feature a **zinc-copper alloy base** with a distinctive black finish and fine silver inlay.

- These are engraved with floral motifs, they symbolise beauty, prosperity and harmony.
- **Silver filigree purse (Cuttack, Odisha):** It is known for its **Tarakasi work**.
 - The purse combines intricate floral and vine designs with modern style.
- **Miniature Ambawari elephant (West Bengal):** It is handcrafted from **polished synthetic ivory** — an ethical alternative to natural ivory.

Please note: All the listed handicrafts, except the Miniature Ambawari Elephant, have been granted a Geographical Indication (GI) tag.

8.4.2. PIPRAHWA RELICS

India witnessed the return of **Lord Buddha's** sacred **Piprahwa Relics**.

About Piprahwa Relics

- **Discovery: 1898** by British civil engineer **William Claxton Peppé** in **Piprahwa, Siddharthnagar** (ancient Kapilavastu), Uttar Pradesh.
- **Significance:** Associated with the **mortal remains** (Body relics) of Buddha.
- **Key Features:** Include bone fragments, soapstone and crystal caskets, a sandstone coffer, and offerings like gold ornaments, etc.
- **Enshrined Around:** 3rd century BCE.
 - A **Brahmi script inscription** on one of the caskets confirms them as Buddha relics, deposited by the **Sakya clan**.
- **Current Status:** Classified as **'AA' antiquities** under Indian law, prohibiting their removal or sale.



SMART QUIZ

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





DAKSHA MAINS
MENTORING PROGRAM 2026

DAKSHA MAINS MENTORING PROGRAM 2026

(A Strategic Revision, Practice, and Enrichment Mentoring Program for Mains Examination 2026)

DATE

16 August

DURATION

5 Months

HIGHLIGHTS OF THE PROGRAMME

 Highly experienced and qualified team of mentors

 Scheduled group sessions for strategy discussions, live practice, and peer interaction

 Well-structured revision and practice plan for GS Mains, Essay & Ethics

 Access to Daksha Mains Practice Tests

 Emphasis on score maximization and performance improvement

 Personalized one-to-one sessions with mentors

 Subject-wise strategy documents based on thorough research

 Continuous performance assessment, monitoring and smart interventions



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9. ETHICS

9.1. CELEBRITIES AND ENDORSEMENT OF PRODUCTS

Introduction

The role of public figures in shaping public opinion is immense. Recently, the **Enforcement Directorate (ED)** charged **many celebrities**, including popular actors and TV hosts, for allegedly **promoting illegal betting apps**, violating gambling and money laundering laws. This incident **mirrors earlier controversies**, such as endorsements of harmful products like tobacco surrogates, alcohol, unhealthy foods, and unregulated crypto platforms, raising questions about **celebrity ethics** and **social responsibility**.

Key Stakeholders and Invested interest

Stakeholders	Key Interests
Celebrities	<ul style="list-style-type: none"> Seek financial gain and brand visibility. Ensuring public welfare, otherwise risk to personal credibility. Moral duty of role models is upholding the highest ethical standards.
Companies/Platforms	<ul style="list-style-type: none"> Maximising profits and market reach. Respecting law of the land upholding and corporate social responsibility.
Government Agencies	<ul style="list-style-type: none"> Enforcing laws, protecting consumers, preventing money laundering. Maintain trust in public systems by curbing unlawful promotions.
Society at large (especially youth)	<ul style="list-style-type: none"> Maintaining informed decision-making under celebrity influence. Potential for financial losses, addiction, or unlawful activity participation.

Key Ethical Issues in Celebrity Endorsement of Harmful Products

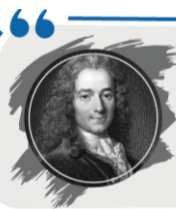
- Autonomy and Informed Consent:** Endorsements often use emotional appeal while hiding risks, violating **Kantian ethics** which demands treating people as ends, not means.
 - Advertising Standards Council of India (ASCI) guidelines** also require visible “ad” labels, disclosure of payments/gifts, and verified claims.
- Accountability and Responsibility:** Following **Gandhian Trusteeship**, fame should be used as a trust for public welfare.
 - The **Consumer Protection Act, 2019** also holds endorsers liable for false or misleading ads.
- Beneficence and Non-Maleficence:** Celebrities have a duty to **‘DO GOOD’** and **‘DO NO HARM’**. Promoting harmful or illegal products violates both.
 - Example, Celebrities criticising sugar on TV but endorsing chocolates and ice creams.
- Erosion of Role-Model Integrity:** **Virtue ethics** values honesty, prudence, and social responsibility.
 - Repeatedly endorsing questionable products damages moral authority and weakens their influence as role models.

Key Challenges in Preventing Celebrity Endorsement of Harmful Products

- Financial Incentives Override Ethics:** Celebrities receive substantial compensation for endorsements, creating powerful financial incentives that can override ethical considerations.
- Information Asymmetries:** Celebrities often depend on company-provided information without independent verification, making them vulnerable to misleading claims by manufacturers or service providers.
- Celebrity Worship Culture:** Deep cultural reverence for celebrities in many societies makes it difficult to hold them accountable, as public backlash against regulation may be seen as attacking beloved figures.
- Evolving Product Categories:** New product categories like digital assets and online betting platforms emerge faster than regulatory frameworks can adapt, creating temporary regulatory voids that can be exploited.
- Limited Regulatory Resources:** Oversight agencies often lack sufficient manpower and technology to monitor the vast landscape of celebrity endorsements across multiple platforms and media channels.

Way Forward for Ethical Celebrity Endorsements

- **Ethical Self-Audit:** Celebrities should follow personal endorsement guidelines, verify brand legality, and declare all paid promotions transparently.
 - Celebrities should use fame to promote public-good causes like health, environment, legal awareness, and financial literacy.
- **Responsible Industry Practices:** Brands and agencies should prioritise long-term social responsibility over quick profits.
- **Strong Policy Framework:** Develop sector-specific rules for high-risk areas (e.g., gambling, finance), mandatory disclosures, and self-regulation councils of celebrities, experts, and consumers.
- **Public Awareness Campaigns:** Encourage critical consumer thinking regarding celebrity endorsements.
- **Collective Moral Responsibility:** Ethical behavior should not be driven only by fear of punishment, but by a sense of collective responsibility towards the public good.



With great power comes great responsibility.

—Voltaire

Conclusion

In a society where fame commands trust, public figures must act as custodians of that trust. Endorsements are not merely commercial acts; they are moral choices with real societal consequences.

Check your ethical aptitude

With the rise of digital platforms, celebrities promoting illegal or harmful products have attracted increasing scrutiny. While Indian laws such as the Consumer Protection Act, 2019, ASCI guidelines, and recent directives from the Department of Consumer Affairs aim to regulate these endorsements, challenges remain due to gaps in transparency and ethical responsibility.

Against this backdrop, answer the following questions:

- Analyze the role of various stakeholders in promoting ethical advertising and endorsements. What are the challenges faced in enforcement?
- Discuss the significance of collective moral responsibility and ethics education in improving the conduct of public figures in the digital era.
- Propose a robust strategy involving legal reforms, accountability mechanisms, and awareness campaigns to curb unethical celebrity endorsements, especially for online betting and similar harmful products.



Lakshya

PRELIMS & MAINS INTEGRATED MENTORING PROGRAM 2026

Lakshya Prelims & Mains Integrated Mentoring Program 2026

(A 12.5 Months Strategic Revision, Practice, and Mentoring Program for UPSC Prelims and Mains Examination 2026)

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- Coverage of the entire UPSC Prelims and Mains Syllabus
- Highly experienced and qualified team of senior mentors
- Emphasis on themes for Prelims & Mains with High-Scoring Potential
- Focus on Current Affairs & CSAT preparation through rigorous practice
- Access to Lakshya Prelims Practice Tests (LPPT) and Lakshya Mains Practice Test (LMPT)
- Sandhan Personalised Test Series with an extensive collection of 25000+ questions

- Development of Advanced answer writing skills
- Subject-wise strategy documents and smart material for both Prelims and Mains
- Special emphasis to Essay & Ethics
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Date	Duration	Medium	Mode
14 August	12.5 Months	English & Hindi	Offline & Online

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10. SCHEMES IN NEWS

10.1. PRADHAN MANTRI KISAN SAMPADA YOJANA (PMKSY)

Why in the News?

Cabinet has approved additional outlay of Rs.1920 crore for ongoing Central Sector Scheme “Pradhan Mantri Kisan Sampada Yojana” (PMKSY) during 15th Finance Commission Cycle.

Objectives	Salient Features
<ul style="list-style-type: none"> Creation of modern infrastructure with efficient supply chain management from farm gate to retail outlets to boost food processing sector. Help in providing better returns to farmers and creating huge employment opportunities especially in the rural areas. Reducing wastage of agricultural produce, increasing the processing level and enhancing the export of the processed foods. 	<ul style="list-style-type: none"> Ministry: Ministry of Food Processing Industries (MoFPI) Type: Central Sector Scheme Tenure: From 2021-22 to 2025-26 Background: Centre approved the umbrella scheme named SAMPADA (Scheme for Agro-marine processing and Development of Agro-processing Clusters) in 2017. <ul style="list-style-type: none"> The scheme was subsequently renamed as ‘Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)’ with some components being discontinued. Component of PMKSY: <ul style="list-style-type: none"> Integrated Cold Chain & Value Addition Infrastructure: Provides seamless cold chain facilities from farm gate to consumer. <ul style="list-style-type: none"> Set up by eligible firms, companies, cooperatives, SHGs, FPOs, NGOs, PSUs, etc. Cold chain for fruits and vegetables is implemented under the Operation Greens (OG) scheme to ensure convergence. Creation of Infrastructure for Agro Processing Cluster (APC): Aimed at setting up smaller-scale food processing units, similar to Mega Food Parks. <ul style="list-style-type: none"> At least 10 acres of land is required. Creation/ Expansion of Food Processing and Preservation Capacities (Unit Scheme): Focuses on creating and expanding processing facilities within Mega Food Parks (MFPs) and APCs. <ul style="list-style-type: none"> Implemented by PSUs, Joint Ventures, FPOs, NGOs, Cooperatives, SHGs, private firms, and individuals for food unit establishment or modernization. Food Safety and Quality Assurance Infrastructure (FTL): Supports food testing labs and global certifications (HACCP, ISO 22000). Human Resource & Institutions (HRI)-Research and Development: 100 R&D projects have been sanctioned for 15th FC cycle. Operation Greens (OG): Announced in Union Budget 2018-19 on the line of Operation Flood. <ul style="list-style-type: none"> Initially the scheme was launched for development of Tomato, Onion and Potato (TOP) value chain The scheme has two components:



Initiatives by QCI for ensuring Food Safety and Quality Assurance

- QCI has developed “**IndiaGHP**” and “**IndiaHACCP**” based on globally accepted **Codex Standards**.
- These schemes will help **India food chain related industry to demonstrate compliance to global standards** without having to go for costly and time consuming foreign certifications as many countries have mandated
 - Hazard Analysis Critical Control Point (HACCP)** for high risk sectors like meat, fish, dairy etc.
 - Good Hygienic Practices (GHP)** across all food sectors.

	<ul style="list-style-type: none"> ✓ Long Term Intervention-Integrated Value Chain Development Projects: Under the union budget 2021-22, its scope was enlarged to 22 perishable crops ✓ Short-Term Interventions: Under “Aatmanirbhar Bharat Package” of 2020 its scope was expanded from TOP crops to all fruits and vegetables (i.e. TOP to TOTAL). • Inter-scheme re-allocation: Based on mid-term correction inter-scheme reallocation of the outlay may be approved by the Minister I/C of MoFPI subject to 25% of the original outlay of that scheme. • Use of savings of committed liability: Savings from committed liability for any scheme shall be used for sanction of new projects under the scheme. • Awareness: Wide publicity may be given to the schemes of PMKSY so that full advantage of benefits under PMKSY can be availed by stakeholders.
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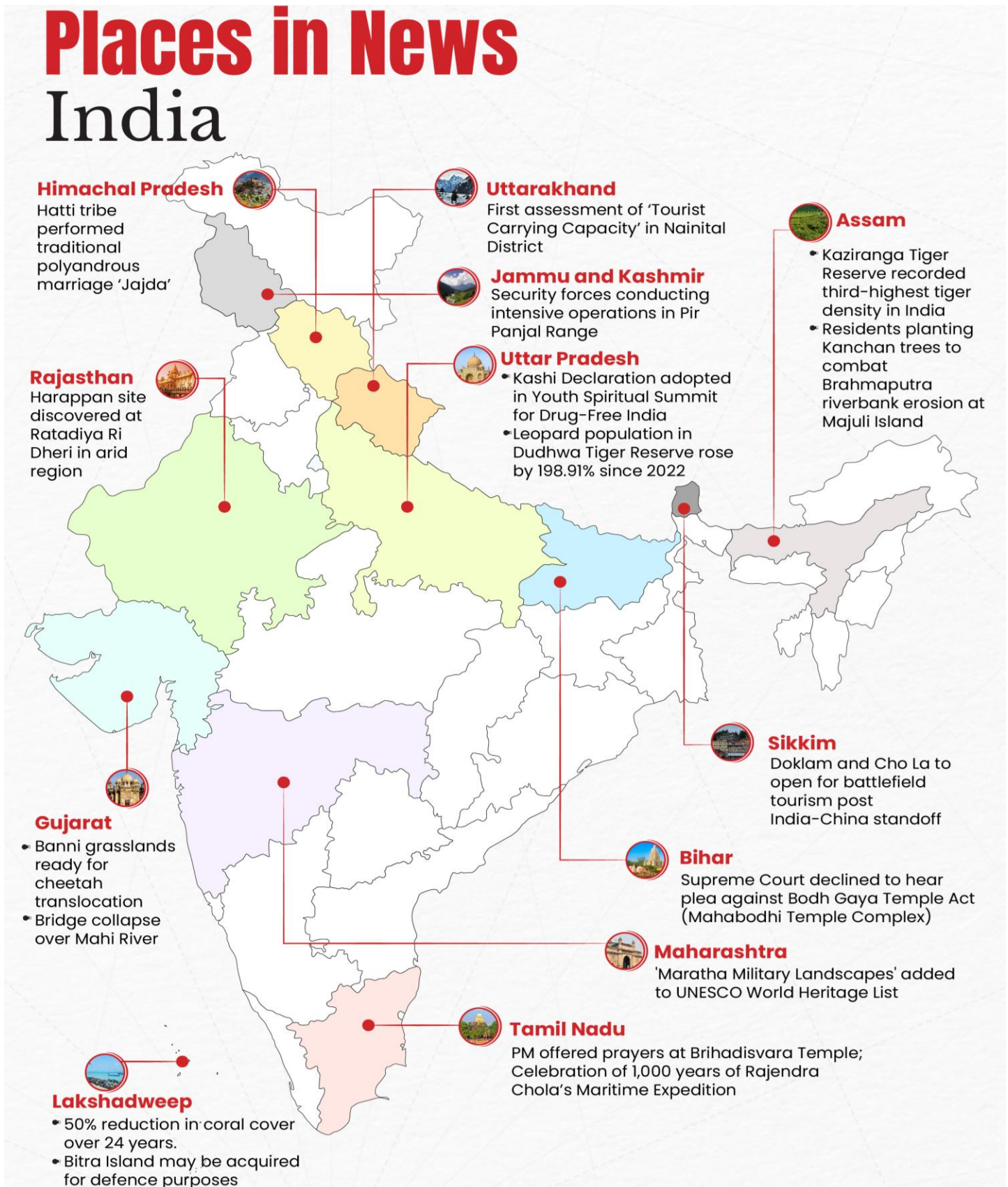
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