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365

UPDATED CLASSROOM STUDY MATERIAL
(June and July 2025)

UPDATED CLASSROOM STUDY MATERIAL

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1. POLITY AND GOVERNANCE

1.1. PARLIAMENTARY COMMITTEES

Why in the News?

Lok Sabha Speaker highlighted that Parliamentary Committees are not adversarial to the government but act as **supportive and corrective instruments**, offering constructive guidance.

About Parliamentary Committees

- **Parliamentary Committees** are panels of Members of Parliament formed to scrutinise the functioning of the government and to uphold executive accountability.
- **Two types:**
  - **Standing Committees** (Permanent and Regular): Includes Financial Committees and 24 Departmentally Related Standing Committees.
  - **Ad hoc Committees** (Constituted for specific purpose and cease to exist on finishing their task): Includes Select and Joint Committees on Bills.

Significance of Parliamentary Committees

- **Accountability:** Need for vigilance on the part of the Legislature over the Executive actions. E.g. Public Accounts Committee in financial matters.
- **Transparent and Effective Governance:** By offering well-researched recommendations and acting as a bridge between the executive and the legislature.
- **Improves Legislative Efficiency:** Since Committees meet throughout the year, they help make up for lack of time available on the floor of the House.
- **Building consensus:** Provide a forum for building consensus across political parties.

Issues with parliamentary committees

- **Short tenure and delays** in constituting committees and **closed-door meetings**.
- **Low Attendance of MPs in committee meetings.** In 17th Lok Sabha, till July 2023, average attendance for subject committee meetings was 47%.
- **Declining number of bills being referred** to the committees. Only 16% of the Bills in the 17th Lok Sabha (60% in 14th Lok Sabha).
- **The Venkatachaliah Commission (2000)** found issues like lack of resources, inadequate staff strength, and absence of expert advisers.

Conclusion

Parliamentary Committees serve as the nerve center of legislative functioning in India. Enhancing transparency, mandating regular referrals of Bills, empowering them with expert support, and fostering a culture of active MP participation can revitalize committee functioning—ultimately strengthening Indian democracy.

1.2. POLITICAL FINANCING IN INDIA

Why in the News?

According to the **Association for Democratic Reforms (ADR)** report, many political parties delayed submitting expenditure statements and some even failed to report altogether after General Elections 2024.

More on the News

- Political parties must submit expenditure reports to ECI within 90 days (General) and 75 days (Assembly) of elections.
- Widespread non-compliance has raised serious concerns about **transparency and accountability** in political financing.

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Issue in Political Financing in India

- **Costly Elections:** 2024 Lok Sabha polls were the world's most expensive, costing ₹1.35 lakh crore.
- **Opaque Funding:** 60% of major party funds (2004–2023) came from undisclosed sources.
- **Funding Inequality:** National parties received 93% of total donations in 2024, skewing the level playing field.
- **Overspending:** Actual expenses often exceed ECI limits (₹95L for Lok Sabha, ₹40L for Assembly), aided by third-party spending and loopholes in Model Code of Conduct.
- **Wealth-Based Success:** Rich candidates dominate, e.g., 44% winners in MP had assets over ₹5 crore.

Recommendations

- **Cap on the expenditure** to be incurred for an election by political parties (Law Commisison).
- **State funding to reduce disparities** in financial resources among political parties (**Indrajit Gupta Committee (1998).**
- **Expenditure must be limited to transactions via cheque/DD/RTGS** to **reduce use of black money (ADR).**
- **Other:** Observers should monitor party expenditure, and all donor details must be publicly disclosed.

Conclusion

Reforming political finance needs enforceable spending caps, donor transparency, state funding, and strict penalties to reclaim electoral fairness and public trust.

1.3. NATIONAL COOPERATION POLICY 2025

Why in the News?

Recently, **Union Minister of Cooperation** unveiled National Cooperation Policy (NCP) 2025.

About National Cooperation Policy 2025

- **Aim:** To establish cooperation as an instrument for the country's development for future generations.
- **Mission:** Promotion of professional, transparent, technology-enabled, accountable, economically self-reliant, and successful cooperative units.

Objectives

- Establishment of at least **one cooperative unit in every village** and **five Model Cooperative Villages in every tehsil.**
- **Tripling the cooperative sector's GDP** contribution by 2034.
- Increasing the **number of cooperative societies by 30%** from the current 8.3 lakh.
- **Expansion into new sectors** like tourism, insurance, taxi services, green energy.
- **Legal reforms every 10 years** to keep the policy relevant.

Strategic Pillars for Cooperative Growth

Youth Engagement
Sector Diversification
Inclusivity & Reach
Future Preparedness
Vibrancy & Innovation
Foundational Institutions

Conclusion

National Cooperation Policy 2025 aims to modernize and expand India's cooperative sector, making it more professional, inclusive, and future-ready. With ambitious goals and sectoral diversification, it envisions cooperatives as key drivers of **grassroots development.**

To know more about the Cooperatives, refer to Article 10.1.Cooperatives in the Mains365 Polity 2025.

1.4. PERSONALITY RIGHTS

Why in the News?

Delhi High Court protected Sadhguru Jaggi Vasudev's personality rights from AI misuse by rogue websites.

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More on the News

- HC flagged misuse of AI tools that clone voices, create deepfakes, and exploit public figures' identity for commercial gain.
  - This threatens privacy, reputation, and economic rights.

What are Personality Rights?

- These are **right to control the unauthorized use of personal traits** like name, image, voice, likeness, expressions, etc.
  - **Not explicitly codified** in Indian law.
- **Components of Personality Rights**
  - **Right to Publicity**: Protects against unauthorized commercial use of one's image or likeness.
    - Partially covered by the **Trademarks Act, 1999** and **Copyright Act, 1957.**
  - **Right to Privacy**: Prevents public representation of one's personality without consent.
    - Broadly protected under **Article 21** and **K.S. Puttaswamy (2017) judgment**.
- **Posthumous Personality Rights in India**: No specific legal recognition after death.
  - **Emblems Act, 1950**: Bars commercial use of images of Mahatma Gandhi and PM.
  - **Deepa Jayakumar v. AL Vijay (2019):** Personality rights end with death.

Important Judicial Pronouncements Related to Personality Right

- **ICC Development (International) Ltd. vs. Arvee Enterprises, 2003 (Delhi HC):** Personality rights protected under Articles 19 & 21.
- **Arun Jaitley vs Network Solutions Private Limited and Ors case, 2011 (Delhi HC):** Internet presence equals real-world reputation.
- **Rajinikanth vs. Varsha Productions (Madras HC, 2015):** Unauthorized use of celebrity image violates personality rights.

Challenges in Enforcing Personality Rights in India

- No clear **legal definition of "persona."**
- No **dedicated statute** for personality rights.
- **Scattered protections** under IP laws, tort, and constitutional law.
- **Inadequate protection** under IP regime, e.g. copyright law doesn't cover traits like voice or likeness.

Way Forward

- **New Law Needed**: Define traits, mandate consent, regulate AI use, and set penalties.
- **Stronger Regulation**: Align with **General Data Protection Regulation (GDPR) of European Union**; empower MeitY/DoT to monitor AI misuse.
- **Ethical AI**: Needed AI Developers guidelines to prevent misuse of personal data.

Conclusion

India needs a dedicated legal framework to protect personality rights in the AI age and ensure dignity, privacy, and digital security.

1.5. DATA FOR GOVERNANCE

Why in the News?

The NITI Aayog report titled **"India's Data Imperative: The Pivot Towards Quality"** highlights the urgent need for better data quality in digital governance.

Key Highlights of the Report

- Over the past decade, India has emerged as a **global leader in digital public infrastructure.**

- As India enters the next phase of its digital journey, the **focus must shift from merely scaling to prioritising quality data.**
- **Quality data** consists of six core attributes—**accuracy, completeness, timeliness, consistency, validity, and uniqueness.**
- **Data-Quality Scorecard: T**o monitor and improve datasets, as well as a **Data-Quality Maturity Framework** (having seven dimensions) to help departments assess and upgrade their data systems.

Dimension of Data-Quality Maturity Framework

Data Governance & Ownership | Standards & Metadata | Data Capture & Validation Controls | Quality Monitoring & Reporting | Correction & Feedback Loops | Interoperability & Integration | Culture & Capacity

Why Quality Data is Crucial for Governance?

- **Boost Digital Services:** Through efficient platforms like UPI and Aadhaar.
- **Avoid Waste:** Reduces welfare budget (by 4–7%) by avoiding errors/duplicates.
- **Build Trust:** Ensures accurate targeting and timely service, avoiding rejections.

Key Challenges in Using Quality Data

- **Inaccurate Collection:** Speed prioritized over accuracy, e.g. 80% accuracy is often seen as acceptable.
- **Lack of interoperability:** Due to absence of standardized protocols for data storage and retrieval across ministries and departments.
- **Scattered Storage:** Mix of modern and outdated systems without uniform standards.
- **Lack of Coordination:** Departments use different formats and update cycles.
- **Poor Maintenance:** Old records not removed, slowing systems and risking data leaks.

Conclusion

To ensure effective digital governance, India must shift focus to data quality—by institutionalizing real-time audits, enforcing uniform standards, enhancing interoperability, and cultivating data responsibility across institutions for inclusive, accountable service delivery.

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2. INTERNATIONAL RELATIONS

2.1. SOFT POWER DIPLOMACY

Soft Power Diplomacy

What is soft power and cultural diplomacy?

Soft power is the **ability to influence others through appeal and attraction** using non-coercive means.

Cultural diplomacy is the "exchange of ideas, information, art, language and other aspects of culture among nations and peoples in order to foster mutual understanding.
> **Ram Leela is still carried in Trinidad and Tobago islands** by Indian diaspora, who migrated to the island as indentured laborers, from India.

Smart power is the ability of a country to combine elements of both hard and soft power in a way that they can effectively and efficiently contribute to achieve the countries goals.
> **According to MEA, Smart power is** the most representative of India's current interaction with the world.
> **In the age of interconnectivity and dependence** smart power is the future.

Issues inhibiting effective conduct of soft power

Lack of timely, adequate budget allocation.

Need for greater coordination and consultation among multiple institutions, both in the government and private sector.

Shortage of skilled, motivated manpower in Indian Missions/Posts abroad.

Lack of clarity about the mandate of Indian Council for Cultural Relations (ICCR) and absence of a national policy.

Tools of India's Cultural Diplomacy

Yoga: United Nations approved 21 June as International Yoga Day.

Indian Cinema: It has huge audiences across the world.

India's Values and Tolerance: They are seen as largely positive in nature.

Indian Cuisine: India with its cultural diversity is home to a fascinating array of Cuisine.

Tourism: help in connecting people and culture.

Way Forward (Parliamentary committee of external affairs recommendations)

Dedicated document: to delineate India's soft power toolbox and the manner in which it is being projected abroad.

Restructuring Indian Council for Cultural Relations (ICCR): by increasing ICCR's budgetary allocation at least 20%.

Coordination committee: between the MEA/ICCR and other line ministries (such as the Ministry of Culture).

Interacting with diaspora: Formulating a mechanism to proactively interact with the Indian diaspora.

Focusing on religious and medical tourism: by adopting a multi-pronged approach by building the requisite infrastructure and skilled expertise.

Conclusion

India's soft power diplomacy, rooted in culture, democracy, yoga, diaspora, and development partnerships, enhances global goodwill, builds trust, and strengthens its image as a civilizational yet modern power, complementing hard power for balanced foreign policy.

2.2. DIGITAL COLONIALISM

Why in News?

Recently Vice President warned that **nations today face a new kind of colonisation —not by armies, but by algorithms — raising** concerns about **digital colonialism**.

What is Digital Colonialism?

- **Definition:** It refers to a phenomenon where **developed nations and their big tech companies utilise digital platforms to control and profit from less developed nations.**
    - It is mainly concerned with the **Neo-Colonialism of the Global South** i.e., how the **Global North exerts control over the digital sphere of the Global South.**
- **Example:** US-based companies like Google and Amazon collect data from developing nations to reshape various industries**.**

Digital Data is Benefiting Global North in Following Significant Ways:

- Aanalysing user behaviour, resulting in **heightened** competitive **edge in economic and political arenas**
- **Advancing Artificial Intelligence as** extensive datasets are employed to train and enhance AI models, thereby boosting productivity in the Global North
- **Data Monetisation:** Data has become valuable like money - people and companies can sell it or use it to make profits.

What are the concerns associated with it?

- **Loss of digital sovereignty**: Developed nations and tech giants set global digital rules. For e.g.
    - Microsoft recently blocked Nayara in compliance with recent European Union sanctions against the company due to Nayara's Russian ownership, even though there's no direct legal requirement in the US or India.
    - In 2024, WhatsApp threatened to exit India over traceability clause of the 2021 IT Rules.
- **Threat to national security:** These companies often gain unregulated access to sensitive data from developing nations, compromising their security.
    - An example is the alleged backdoor in Microsoft Windows, purportedly set up for the US-based intelligence agency.
- **Widening economic gap:** as developing nations fall further behind in the digital economy.
    - Over 40% of major cloud and internet data centre sites are located in the United States. (2021 report by Synergy Research Group).
- **Cultural Imperialism**: As **social media and search engines** often pushing the worldview of developed countries and marginalizing local cultures.
- **Surveillance Capitalism:** Companies collect vast user data without consent, violating privacy and civil rights.

Ways For Tackling Digital Colonialism

- **Enhance Digital sovereignty:** Build **indigenous digital systems e.g.,** ONDC (Open Network for Digital Commerce), India Stack.

- **Enforce Data Localisation:** India's Key initiative in this direction is refusal to sign the **Osaka Track** on data flows and enactment of **Digital Personal Data Protection Act (DPDP Act), 2023.**

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- **Reduce Import Dependence:** Focus on local production in critical sectors like defence, space, and science. E.g., **Make in India** initiative, **Chips to Startup ('C2S') programme, etc.**

- **Update Policy:** UNCTAD's 2021 report urged countries to regularly review data flow policies to balance **economic growth**, **public interest**, and a **connected global digital ecosystem**.

2.3. MULTILATERAL DEVELOPMENT BANKS AND GLOBAL SOUTH

Why in the News?

Finance Minister noted the **pivotal contributions of the Global South** to the **foundations of Multilateral Development Banks** (MDBs) at the 1944 Bretton Woods Conference.

About MDBs

- **MDBs are international financial institutions** that provide financial and technical assistance to developing countries.
- **These banks are owned by multiple member countries** and operate globally to promote economic development, reduce poverty, and support sustainable growth in their member countries.
- **Major MDBs include** the World Bank Group, Asian Development Bank, etc.

Contribution of Global South to MDBs

- **Establishment of New Institutions** such as New Development Bank, Asian Infrastructure Investment Bank etc.
- **With economic growth,** Global South Countries like India and China have increased their financial commitments to MDBs.
- **Advocacy for Inclusivity and MDB reforms** by emphasizing on embedding diverse voices in decision-making processes at MDBs.

Need for MDB Reforms from the perspective of Global South

- **Inadequate representation:** 59.1% of voting shares in IMF are held by countries representing just 13.7% of world's population.
- **Debt Relief Requirement:** Around 79 low-and-middle income countries deemed to be in debt distress.
- **Addressing Global Challenges:** Issues like climate change, pandemic, supply chain disruptions disproportionately affect global south, requiring additional funding support.

Way forward

- **Promote a two-way exchange of innovations**: Drawing from experiences of Global South in areas like Digital Inclusion and Sustainable Energy while meeting the need of development financing to Global South.
- **Adopt a more competitive pricing model**: To foster broader participation, **incentivise middle-income countries to borrow more** and deepen development impact.
- **Adopt a strictly evidence-based and data-driven approach: When preparing global indices** such as the Worldwide Governance Indicators and the new B-Ready index.
- **Private Sector Mobilization:** MDBs traditionally focus on public financing there is need of private capital alongside MDB resources to multiply development impact.
- **Adopting a triple mandate for MDBs** to eliminate extreme poverty, boosting shared prosperity and contributing to global public goods.
- **Increasing overall lending:** Tripling the annual lending levels of MDBs to $390 billion by 2030.

Conclusion

Independent expert group (IEG) on MDB reform (set up during India's G20 presidency) has recommended Expanding and Modernizing funding models, more representation of developing countries, and increased private funding for representative MDBs for Global South.

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2.4. ARCTIC GOVERNANCE AND INDIA'S POLAR DIPLOMACY

Why in the News?

The Arctic, traditionally viewed as a zone of scientific and environmental cooperation, is increasingly becoming a theater of military and geopolitical rivalry.

Importance of Arctic for India

- **Geopolitical and Trade Dynamics:** Global trade is shifting due to geopolitical tensions and climate change.
  - **The Arctic serves as a geopolitical leverage point with new trade routes emerging due to melting ice such as** such as the Northern Sea Route.
- **Militarization:** Arctic states are ramping up military activities, reopening old bases, deploying submarines, and demonstrating force can affect Indian interests.
- **Natural resources:** The Arctic holds vast oil, gas, and mineral reserves, attracting India's interest to diversify energy sources and cut import dependence.
- **Scientific Research:** India studies Arctic climate, flora, and fauna, climate change and global sea rise.
- **Diplomacy:** India engages Arctic nations to expand global presence through **NB-8 in Nordic Countries and Green Strategic Partnership with Denmark.**

Challenges for India in Artic

- **Strategic Posture:** India's apolitical approach appears outdated as regional actors shift from cooperation to contestation.
- **Trade Implications:** The viability of the NSR could shift trade flows northward, potentially affecting the Indian Ocean Sea lanes and India's connectivity aspirations.
- **Geopolitical Concerns:** Russia-China coordination in the Arctic and China's naval presence in the Indian Ocean complicate India's regional focus.
- **Tourism and Adventure:** As adventure tourism continues to grow.

India's approach for Arctic

- **India's Engagement in the Arctic**
  - India was an early participant in Arctic affairs through the *Svalbard Treaty of 1920*.
  - It is one of the few developing nations with an Arctic research base, named **Himadri**.
  - India's Arctic policy, released in 2022, needs refinement for effective engagement.
  - India aims to enhance its shipbuilding capabilities to navigate NSR's challenging conditions.
- **The Northern Sea Route (NSR) and India's Strategy**
  - The NSR could transform global trade by reducing cargo transit time and costs.
  - India is setting up a **$3 billion Maritime Development Fund** to boost shipbuilding tailored for Arctic conditions.
  - The *Arctic Circle India Forum* in 2023 should drive India's Arctic dialogue and policy execution.
- **International Partnerships and Challenges**
  - India needs to balance its partnerships between the Russian and Western blocs in the Arctic.
  - The **Chennai-Vladivostok Maritime Corridor** is a potential route to NSR ports.
  - Strategic alliances with countries like Japan and South Korea are crucial to counterbalance China's Arctic ambitions.

India's approach for Antarctica

Antarctica is part of global commons such as the atmosphere, high seas and outer space. In this context, Indian initiatives are:

- Facilitate the first-ever focused working group discussions on Antarctic tourism at the 46th Antarctic Treaty Consultative Meeting (ATCM) in Kochi.

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- **The National Centre for Polar and Ocean Research (NCPOR)** is India's leading institution coordinating research in the Polar Regions and the Southern Ocean.
- **Bilateral engagement:** India and Chile will soon launch joint research expeditions to Antarctica in climate change, geosciences, microbiology, and innovation.
- **Research Stations:** Maitri (est. 1989), Bharati (est. 2012), Dakshin Gangotri (est. 1983).
- **Indian Antarctic Act, 2022:** Established a legal framework aligning India's activities with international standards, regulating scientific work and tourism to maintain ecology and conservation in accordance with the Antarctic Treaty System.

Way Forward

- **Institutionalize Arctic engagement** beyond science with dedicated desks and inter-agency consultations.
- **Partner with like-minded Arctic states** on dual-use initiatives like polar logistics and maritime domain awareness.
- **Secure a role in new Arctic governance forums** on infrastructure, shipping regulation, and the blue economy.

Conclusion

The Arctic is increasingly influenced by power rather than principles, demanding strategic adaptability from all engaged nations. India must approach the Arctic's political landscape with sensitivity, engaging local communities with respect and avoiding an extractive mindset.

2.5. NEW MARITIME CHOKEPOINTS & SLOC VULNERABILITIES

Why in the News?

Report has been released by the **United Nations Conference on Trade and Development** (UN Trade and Development).

About Chokepoints

- A chokepoint is a geographical feature or passageway (Includes valley, strait etc.) that is narrow and strategic.
- **Geo-strategic Significance**
  - **Facilitates Connectivity:** E.g. **Suez Canal** (Connects the **Mediterranean Sea** with the **Red Sea**) is crucial for trade between Europe and Asia.
  - **Energy Security: E.g. Strait of Hormuz (Connects the Persian Gulf** with the **Gulf of Oman and the Arabian Sea)** witness significant world's petroleum transportation.
- **Key Reasons behind disruptions**
  - **Climate-induced** low water levels. E.g. **Panama Canal** (connecting the Pacific and Atlantic Oceans)
  - Geopolitical tensions and conflicts. E.g. Yemen's Houthi rebels attacked ships in **Bab al-Mandeb Strait** (Connects the Red Sea to the Gulf of Aden and the Indian Ocean.
- **Impacts of disruptions**:
  - Straining supply chains (such as energy supplies for India) and raising costs, etc.
  - Rising shipping costs due to long routes. **E.g.** Rerouting around the **Cape of Good Hope** (southern tip of Africa).

Other Key Chokepoints of the World

- **Strait of Gibraltar:** Links the Mediterranean Sea with the Atlantic Ocean.
- **Strait of Malacca:** Connects the Indian Ocean with the South China Sea.
- **Turkish Straits (Bosporus and Dardanelles):** Connects the Black Sea with the Mediterranean Sea.

Conclusion

India's initiatives to secure global choke points and sea lanes of communication (SLOCs) through SAGAR, MAHASAGAR, naval modernization, port partnerships like Chabahar, and active participation in IOR forums reflect its resolve to ensure maritime security, economic stability, and a free, open Indo-Pacific.

2.6. INDIA-MEDITERRANEAN COUNTRIES

India- Mediterranean Countries

Recently Prime Minister visited various Mediterranean countries such as Cyprus and Greece.
➤ The Mediterranean region is a geographical area encompassing countries located around the Mediterranean Sea.
➤ **Important countries are:** It encompasses Southern Europe (Spain, France, Italy, Albania, Greece, Malta, Cyprus etc); North Africa (Egypt, Libya, etc), and parts of West Asia (Turkey; Syria, Israel, etc).

🎯 Significance of Mediterranean Countries for India

Geostrategic Location: Can help in enhancing India's outreach to the Europe and Africa.	**Energy Hub:** Greece, Libya etc. has abundant sunshine and robust wind energy capacity.	**Access to the European Market:** Region is important for India-Middle East-Europe Economic Corridor (Piraeus port of Greece), Israel etc.	**Geopolitical:** Crucial in the context of an emerging Turkey-Pakistan-Azerbaijan military axis and can counter Chinese presence in the Mediterranean region. Passage Exercises (PASSEX)- Spain	**Support at International levels:** E.g. India's membership in NSG and bid for a permanent seat on the UNSC.	**Economic and Trade Relations:** India's trade with Mediterranean countries trades approximately USD 80 billion annually.

👥 Concerns of India

Lack of bilateral engagements: Absence of High-level interaction in four decades has resulted in a lack of strong strategic connections. E.g. Spain, Libya etc.	**China's Presence:** Reliance for import on China for critical industrial input and most of the part of China's BRO, except Italy withdrew from BRO.	**Low Trade and Investment:** Characterized by limited business opportunities, insufficient investment and capital inflow, etc.	**Piracy:** The Indo-Mediterranean region faces persistent threats from piracy and illicit maritime activities.	**Geopolitical Stability:** The Mediterranean region is often characterized by political instability and conflicts, particularly in West Asia and Libya.

🏃 Way Forward

Enhance engagements: Greece and Cyprus can act as a bridge between the European Union and India.	**Developmental aid:** India with Line of Credit As an alternative to China's Debt Trap Policy.	**Promote Tourism:** Greece is emerging as a popular tourist destination among Indians.	**Maritime Cooperation:** including information sharing and joint naval exercises.	**Work together** in international fora like the United Nations, G20, and EU-India summits to push for diplomatic solutions to conflicts in the Indo-Mediterranean region.

📋 Conclusion

India's engagement with the Mediterranean region enhances energy security, trade, connectivity, and strategic partnerships. Leveraging cultural linkages and multi-alignment, India seeks stability, counter-terrorism cooperation, and access to European, African, and West Asian markets.

2.7. INDIA-GERMANY RELATIONS

Why in the news?

Recently, German Chancellor visited India to enhance bilateral relations between India and Germany.

More on the news

- 2024 marks the **25th anniversary of the strategic partnership** (signed in 2000).
- 2024 also marks the **50th anniversary of the signing of the Inter – Governmental Agreement on Cooperation in Scientific Research and Technological Development**.

Significance of India-German partnership

- **Technology and Innovation**: **'India-Germany Innovation and Technology Partnership Roadmap'** for renewable energy, AI, quantum technologies, and space exploration was launched.
- **Indo-German Science and Technology Centre** manages 49 priority projects including **Women in Science and Engineering Research (WISER).**
- **Trade and Investment**: Germany is **India's largest European trade partner and 9th largest FDI source** for India.
- **Climate and Sustainability**: With **Green and Sustainable Development Partnership (2022)**; €10 billion commitment for solar and agro-ecology projects.
  - Germany supports **India-led CDRI and International Solar Alliance**.
- **Defense and Security**: **2006 Defence Cooperation Agreement** established Joint Working Groups on Counterterrorism, Cybersecurity, and Defence.
  - Germany interested in **Project-75I submarine programme.**
  - **Joint exercises:** Ex MILAN, PASSEX, Ex TARANG SHAKTI-1.
- **Diversification Strategy**: Reducing China dependency (China+1) amid EU-China tensions; EU imposed up to 38.1% tariffs on Chinese EVs (June 2024).
- **Diaspora**: The Mobility Partnership Agreement (2022) facilitates easier migration for skilled workers.
- **Geopolitical Alignment**: Both nations advocate for **multilateralism**, UN reforms (G4), and a rules-based global order.

Challenges in Bilateral Relations

- **Trade and Investment Barriers:** Indian companies face **non-tariff barriers** on their products in Europe such as **Carbon Border Adjustment Mechanism (CBAM).**
  - Similarly**, bureaucratic hurdles and a complex tax system** have kept German investments in India at around 25 billion euros 2022, about only 20% of the volume invested in China.
- **Strategic and Geopolitical Differences:** India's neutral stance on the Russia-Ukraine conflict contrasts with Germany's strong opposition to Russian aggression.
- **China's Role**: Germany's economic dependence on China limits its ability to fully support India's position against China unlike the USA and Japan in QUAD.

Way Forward

- **Free Trade Agreement (FTA):** Early conclusion of the negotiations **between India and the EU** to compete with China's almost 300 billion euros trade with Germany alone.
- **Indo-Pacific Engagement**: Increase Germany's presence in the region through joint naval exercises and infrastructure investments as envisaged in the 7th IGC.
- **Collaboration in clean tech and sustainable development with projects** like electric mobility, green hydrogen, renewable energy, etc. through initiatives like the **Green and Sustainable Development Partnership.**
- **Supply Chain Resilience**: To diversify the production chain of semiconductors, automobile parts, pharmaceuticals away from China, both Germany and India can become partners, also supporting '**Make in India' initiative**.

Conclusion

India-Germany relations thrive on strong economic ties, tech collaboration, and shared democratic values. While trade and green energy partnerships grow, strategic alignment in defense and Indo-Pacific security enhances their role in a multipolar world.

2.8. INDIA-EFTA TRADE AND ECONOMIC PARTNERSHIP AGREEMENT

Why in the news?

India-EFTA Trade and Economic Partnership Agreement (TEPA) to come into effect from October 1, 2025:

More on the news

- The EFTA was established in **1960** through the **Stockholm Convention**, to **promote closer economic cooperation and free trade in Europe.**
  - **Members:** Presently, its members are **Switzerland, Norway, Iceland, and Liechtenstein**, which are not part of the European Union.
- In 2024-25, **India-EFTA trade** totaled USD 24.4 billion, with **India facing a large trade deficit.**
  - A large part of the deficit is due to imports of gold from Switzerland.
- Among EFTA countries, Switzerland is the largest trading partner of India followed by Norway.
- For the first time, India has signed an FTA with Members of EFTA.

Key Highlights of TEPA

- **First Binding Commitment:** 1st FTA making a binding commitment of **$100 bn investment** (FDI) and **1 million direct jobs in India** in next 15 years.
  - In return, India will allow several products (e.g. Swiss watches, chocolates, and cut and polished diamonds) at lower or zero duties.
- **Mutual Recognition Agreements:** TEPA has provisions for **Mutual Recognition Agreements in Professional Services** like nursing, chartered accountants, architects etc.
- **Tariff Reduction:** EFTA is proposing to eliminate tariffs on 92.2 % of its tariff lines, covering 99.6 % of India's exports.
- **Market Access:** EFTA's market access offer covers 100% of non-agri products and tariff concession on Processed Agricultural Products (PAP).
- **Others:** IPR commitments, Mutual Recognition Agreements in Professional Services E.g. nursing.

Concerns with EFTA

- **Data exclusivity provisions** insisted upon by EFTA nations, which India has already rejected.
- **Asymmetric trade benefits**, as India agreed to substantial tariff reductions over 10 years while EFTA countries already have very low tariffs, potentially leading to a wider trade gap.
- **India's limited ability to revoke tariff concessions**, which can only occur after 18 years if EFTA nations fail to meet a Foreign Direct Investment (FDI) commitment.

Conclusion

Despite these challenges, future cooperation could focus on **integrating small and medium-sized businesses (MSMEs)** into global trade flows, **organizing business outreach** through workshops and seminars to educate on the agreement, and supporting **innovation and sustainability** in areas like clean technologies and renewable energy. Addressing these issues and fostering cooperation are crucial for the growth and future-proofing of the relationship.

2.9. INDIA- MALDIVES RELATIONS

Why in the news?

PM of India visits Maldives marking 60th anniversary of India-Maldives diplomatic relations**,** it is his first since bilateral ties were strained by the **"India Out" campaign.**

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Key Outcomes of visit:

- **Signing of Agreements on:**
  - A Line of Credit (LoC) of **₹4,850 crores** to Maldives.
  - To **reduce Maldives' annual debt repayment** on Indian government-funded loans.
  - For enabling **UPI** in Maldives.
  - Terms of Reference of **proposed Free Trade Agreement.**
- **6 MOUs were exchanged** in fields of fisheries and aquaculture, meteorology, digital public infrastructure, UPI, Indian pharmacopoeia etc.
- **Inauguration / Handing-over of:**
  - **3,300 social housing units** in Hulhumale under India's Buyers' Credit facilities, Roads and Drainage system project **in Addu city.**
  - Two Aarogya Maitri Health Cube (**BHISHM) sets.**

To know more about the India-Maldives relation, refer to Article 3.8. India-Maldives Relations at a Glance in the Mains365 International Relations 2025.

2.10. ECONOMIC COMMUNITY OF WEST AFRICAN STATES (ECOWAS)

Why in the News?

ECOWAS marked its 50th anniversary this year.

About ECOWAS

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

The Members of ECOWAS

India–ECOWAS Relations

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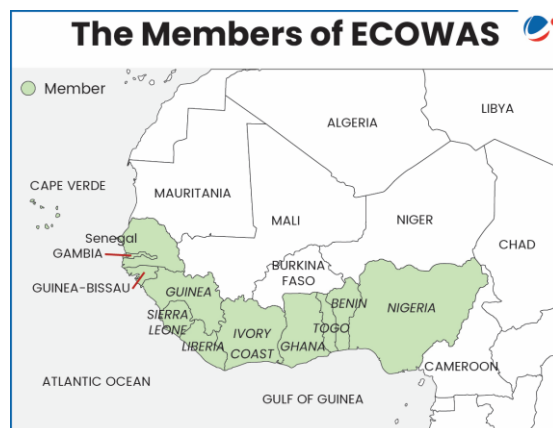
Conclusion

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

2.11. UN ECONOMIC AND SOCIAL COUNCIL (ECOSOC)

Why in the News?

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

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

About UN Economic and Social Council (ECOSOC)

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

8 Functional Commissions of UN ECOSOC

Statistical Commission | Population and Development | Social Development | Status of Women | Narcotic Drugs | Crime Prevention and Criminal Justice | Science and Technology for Development | UN Forum on Forests

3. ECONOMY

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

Why in the News?

Amidst **robust rural market growth**, the Union Finance Minister urged FinTech firms to view rural India not merely as a social responsibility, but as an **untapped opportunity** to create new markets.

Rural India: The New Engine of India's Consumer Market

- **Rising Demand:** Rural consumption outpaces urban, with FMCG growth (e.g., Dabur) faster in villages. **Rural MPCE rose 9.2% in 2023–24**, surpassing urban's 8.3% (HCES 2023–24).
- **Narrowing Gap:** Urban-rural MPCE gap fell to **69.7% from 71.2%.**
- **Urbanized Spending: Non-food items, education, communication**, and **healthcare** now dominate rural spending.

Growth Drivers

- **Disposable Incomes:** Non-farm work, MGNREGA, remittances.
- **Poverty Reduction:** Rural poverty fell below 5% (from 25.7% in 2011–12).
- **Government Initiatives:** DBT, PM-KISAN boosted liquidity.
- **Infra Push:** Roads (PMGSY), digital growth (BharatNet); rural internet subscriptions up 200%.
- **Financial Inclusion:** UPI, PMJDY—67% rural/semi-urban accounts, 55% by women.

Concerns

- **Inequality: Top 5% spend 6x more** than bottom 5%.
- **Infra Gaps:** Cold chains, last-mile logistics lacking.
- **Digital Divide:** Literacy, trust, language barriers.
- **Climate Risks:** Erratic monsoons affecting incomes.

Virtuous Cycle of Income Consumption–Economic Growth

Way Forward

- **Government:** Reduce inequality, boost skilling, multi-modal infra.
- **Private Sector:** Localize outreach, promote micro-entrepreneurship (**e.g., HUL's Project Shakti**), use vernacular tech.

Conclusion

Rural India is emerging as a key driver of **consumer-led growth**. Sustained investment in infrastructure, digital and financial literacy, and inclusive income growth is essential to unlock its full potential.
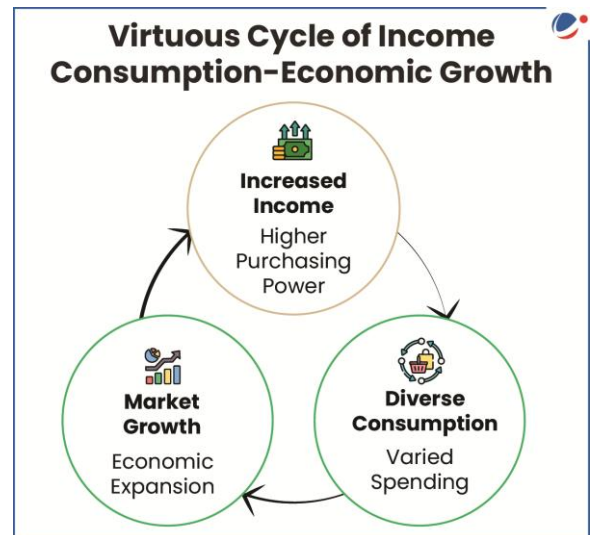
3.2. QUICK COMMERCE IN INDIA

Why in the news?

A **Kearney report** highlights that India's quick commerce sector is booming but is also reshaping consumer behavior.

What is Quick Commerce?

- Rapid delivery of goods/services, usually within an hour.
  - **India's quick commerce** to grow **75-100% year on year basis** (Bernstein report).

o Expected to reach **US$5 billion by 2025** and US$9.94 billion by 2029.
- **Offers 24/7 access, reduces middlemen,** and **improves supply chain efficiency** via hyper-local sourcing.

Concerns

- **Instant Gratification:** Promotes impulsive buying via behavioral targeting.
- **Gig Worker Safety:** 10-minute delivery raises ethical issues.
- **Environmental Impact:** More vehicles lead to higher emissions.
- **Food Safety:** Poor handling of perishables poses health risks.
- **Retail Disruption:** Kirana stores, malls face reduced footfall.

Striking a Balance

- **Ensure delivery partner welfare** and accident insurance.
- **Strengthen hygiene**, e.g., FSSAI food safety norms.
- **Integrate kirana stores** for better reach.
- **Regulate for fair competition,** data and labour protection.
- **Push green logistics:** EVs, drones, mobile warehouses.

Growth Drivers of Digital Commerce

💻 **Digital Penetration**
Increased smartphone and app usage due to pandemic demand.

👥 **Social Media Influence**
Impact of platforms like Instagram and YouTube on marketing.

📍 **Tech-Savvy Youth**
Preference for speed and convenience in digital interactions.

📊 **Tech Advancements**
Innovations like AI and real-time tracking enhancing commerce.

🔔 **Policy Push**
Government initiatives promoting digital Infrastructure and payments.

Conclusion

Quick commerce boosts convenience but also **drives unsustainable consumption** and gig worker insecurity. Safeguards for workers and consumer awareness are essential to address these challenges.

3.3. AVIATION SAFETY

Why in the News?

The **Aircraft Accident Investigation Bureau (AAIB)** released its preliminary report on the recent fatal plane crash in Ahmedabad.

More on News

- The report detailed the timing of the **MAYDAY call**—used in life-threatening emergencies—on emergency frequencies 121.5 MHz and 243 MHz.
- Black Boxes were recovered and analyzed by the **AAIB Lab.**
  - **Black Box** includes the Flight Data Recorder (e.g., speed, altitude, engine performance) and Cockpit Voice Recorder.
  - **Bright orange and built from durable materials** like steel/titanium for resilience and visibility.

Status of Aviation Sector in India

- **Rank:** India is the **third-largest aviation market** globally in terms of passenger traffic (Passengers >350 million)
- **Growth: 10-12% of annual growth** in domestic air passenger traffic.

Institutional Frameworks for Aviation Security in India

- **DGCA**: Regulates civil aviation safety, airworthiness, and coordinates with **ICAO.**
- **AERA**: Regulates **tariffs and service standards** at major airports.
- **BCAS**: Sets aviation security norms under **ICAO's Annex 17** on preventing unlawful interference.
- **AAIB**: Investigates aircraft accidents/incidents involving aircraft over 2250 kg AUW or turbojets; has unrestricted evidence access under 2017 rules.
  - DGCA investigates **serious incidents** involving smaller aircraft (≤2250 kg).

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

Domain	Challenges	Recommendations
Capital outlay	DGCA gets ₹30 crore (~50% of aviation capital budget), limiting security and investigation resources.	Ensure **balanced fund allocation** to address critical gaps.
Manpower Shortage	Vacancies in **DGCA, BCAS and AAI:** 53.8%, 34.7% and 17% respectively	Expedite hiring and adopt **long-term workforce planning.**
UDAN	32% fund cut despite expansion needs.	**Review funding** to match regional infrastructure demands.
Oversight	Reliance on general budgets; lacks sustainable funding.	Create **Integrated Safety Mechanism** for coordinated oversight.
Navigation	Smog-induced disruptions.	Install of **Instrument Landing System (ILS)** at all airports
Cabin safety	Poor materials and outdated technology.	Form **Aviation Interior Quality Commission** for standard enforcement.

Conclusion

India's alignment with **ICAO standards** and the **Delhi Declaration** reflects its commitment to Open Skies and global connectivity. Thorough investigation of incidents is vital to ensure aviation safety and prevent recurrence.

3.4. INFRASTRUCTURE FAILURES IN INDIA

Why in the News?

Recently, the **Mahisagar River Bridge** in Vadodara, Gujarat, collapsed.

More on News

- Similar incidents have occurred earlier, including the **Bhagalpur bridge collapse** in Bihar and the **Kolkata flyover collapse.**
- Every infrastructure project generally passes through four critical phases viz. **Contracting, Design and Execution, Maintenance, Safety Audits.** Issues often occur in each of the phases.

Causes of Infrastructure Failures:

- **L1 (lowest-bid) contract system**: It awards contracts to the lowest bidder and encourages contractors to underbid to win contracts, use substandard materials etc.
  - **Reform:** Government has brought Quality-cum-Cost Based Selection (QCBS) System which evaluates bids on both cost and quality.
    - However, **implementation is limited**—initially applied only to contracts below ₹10 crore.

- **Poor Design and Execution:** For e.g. in Pragati Maidan Corridor, Delhi (2022–2024) audits revealed poor drainage design and lack of waterproofing.
- **Poor Maintenance and Safety Audits:** For e.g. Mumbai CSMT foot over Bridge Collapse (2019) Audited safe just 6 months before the collapse. The audit ignored critical corrosion, resulting in 6 deaths.
- **Fragmented Governance and Diffused Accountability:** For e.g. Delhi's Drainage: 4,000 km of storm water drains are managed by eight different authorities.
- **Skill Deficit and Brain Drain in Engineering** as many seek better pay and work conditions abroad.

Way Forward

- **Replace L1 with Multi-Criteria Selection:** Evaluate bids on cost, technical expertise, safety history, and past performance.
- **Create a Central Infrastructure Regulatory Authority:** Single authority to oversee all aspects of public infrastructure—planning, execution, maintenance, and audits.
- **Independent Safety Audit Mechanism:** Regular third-party audits post-construction, especially before monsoon seasons.
- **Increase Public Participation and Transparency:** Publish project reports, contractor details, and safety audits in the public domain.
- **Adopt lessons from Global Best Practices:** E.g. Japan mandates rigorous structural certifications for bridges to withstand earthquakes and floods.

Conclusion

Prioritizing cost over safety and neglecting quality and maintenance breach **public welfare and accountability, endangering lives and trust.** Authorities have a **moral duty** to ensure transparency, due diligence, and act in the **public interest.** Lasting change needs full reform, accountability, and a shift from shortcuts to sustainable development.

3.5. ASSET MONETIZATION

Why in the News?

The National Highways Authority of India (NHAI) has announced its **asset monetization strategy** to unlock value and boost **public-private participation** in developing road infrastructure.

More on the News

- The strategy leverages **Toll-Operate-Transfer (ToT)**, Infrastructure Investment Trusts (InvITs), and securitisation models.
- Over ₹1.4 lakh crore has been raised across 6,100 km of National Highways under the **National Monetization Pipeline (NMP).**

What is Asset Monetization?

It involves unlocking the economic value of underutilized public assets to generate revenue without necessarily disinvesting them.

Need for Asset Monetization

- **Bridging Investment Gaps**: Addresses funding constraints through non-tax revenue.
- **Enhancing Efficiency**: Brings private sector expertise for better operations.
- **Unlocking Brownfield Assets**: Targets **de-risked assets** with stable returns.

MONETIZATION MODELS: Toll, Operate & Transfer; Asset Concession; Long Term Lease; Project-based Financing; Design-Build-Finance-Operate-Transfer; Infrastructure Investment Trusts; Real Estate Investment Trusts
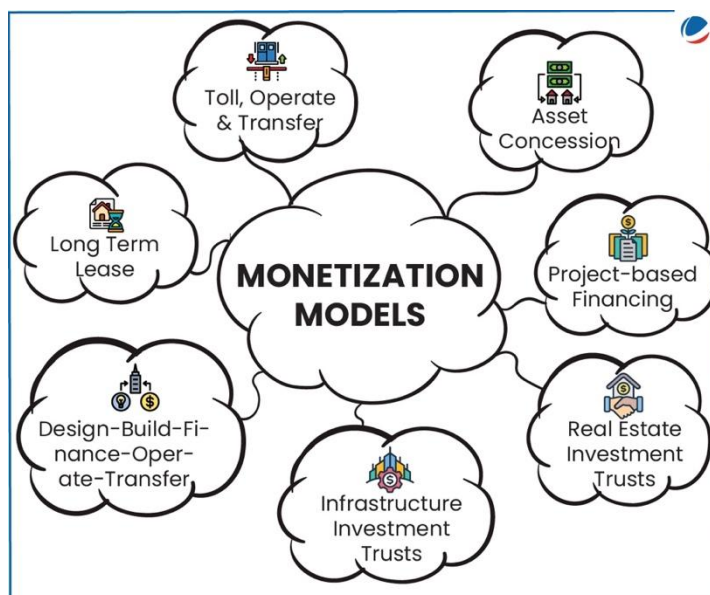
- **Boosting Global Competitiveness**: Attracts FDI and strengthens India's global integration.

Key Institutions: Alternative Mechanism, Core Group of Secretaries, Inter-Ministerial Group, DIPAM, and NITI Aayog.

Major Initiatives

- **National Monetization Pipeline:** It aims to generate (~Rs. 6 lakh crore) by leasing out public infrastructure assets.
- **National Land Monetization Corporation (NLMC):** It is a 100% government owned company under administrative control of the Department of Public Enterprises to carry out monetization of non-core assets of CPSEs.
- **Asset Monetization dashboard:** It tracks progress and provides visibility to investors.

Asset Monetization in India: Impediments versus Strategic Interventions

Domain	Impediments in Asset Monetization	Strategic Interventions Required
Transparency & Governance	**Vulnerable to favoritism; lack of advance disclosure.**	Public Disclosure of **Future Monetization Pipeline**; transparent bidding.
Sectoral Issues	Remains concentrated; urban infra, railways neglected.	Broaden & Bundle **Monetization** (smaller assets across un-invested sectors).
Valuation Discovery & Competitive Bidding	Risk of undervaluation; limited participation due to capital intensive nature.	Adopt **De-risked Models** (e.g., TOT, InvITs).
State-Level Readiness	Negligible state participation; lack of financial incentives.	Unlock potential in state assets; use interest-free loans to states.
Consumer & Public Interest	Over exploitation by private players, price hikes.	Adopt "**monetize rights, not ownership**"; strict contractual obligations.
Institutional Fragmentation	Multiple ministries involved; poor coordination; lack of centralised planning.	Form an **Infrastructure Ministry.**
Regulatory Uncertainty	Lack of **clarity** (E.g Telecom)	Develop sector-specific **guidelines**; independent evaluation.
Fiscal Utilization & Public Trust	**Misuse of disinvestment** proceeds for fiscal deficit.	Funds for PSU's Restructuring; explore leasing/rental models.
Monitoring & Performance Tracking	Weak **post-monetization** oversight	Define clear **Key Performance Indicators (KPIs)**

Conclusion

Asset monetization is a transformative strategy that boosts economic growth by unlocking asset value and reinvesting in infrastructure, strengthening India's long-term development.

3.6. EMPLOYMENT LINKED INCENTIVE (ELI) SCHEME

Why in the News?

The Cabinet approves Employment Linked Incentive (ELI) Scheme.

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About Employment Linked Incentive Scheme

- **Ministry:** Ministry of Labour & Employment.
- **Total Outlay:** ₹99,446 Crore over 2 years (2025 – 2027).
- **Target:** Support the generation of 3.5 crore jobs, including 1.92 crore first-time employees.
- **Objective:** Promote job creation, enhance employability, and expand social security across sectors, specifically manufacturing.

ELI Scheme

Part A: Incentive to First Time Employees

> **Eligibility:** First-time employees registered with EPFO & earning up to ₹1 lakh/month.
> **Incentive Amount:** One-month EPF wage (up to ₹15,000), disbursed in two instalments.
> **Beneficiaries:** 1.92 crore first time employees

Part B: Incentives for Employers

> **Eligibility:** EPFO –registered establishments hiring: At least 2 additional employees (workforce < 50). At least 5 additional employees (workforce ≥ 50).
> **Incentive to Employers:** Up to 3,000/month for 2 years; extended to 4 years for manufacturing sector.
> **Job Creation:** ~2.6 crore additional jobs.

Conclusion

The **Employment Linked Incentive Scheme** is a major step towards boosting job creation and formal employment, especially in the **manufacturing sector**. With a substantial outlay and clear targets, it aims to enhance **employability** and **strengthen social security** for millions of workers.

To know more about the Skill Development, refer to Article 3.3.1.Skill Development at a Glance in the Mains365 Economics 2025.

3.7. LIVING WAGE

Why in the News?

Ministry of Labour and Employment is discussing **living wage** to improve worker welfare and boost participation, especially among women.

Status of Wage in India

- Presently, India follows the **minimum wage**, which has remained stagnant since 2017.
- The **Code on Wages passed (2019),** proposed a universal wage floor which shall apply to all states once implemented.

Issues with the present system

- The **Minimum Wages Act, 1948** provides guidelines but **does not specify the minimum wage.**
- **Fixing minimum wages** in some jobs falls under **both the Minimum Wages Act, 1948**, **and the Contract Labour (Regulation and Abolition) Act, 1970,** leading to potential confusion.
- **Wage payment discrepancies** due to the lack of enforceability of the national wage floor across states.
- **Gender disparity** as scheduled employment with more women workers has lower minimum wages than those with more men.

About Major Forms of Wages in India

Minimum Wage

- The wage must provide not only for the **bare sustenance of life,** but also for the **preservation** of the **workers' efficiency.**
- Payment of Minimum wages is **legally mandated under Minimum Wages Act, 1948**
- Both **Centre and States governments can** fix, review, and revise minimum wages.
- Under the **Code on Wages, 2019,** minimum wages are **applicable across all employments** in public and private sectors, and organized and unorganized sectors

Living Wage

- A living wage is a level of pay that gives workers and their families **a decent standard of living.**
  - This includes being able to afford **basic needs** such as **food, housing, healthcare, education, transport and clothing (ILO)**
- Living wages are generally **higher than minimum wages** and should reflect **regional differences.**
- **Article 43 (DPSP):** The State shall endeavour to **secure living wages** to all workers by suitable legislation etc.

Significance of Living Wage

- **Poverty alleviation**: It can lift workers out of a cycle of poverty and allows them to access their economic, social, and cultural rights.
- **Increases Productivity:** A globally implemented living wage could generate $4.6 trillion in additional GDP each year through increased productivity and spending. (WEF)
  - The **UN Global Compact** aids companies in achieving living wages through its **Living Wage Tool** and the **Forward Faster initiative.**
- **Improve Female Labour Participation:** Living wages especially benefit women, helping offset higher opportunity costs from caregiving and household responsibilities.
- **Alignment with Global Development Goals:** Ensuring a living wage is central to achieving **the United Nations' Sustainable Development Goals**, by promoting decent work, reducing inequality etc.

Conclusion

Introducing a living wage framework marks a crucial step toward ensuring fair and adequate compensation for workers in India. While it promises to reduce poverty and promote equity, successful implementation will require balancing regional cost variations and supporting businesses, especially MSMEs.

3.8. FINTECH SECTOR

Why in news?

The Finance Minister urged fintech firms to see rural India not just as a social responsibility but as a **promising market opportunity.**

About Fintech Sector in India

- Fintech (Financial Technology) rely primarily **on technology and cloud services to provide financial services to customers** (like Paytm, PhonePe).
- India is amongst the **fastest growing FinTech Markets in the world.**
  - It is projected to reach ~**USD 420 billion at a CAGR of 31%** by 2029.
  - **India ranks third globally in terms of the highest number of Fintech entities.**
  - The **adoption rate of Fintech in India is 87%**, which is well above the **global average of 67%.**

Role/Significance of India's Fintech Sector

- **Delivery of social services schemes: E.g.** Direct Benefit Transfers (DBTs) through Jan Dhan accounts.
- **Quality of Life:** E.g. remote healthcare services, digital education and skill learning etc.

- **Ease of investing:** 60–70% of fintech investing platform users are first time investors.
- **Women Empowerment**: 42% of registered FinTech startups have at least one woman in a directorial or founding position.
- **Growth accelerator:** Devises tailored solutions to enhance existing business offerings.

Role of fintech sector in rural India

- **Financial Inclusion:** E.g., Aadhaar-Enabled Payment Systems (AEPS).
- **Access to Credit:** E.g., Agri-fintech platforms like CropFunds use transaction histories, farm outputs, etc. to assess the creditworthiness of farmers.
- **Agriculture Support:** E.g., the Ministry of Agriculture's AgriMarket Mobile App and Crop Insurance Mobile App.
- **Digital Payments and Remittances:** E.g., UPI-enabled apps (Paytm, PhonePe).

Challenges in India's Fintech Sector

- **Raising Capital:** According to data intelligence platform Tracxn, Indian fintech sector e**xperienced a 59% drop in funding in Q1 2024,** raising $795 million compared to $1.9 billion in Q1 2023.
- **Regulatory Challenges:** Multiple governing bodies (SEBI, RBI, IRDAI, NPCI), frequent regulatory changes and numerous regulations to adhere to create a complex regulatory framework.
- **Security Risks and Data Breaches: For E.g.** In 2022-2023, UPI-related frauds accounted for 55% of total digital frauds.
- **Financial literacy:** According to a survey by SEBI only 27% of India's population is financially literate as of 2023.
- **User Retention and Experience:** Fintech sector has high user drop-off rates, with 73% of new app users uninstalling or stop using it within a week.
- **Attract and retain talent:** Fintech businesses face challenges in finding and retaining skilled professionals due lack of skilled and professionals and the intense competition for talent among businesses.

Conclusion

India's fintech advancement requires strengthening foundational infrastructure, implementing single-umbrella legislation to remove regulatory hurdles, adapting frameworks for safe financial innovation, and forging global UPI alliances for seamless cross-border payments to ensure orderly development and system stability.

3.9. DIGITAL INDIA MISSION

Why in the News?

Digital India Mission marks 10 years.

About Digital India Mission

- Launched in 2015, Digital India Mission aimed to transform India into **digital empowered society and knowledge economy.**
  - It is an **umbrella programme** covering multiple Government Ministries and Departments, with overall coordination by the **Ministry of Electronics and Information Technology (MeitY).**
  - It identifies **three vision areas (see infographic).**

Three Vision Areas Under Digital India

Digital Infrastructure as a Utility to Every Citizen such as Mobile phone & Bank account, High speed internet as a core utility etc.

Governance and Services on Demand such as Electronic & Cashless Financial Transactions, Seamlessly Integrated Across Departments etc.

Digital Empowerment of Citizen such as Universal Digital Literacy, Universally Accessible Digital Resources etc.

Major Achievements under Digital India

- **Digital Economy:** India now **ranks third** in the world for digitalisation of economy (State of India's Digital Economy Report 2024).
- **Connectivity and Infrastructure: For E.g. BharatNet** connected **2.18 lakh Gram Panchayats** with high speed internet.
- **Digital Finance & Financial Inclusion: For E.g.** India accounts for **49% of global real-time digital payments** in 2023 with UPI being live in over seven countries.
- **Advancing Strategic Tech Capabilities:** Through IndiaAI Mission, India Semiconductor Mission etc.
- **E-Governance:** Training of civil servants under Karmayogi Bharat iGOT platform, and improving access to services through UMANG.

Challenges of Digital India

- **Digital Divide:** About 665 million Indians do not have access the internet as of 2023 **(Internet and Mobile Association of India study)**
- **Cybersecurity Concerns:** For E.g. Between Financial Year 2020 and 2024, Approx. ₹3,207 crore was lost due to 5,82,000 cases of cyber fraud.
- **Lack of User Education:** A significant challenge lies in the lack of user education regarding digital technologies and online safety practices.
- **Implementation Delays:** Digital India programmes face setbacks due to issues like slow cable laying and other logistical challenges.

Conclusion

Over the past decade, the **Digital India Mission** has significantly advanced **digital infrastructure, financial inclusion, and e-governance**. However, challenges like the **digital divide, cyber security threats, and implementation delays** highlight the need for continued focus on equitable access, user awareness, and robust execution.

3.10. INSOLVENCY AND BANKRUPTCY CODE (IBC), 2016

Why in the News?

Insolvency and Bankruptcy Board of India (IBBI) notifies amendments to the IBBI (Insolvency Resolution Process for Corporate Persons) Regulations, 2016.

Amendments by Insolvency and Bankruptcy Board of India (IBBI)

- **Revised forms for Corporate Insolvency Resolution Process (CIRP):** Reducing compliance burden IPs; introduced a standardized monthly reporting cycle.
- **Flexibility in Resolution Plans:** Allowed Resolution Professionals (RPs) to invite resolution plans not only for the company as a whole but also for the sale of one or more of its assets.

About IBC

- It **consolidated** and **amended** the laws relating to **reorganization** and **insolvency resolution** of corporate persons, **partnership firms** and **individuals.**
- It provides an **exit mechanism** for a corporate person that has not defaulted, through a **voluntary liquidation process.**

Significance of IBC

| Time-bound resolution of stressed assets. | Mechanism for a company to **exit with the least disruption** and cost. | Better performance than **Debt Recovery Tribunal,** the **SARFAESI Act, 2002 and Lok Adalat.** | **Improved Ease of Doing Business** and promotion the interest of small investors |

Challenges with IBC

- **Huge Backlog of 13,000 cases** under IBC, which includes 2,073 ongoing corporate insolvency resolutions.
- **Limited judicial bench strength and delays** in identifying and acknowledging cases.
- **Recovery rates have declined from 43% to 32%** between March 2019 and September 2023.
- **Average resolution time has increased** from 324 to 653 days versus the stipulated 330 days.
- **Creditors on average had to bear an 80% haircut** in more than 70% of the cases.

Way Forward

- **Implement reforms proposed by the IBBI**:
  o Increasing the number of **NCLT benches** and **extending timelines** for filing claims.
  o To better represent the interests of homebuyers, **authorized representatives (ARs)** of a class of creditors have been granted an expanded role in the insolvency process.
- **Pre-packaged Insolvency Resolution Process (PIRP) option** should be extended to all corporates after review.
- **Introduction of specialised resolution frameworks** for specific sectors.
- **Phased introduction of voluntary mediation** as a dispute resolution mechanism under IBC (T.K. Vishwanathan committee).

Conclusion

While the IBC has improved India's insolvency resolution framework with time-bound processes and exit mechanisms, significant challenges remain including massive case backlogs, declining recovery rates, and extended resolution timelines. Urgent reforms including expanded NCLT benches, sector-specific frameworks, and voluntary mediation mechanisms are essential for effectiveness.

3.11. RESEARCH DEVELOPMENT AND INNOVATION (RDI) SCHEME

Why in the News?

Recently, the Union Cabinet approved the Research Development and Innovation (RDI) Scheme.

Key Highlights of the Scheme

- **Aim:** Provide long-term financing or refinancing with long tenors at low/nil interest rates to **spur private investments**.
- **Key Objectives**
  o **Finance transformative projects** at higher levels of **Technology Readiness Levels (TRL).**
  o Support **acquisition of critical and strategic technologies.**

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- o Facilitate setting up of a **Deep-Tech Fund of Funds**.
- **Two-Tiered Funding Mechanism**
  - o **Special Purpose Fund (SPF):** Established within the **Anusandhan National Research Foundation (ANRF)**, acting as the custodian of funds.
  - o **Second Level Fund Managers:** Funds from SPF are allocated here, in the form of long-term concessional loans or equity funding (for startups).
- **Strategic Direction:** Provided by the Governing Board of the ANRF, chaired by the Prime Minister.
- **Nodal Department:** Department of Science and Technology

Conclusion

The **Research Development and Innovation Scheme** is a strategic move to **boost private investment** in high-end research and innovation, with a focus on **deep-tech and critical technologies**. Through long-term, low-interest funding, it aims to strengthen India's **innovation ecosystem** and technological self-reliance.

To know more about the Research and Development, refer to Article 12.2.1.Research and Development Ecosystem in India at a Glance in the Mains365 Economics 2025.

3.12. CHINA'S RARE EARTH ELEMENTS EXPORT CONTROL

Why in the News?

China imposed export restrictions on **7 rare earth elements (REEs)** and associated magnets, citing rising U.S. tariff measures.

What are Rare Earth Elements (REE)?

- **Definition:** These REEs are a subset of critical minerals, comprising **17 elements** in the periodic table (from 57 to 71). They are elements with high density and conductivity. **E.g.,** Cerium (Ce), Dysprosium (Dy), Erbium (Er), Europium (Eu), Gadolinium (Gd), Holmium (Ho), Lanthanum (La), etc.

Geostrategic Significance of Recent Export Control

- **To gain upper hand in the tariff war:** A counter to U.S. tariff hikes.
- **Impact on Critical Technologies** such as electronics, defense systems, and jet engines.
- **Supply Chain Disruptions**: Major importers affected include the U.S., Japan, Vietnam, and Germany.
- **Weaponisation of REEs by China**: **E.g., Between 2023 and 2025,** China began imposing export restrictions of strategic materials to the United States.
- **Global Shift Towards Diversification**: **E.g.,** Reshoring & 'friend-shoring'.

Implication of China's REE Export Control on India's Interests

- **Supply Chain Disruptions:** China accounted for **81 percent of India's import** value in 2022.
- **Delays** in Green Energy & EV Ambitions
- **Higher Costs** for Electronics & Tech Manufacturing

Global Efforts to Reduce Dependence on China for REEs

- **Critical Minerals Mapping Initiative (CMMI, 2019)**: A joint effort by the U.S., Australia, and Canada .
- **UN Panel on Critical Energy Transition Minerals**: Provides a roadmap to ensure equitable access to transition minerals.
- **Mineral Security Partnership (MSP)**: A multilateral group including India, focused on securing the supply of critical minerals for defense, energy, and technology.

Indian Initiatives for REE Production

- **National Critical Mineral Mission (NCMM)**: To develop a secure and resilient supply chain of critical minerals.

- **Mines & Minerals (Amendment) Act, 2023**: Allows private sector participation in the exploration of critical minerals including REEs.
- **Bilateral & Multilateral Partnerships**: **E.g.,** India–Australia Critical Minerals Investment Partnership
- **Exploration Success**: Department of Atomic Energy identified **large REE oxide reserves in Balotra, Rajasthan.**

Conclusion

As Prime Minister of India emphasized, securing **reliable and resilient supply chains** for critical minerals and technology is vital. Nations must work together to prevent their misuse for selfish gain or geopolitical coercion.

3.13. INVESTMENT FACILITATION FOR DEVELOPMENT AGREEMENT (IFDA)

Why in the News?

India and South Africa opposed the China-led IFDA proposal at the World Trade Organization (WTO).

About IFDA

- **Genesis:** Mooted in 2017 by China and other developing and least-developed (LDCs) WTO member countries.
- **Objective:** To create **legally binding provision**s to increase global **flows for FDI,** especially to developing economies and LDCs, to foster sustainable development.
- **Plurilateral agreement:** While it will be plurilateral (binding only on those members that accept it), it is open for all WTO members to join.
- **Based on the Most-Favored-Nation (MFN) Principle.**

Reasons for India's Opposition to IFDA

- **Jurisdictional and Structural Issues:** India maintains that Investment is not a trade issue and WTO lacks mandate over investment matters.
- **Opposition to Plurilateralism:** India views the plurilateral approach as a threat to WTO's multilateral foundation & also contradicts the WTO's Doha Declaration.
- **Chinese Leadership Issues:** Given China's history of debt-trap diplomacy and strategic investments through BRI.
- **Sovereignty Concerns:** Could boost foreign corporate lobbying and may put diplomatic pressure on weaker economies, limiting national regulatory powers.

Potential Benefits of IFDA

- **Investment Reforms:** Anchors domestic reforms in international commitments, improving investment climate.
- **Global Standards:** Establishes clear benchmarks to reduce regulatory uncertainty.
- **Capacity Building:** Provides technical support to LDCs for implementation and benefits.
- **Economic Impact:** Global welfare gain may rise by 0.63% to 1.73% depending on the agreement's depth (WTO).

Conclusion

The IFDA debate highlights tensions between investment facilitation benefits and sovereignty concerns. While offering potential economic gains and standardized investment frameworks, India's opposition reflects jurisdictional issues and wariness of China's leadership.

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3.14. NATIONAL TURMERIC BOARD

Why in the News?

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

About the National Turmeric Board

- **Ministry**: Ministry of Commerce and Industry
- **Aim**: To lead and coordinate turmeric sector development with the Spices Board and other agencies.
- **Composition**: Chairperson (Central Govt.), members from key ministries, state reps (on rotation), research institutions, turmeric farmers/exporters.
- **Roles**: Promote R&D, exports, value addition, awareness, yield, and market expansion.

About Turmeric

- Known as the "**Golden Spice**;" grown in tropical climates with well-drained soils.
- **Antioxidant and anti-inflammatory.**
- **India:** Top producer and exporter (70% of global output).
- **Key states:** Telangana, Maharashtra, Tamil Nadu, Andhra Pradesh.
- **GI-tagged varieties:** Erode, Sangli, Waigaon, Lakadong.

Conclusion

The establishment of the National Turmeric Board marks a strategic step towards strengthening India's global leadership in turmeric production and trade. By promoting research, innovation, and market expansion, the Board aims to enhance the value chain, empower farmers, and unlock the full economic potential of this vital golden spice.

4. ENVIRONMENT

4.1. DECARBONIZING TRANSPORT SECTOR AT A GLANCE

Decarbonizing Transport Sector

🏭 Emission Trends from India's Transport Sector

3rd most greenhouse-gas-emitting sector in India.	**Transport-sector emissions grew 375%** from 1990-2019 (NITI Aayog)	**14%** share in energy-related CO2 emissions.	**90%** of transport emissions from road transport

Targets
45% mode share for rail freight until 2030; **30% EV market** share by 2030

📈 Challenges in Decarbonizing Transport Sector

Sole Focus on vehicle technology and not mobility patterns or behavioral changes.	**High cost involved** in deployment of new technologies and charging infrastructure.	**Inadequate focus** on fuel standards, electrification, and financing.	**Geopolitical Conflicts** causing supply chain disruptions, higher energy prices, and inflation.

👨‍🔧 Initiatives

FAME India (Part of National Electric Mobility Mission Plan)	**Ethanol Blending in Petrol** to reach 20% by 2025	**Forum for Decarbonizing Transport** in India by NITI Aayog	**Bharat Stage VI Emission Standards**

🏃 Way Forward

Avoid, Shift and Improve Strategy **Mobility transition** to avoid energy consumption, **shift towards clean energy,** and large-scale transformation, etc.	**Green financing** Increasing investments to **more energy-efficient means of transport.**	**Greater integration among power and transport sectors** By pooling expertise of IT, transport, and power grid experts

4.2. ELECTRIC MOBILITY IN INDIA

Why in the News?

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

About Electric Vehicles (EVs)

- They are vehicles propelled by an **electric motor,** powered by **rechargeable battery packs**.
- **Types:** Battery EVs (entirely battery-powered); Hybrid EV (have both engine and electric motor); Fuel Cell Electric Vehicles (utilize 'fuel cell technology' to generate electricity for propulsion) etc.
- **Benefits of EVs over internal combustion engine vehicles (ICE):** Zero tailpipe emissions (1% increase in sale of EVs in a city can reduce CO_2 emissions locally by 0.096%); Superior energy efficiency; Low maintenance costs; Silent operation; Lower Registration fees and road tax on purchasing electric vehicles are lesser etc.

Status of E-mobility in India

- **4.4 million Electric Vehicles (EV) registered (August 2024),** achieving a 6.6% market penetration.

- **Less than 1% of the total vehicle** sales is contributed by EV (Bureau of Energy Efficiency (BEE)).
- **EV industry** is expected to grow at a CAGR of ~47% by 2030

Key issues in transitioning to E-Mobility

- **Lack of charging infrastructure** and the overall time required to charge such batteries.
- EVs have **higher upfront costs than conventional vehicles** due to expensive batteries.
- **Heavy dependency on imports of key elements** such as cobalt, lithium, and nickel.
- About 90% of used batteries are either **processed by unorganized industry** or end up in landfills and dumps.

Government initiatives for EV adoption

- **PM E-DRIVE Scheme:** Expedites adoption of EVs by providing upfront incentives for their purchase, essential charging infrastructure and to reduce environmental impact of transportation and improve air quality.
  o **Support e-2Ws, e-3Ws, and e-buses** and Installation of fast chargers for e-4Ws etc.
  o **Provides demand incentives for consumers** (buyers/end users) to purchase certain categories of EVs.
  o Grants for **creation of capital assets** e.g. public charging stations Networks & **upgrading testing agencies.**
- **Scheme to Promote Manufacturing of Electric Passenger Cars in India:** To attract investments from global EV manufacturers and promote India as a manufacturing destination for passenger cars.
  o Applicant will be allowed to import Completely Built-in Unit (CBUs) of e-4W manufactured by them at a **reduced**
- **Other:** National Electric Mobility Mission Plan (NEMMP) 2020, EV30@30 campaign etc.

Way Forward

- Formulation of a stable **national policy and Finance Availability** (Bringing EVs under priority sector lending).
- **Women SHGs and Cooperative Societies** may be assisted to open and operate charging Stations.
- Establish **dedicated Manufacturing Hubs and Industrial Parks** & Conduct a study regarding the **feasibility of battery standardization and standard Charger.**

Conclusion

By aligning environmental goals with economic development, India can emerge as a global leader in clean mobility while ensuring energy security, job creation, and sustainable urban growth.

4.3. CHEMICALS WASTE AND POLLUTION

Why in the News?

Intergovernmental Science-Policy Panel on Chemicals, Waste and Pollution has been created recently following a **United Nations Environment Assembly (UNEA) resolution in 2022**.

More on the News

- New panel will provide nations with **Independent, policy-relevant scientific advice** on issues related to chemicals, waste and pollution prevention.
- It **completes a global scientific trifecta,** alongside **Intergovernmental Panel on Climate Change (IPCC)** and **Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).**

What Is Chemical Waste?

- Chemical waste refers to **discarded chemicals or by-products from industrial, agricultural, laboratory, and household processes** that pose risks to health and the environment.
  o Includes hazardous substances like **pesticides, solvents, heavy metals, and pharmaceuticals.**

- Regulated under frameworks such as **Basel Convention, Stockholm Convention, Minamata Convention etc.**

Issues Associated with Chemical Waste

- **Public Health Risks** like acute poisoning, chronic illnesses, cancers, developmental disorders, and other health problems
- **Environmental Contamination**: E.g., Persistent Organic Pollutants (POPs) bioaccumulate, impacting food chains and ecosystems.
- **Instances of illegal dumping or export** of hazardous waste to developing countries with lax regulations
- **Occupational Hazard** like unsafe exposure due to lack of proper training or protective gear.

Challenges in Managing Chemical Waste in India

- **Inadequate implementation of laws** like Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
- **Dominance of Informal Sector** in handling and processing.
- **Lack of Infrastructure** like insufficient number of hazardous waste treatment, storage, and disposal facilities (TSDFs), absence of scientific landfills.
- **Limited reliable data** on the generation, treatment, and movement of chemical waste impedes policymaking

Conclusion

India must strengthen **regulatory enforcement, build modern waste management infrastructure, integrate the informal sector**, and promote scientific monitoring. Leveraging global best practices and moving towards a circular economy are essential steps to address chemical waste challenges, protect public health, and fulfill international commitments.

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4.4. SUSTAINABLE DEVELOPMENT

India's Progress on Sustainable Development (As per 2025 Sustainable Development Report)

> Entered **top 100 in SDG Index,** ranking 99th out of 167 countries in **(2025)** (up from 120th in 2021).
> India is **on track** or maintaining SDG achievement in **SDG 1 and SDG 10.**

🎯 Key Indicators of India's Performance

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

4.4.1. FINANCING FOR SUSTAINABLE DEVELOPMENT (SD)

Why in the News?

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

Background

- **Monterrey Consensus (2002)** marked beginning of **Financing for Development process focusing** on increased **Official Development Assistance (ODA),** Governance Reforms (E.g. in IMF) etc.
- Later, **Doha Declaration (2008)** reaffirmed it **amid financial crisis of 2008** and **Addis Ababa Action Agenda in 2015** introduced new financing frameworks for SD such as **Integrated National Financing Frameworks (INFFs),** Technology Bank for Least Developed Countries etc.

Requirement for **Financing for Sustainable Development**

- **Widening SDG Financing Gap:** It has reached **4 trillion US dollars annually** (UN estimates).
- **Investment in Climate Finance**: E.g. Energy-related investment is expected to grow by **40% between 2022 and 2030 (OECD,2025)**
- **Wealth Inequality:** E.g. Wealthiest 1% owns more wealth than 95% of total global population combined**. (Oxfam 2024)**

- **Debt Trap**: Over 40% of people living in extreme poverty live in countries with severe debt challenges. **(Financing for Sustainable Development Report (FSDR) 2023)**

Impediments to Financing for Sustainable Development

- **Shrinking Fiscal Space:** E.g. 46 developing countries spend more on interest payments than on either health or education. **(UNCTAD)**
- **Unequal Special Drawing Rights (SDR) Allocation:** E.g. Of total SDR allocations, developed countries receive 66%, while least developed countries receive just 2.5%. (FSDR Report,2023).
- **Geo-economic Fragmentation: E.g.** >24000 new restrictions were imposed on trade and investment between 2020 to 2024 **(Economic Survey 2024-25)**
- **Gender Gap:** E.g. Women represent <40% of employment in manufacturing and are overrepresented in sectors with lower profit margins, low technology intensity and **low wages.**

Way Forward

- **New financing mechanisms announced under Seville Commitment:**
  - **Addressing debt challenge:** Debt-for-Development Swap Programme; Debt "Pause Clause" Alliance; **Sevilla Forum on Debt etc.**
    - > **E.g.,** Under a Debt-for-Development Swap Programme, **Italy** will convert debt obligations of **African countries** into investments in development projects.
  - **Catalysing investment with development impact:**
    - > **Scaling Blended Finance**: E.g. Blended finance platform, SCALED.
    - > **Effective Taxation of High-Net-Worth Individuals** initiative (led by Brazil and Spain)
  - **Supporting architecture reform at the national and global levels**
    - > **Enhancing Local Currency Lending:** E.g. FX EDGE Toolbox (Inter-American Development Bank) for local currency lending.
    - > **Coalition led by UK and Bridgetown Initiative:** To scale-up pre-arranged financing from 2% to 20% of total disaster financing by 2035.
- **Seven-point strategy to boost private investment proposed by India:** It includes strengthening multilateral banks, improving credit rating methods, and developing domestic financial markets, Unlocking capital at the Grassroots Level, etc.

Conclusion

Creating the right environment for private investment, strengthening public development banks, and reforming the multilateral system are essential to align finance with the SDGs.

4.5. VEHICLE SCRAPPING

Why in the News?

Recently, Union Ministry of Road Transport and Highways (MoRTH) launched the **Voluntary Vehicle Modernization Program** or **Vehicle Scrapping Policy**.

About Vehicle Scrapping in India

- **Government announced Vehicle Scrapping Policy in 2021** to gradually phase out the vehicles which are more than 15-20 years old to reduce air pollution, improve road safety, and boost vehicle sales.
- **Current Status of Vehicle Scrapping in India:**
  - More than 60 Registered Vehicle Scrapping Facility (RVSFs) are operational across 17 States/UTs and 75 Automated Testing Stations (ATSs) in 12 States/ UTs.
  - 21 States/UTs have announced concessions in the Motor Vehicle tax on a vehicle which is purchased against a Certificate of Deposit.

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Steps Taken for Vehicle Scrapping in India

- **Voluntary Vehicle Modernization Program:** To create an ecosystem for phasing out unfit polluting vehicles through a network of **Registered Vehicle Scrapping Facilities (RVSFs) and Automated Testing Stations (ATSs).**
  - Vehicles that fail the fitness test will be scrapped, and **owners will receive a Certificate of Deposit** (Scrappage Certificate) as proof.
  - **Incentives:** Automakers often offer discounts on new vehicles for those who scrap their old ones.
- **End-of-Life Vehicles Rules, 2025:** Any vehicle which becomes an End-of-Life vehicle cannot be kept for more than 180 days.
  - These rules mandate **Extended Producer Responsibility (EPR) for vehicle manufacturers.**

Significance of Scrapping Old Vehicles

- **Environmental**: Older vehicles with outdated technology led to higher emissions of pollutants.
- **Economic:** Will encourage people to purchase new vehicles (Stimulating demand in automobile industry).
- **Circular economy:** Recovers valuable materials thus reducing raw material extraction.
- **Better road safety & Regulatory compliance**

Challenges for effective Vehicle scrapping

- **Inadequate infrastructure** like Lack of authorized recycling centres and unorganized scrapping etc.
- **Poor integration** with circular economy due to **lack of clear recycling supply chains etc.**
- **High cost of new vehicles** and low resale value of old ones deter owners from scrapping.
- **Weak enforcement,** which enables fake certifications, allowing old vehicles to evade scrapping regulations.

Way Forward

- **Build scrapping infrastructure:** Encourage PPP in setting up scrapping facilities.
- **Simplified vehicle scrapping process:** Provide **one-stop services** from deregistration to recycling.
- **Strengthened enforcement** such as regular emission tests, centralized tracking of old vehicles etc.

Conclusion

A coordinated approach involving government, industry, and citizens is essential to transform end-of-life vehicles from a liability into an opportunity for cleaner roads and a greener future.

4.6. SUSTAINABLE COOLING

Why in the News?

The Indian government is considering regulating air conditioner (AC) temperature settings between 20°C and 28°C, highlighting the need of sustainable cooling.

About Sustainable cooling

It refers to the use of climate-friendly refrigerants for cooling.

Need of Sustainable Cooling Solutions

- **Vicious cycle:** Meeting cooling demands, due to global warming can further heat the planet.
  - ~66% of emissions related to cooling is from developing countries (2022) {can increase to>80% by 2050}.
- **High market Potential: Sustainable cooling market is** expected to cross USD 600 billion, per year by 2050.
- **Use of Hydrofluorocarbon (HFC) Refrigerants**: These are potent greenhouse gases with a global warming potential far higher than CO_2.
- **Unequal access to cooling**: Across urban and rural regions, marginalized and low-income communities being most at-risk during heatwaves.

Initiatives for Sustainable Cooling

- **India:** India Cooling Action Plan, 2019; Energy Conservation Building Code by Bureau of Energy Efficiency; Super-Efficient Air Conditioning Programme by Energy Efficiency Services Limited (EESL) etc.
- **Global**
  - **Global Cooling Pledge:** Initiated by UAE at COP 28, Commits the countries to reduce their cooling emissions by at least 68% by 2050.
  - **Cool Coalition:** Launched by UNEP to provide efficient, climate-friendly cooling for all.
  - **Kigali Amendment to Montreal Protocol**: To reduce production and consumption of hydrofluorocarbons (HFCs), which are potent greenhouse gases.

Way-Forward for sustainable cooling

- **Regulation & Safeguards:** Strengthen Minimum Energy Performance, efficiency, and sustainability standards
- **Financing:** Expand public funding; private capital & need based funding models. E.g. Retail household finance.
- **Adopting Traditional Cooling Techniques:**
  - **Microclimate Control** (E.g. Providing Verandah and courtyards in home), Use of natural ventilation (Use of Jaalis, jharokhas and small windows),
  - **Evaporative Cooling** (Baoris and water bodies near homes), **Vegetation-Based Cooling (**Planting **trees and gardens** around courtyards and buildings**)**

Conclusion

As India leads through initiatives like the India Cooling Action Plan and energy efficiency codes, global collaboration and inclusive financing will be essential to ensure that cooling solutions do not contribute to global warming but rather become part of the solution.

4.7. CLIMATE RESILIENT FARMING

Why in the News?

Parliamentary Estimates Committee of the Ministry of Agriculture and Farmers Welfare presented a report on promotion of **climate resilient agriculture, natural and organic farming through Krishi Vigyan Kendras.**

More on the News

- Committee acknowledged success of **Sikkim model of organic farming**.
  - Sikkim model promotes **creation of FPO, and provides support to farmers for organic inputs, quality seeds/ planting material and training,** hand holding and certification.
  - Emergence **of "Organic Tourism"** has also created new income opportunities for farmers.

About Climate resilient agriculture

- It means incorporation of adaptation, mitigation and other practices in agriculture which increases the capacity of the system to respond to various climate related disturbances by resisting damage and recovering quickly.
- **Significance:**
  - Agriculture sector responsible for ~**14% of the emissions in India** (India's Fourth Biennial Update Report (BUR-4) to UNFCCC).
  - Climate change will lead to **projected decline in rainfed** rice, wheat, kharif maize yields by 2050. (Promotion of Climate Resilient Farming report)

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Key Observations/Recommendations of the Committee

Theme	Observations/Related Issues	Recommendations
Financial allocation	**Limited budget** restricts adaptation efforts particularly in regions most vulnerable to climate change	• Substantial **increase in funding for National Innovations in Climate Resilient Agriculture (NICRA)** • Adoption of a **phased and rotational approach** to extend climate adaptation support to all vulnerable districts • Strengthening **market linkages and developing premium pricing mechanisms** for natural produce
Climate-Resilient Seed Varieties	• Slow adoption of new seed varieties • Limited distribution networks • Gaps in coordination at the state level	• Establishment of **decentralized seed hubs** and the **promotion of seed village programmes** • Increase coordination between **Indian Council of Agricultural Research (ICAR), State governments, Seed companies**

Other Key recommendations

Organic Certification	**Lack of awareness** among farmers about certifications especially in rural areas	• Creation of **unified organic label** for both **National Programme for Organic Production (NPOP)** and **Participatory Guarantee System (PGS-India)**
Organic Farming Transition	**Lack of a robust and expanded support system** to shift from conventional to organic farming	• Increase the **direct financial incentives** under Direct Benefit Transfers (DBT) for organic inputs. • Invest in **improving local marketing channels**, enhance **digital outreach.**
Safe Pest Management Practices	Widespread and irresponsible use of pesticides found in various food products	• Increase adoption of **biological pest management technologies** developed by **ICAR-National Bureau of Agricultural Insect Resources (NBAIR)** as a sustainable alternative to chemical pesticides.

Conclusion

Report highlights the need for stronger financial, institutional, and market support to scale up climate-resilient, natural, and organic farming. Drawing on the Sikkim model, it emphasizes better funding, seed infrastructure, certification awareness, and pest management.

4.8. 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.**
- **Secretariat:** Administered by UNEP at **Geneva, Switzerland.**
- **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.**

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.

CITES Appendices
(Lists Species in 3 Appendices based on their degree of protection)

Appendix I: Species **threatened with extinction**, trade permitted in only exceptional cases.

Appendix II: Species **not necessarily** threatened with extinction, but in which trade must be controlled.

Appendix III: Species **protected** in at **least one country**, which has asked other CITES Parties for assistance in controlling the trade.

- **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.
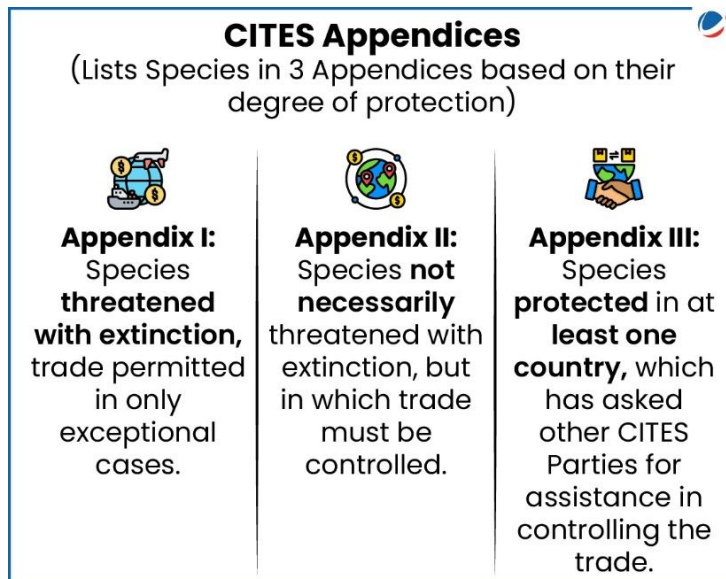
Conclusion

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.

4.9. OCEAN CONSERVATION

Why in the News?

Third **United Nations Ocean Conference (UNOC3) held in Nice, France** (Co-hosted by France and Costa Rica) concluded with adoption of **Nice Ocean Action Plan**.

Key Highlights of Action Plan

- A global roadmap adopted **to support achievement of SDG 14**, focused on conserving and sustainably using oceans, seas, and marine resources.
- Reaffirms commitment to develop an **international legally binding instrument on plastic pollution.**
- Called for global action to **reduce climate and acidification** impacts on oceans and coastal communities.

Need for Ocean Conservation

- **35% global fish stocks are being harvested unsustainably** which can result in ecosystem damage, reduced genetic diversity, and even collapse of commercial and non-commercial fish.
- **Rising sea levels caused by climate change** are impacting 1 billion people worldwide
- **8-10 million metric tons of plastic** ends up in the ocean each year, and plastic waste accounts for about 80% of all marine pollution.

- **Only 8.3% of ocean** has been designated as marine protected areas (MPAs), as of June 2025.
- **Habitat Destruction** due to a combination of factors, including rising sea temperatures, **ocean acidification etc.**

Steps Taken for Ocean Conservation

- **30 by 30 Target:** Under the Kunming-Montreal Global Biodiversity Framework (GBF) aims to conserve at least 30% of the world's land and ocean areas by 2030 to halt biodiversity loss.
- **Marine Protected Areas:** e.g. India has designated MPAs like Gulf of Mannar, Malvan, and Sundarbans, covering significant coastal and island biodiversity.
- **BBNJ Agreement:** To regulate the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction.
- **Other Effective Area-Based Conservation Measures:** Examples include **sacred coastal groves, Traditional fishing zones** with regulated access, **naval exclusion zones** that incidentally aid biodiversity preservation.

Way Forward

- **Augmenting Financing:** Public, grant-based and concessional finance, non-debt instruments and other concessional finance from multilateral development banks.
- **Ocean management for biodiversity:** Establishing marine protected areas, and promoting international cooperation to protect vulnerable habitats.
- **Leveraging ocean, climate and biodiversity interlinkages:** Coordinated action across different international conventions and national strategies.
- **Implementing integrated land-freshwater-sea approaches:** Also known as source-to-sea (S2S) or ridge-to-reef approaches.

Conclusion

The outcomes of the Third United Nations Ocean Conference (UNOC3), especially the adoption of the **Nice Ocean Action Plan**, reflect growing international consensus on the urgent need for collaborative, science-based, and inclusive ocean governance.

4.10. FOREST ECOSYSTEM RESTORATION

Why in the News?

Secretariat of Convention on Biological Diversity (CBD) marked **10th anniversary of the launch of the Forest Ecosystem Restoration Initiative (FERI) in 2024.**

About Forest ecosystem restoration

It involves **returning trees to former forest land and improving the condition of degraded forests**, planting native tree species, conserving

wild plants and animals and protecting the soils and water sources that are part of the forest ecosystem.
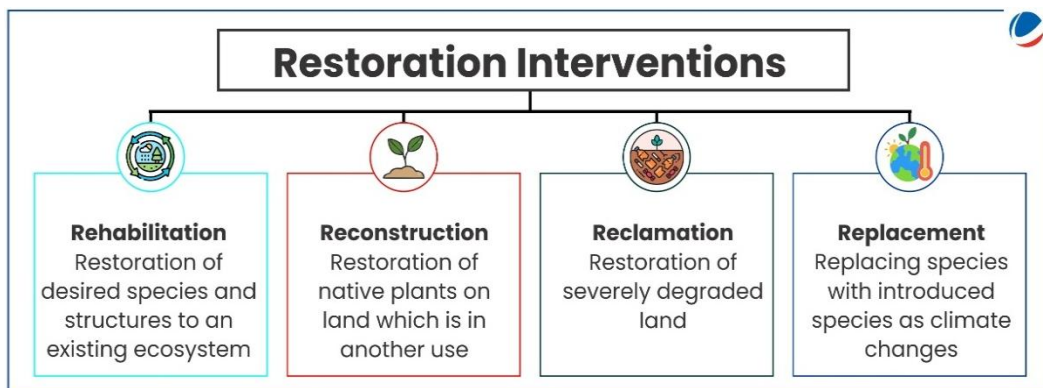
Need for Forest Ecosystem Restoration

- **Carbon Sequestration**: In a typical year, forests and other vegetation absorb roughly 30% of the carbon that humans emit from burning fossil fuels
- **Food Security:** Over 5 billion people depend on **forests and non-timber forest products for food, medicine and livelihoods.**
- **Soil and Water Conservation**: **Sustainable Forest management** can enhance **water quality for over 1.7 billion people in large urban areas,** contributing to their food and water security.

Challenges in Forest Ecosystem Restoration

- Restoration efforts **lack financial investments** in developing countries.
- **Ambiguities in land ownership** of local communities hinders restoration.
- **Climate change** makes it harder to restore certain forest types and ecosystems.
- **Poor governance and lack of coordination** can delay progress.

Major global Initiatives for forest restoration

- **IUCN's Forest Conservation Programme** for sustainable management of forests.
- **WWF's Forests for Life Programme** aims at conserving biological diversity.
- **'REDD+' framework of UN** for sustainable management of forests and the conservation and enhancement of forest carbon stocks.
- **The Forest and Landscape Restoration Mechanism (FLRM)** by Food and Agriculture organization (FAO)

Conclusion

A holistic approach to forest restoration requires aligning national policies, community participation, private sector incentives, adopting agroforestry and robust monitoring systems. Together, these measures can ensure sustainable ecological and socio-economic outcomes.

4.11. FINANCING DISASTER RISK REDUCTION (DRR)

Why in the News?

Recently India showcased the **World's Largest Disaster Risk Reduction Financing System** at the 8th session of the **Global Platform for Disaster Risk Reduction (GP2025).**

More on the news

- **GPDRR** was established in 2006 to assess and discuss progress on implementation of **Sendai Framework for DRR**.
- **Sendai Framework (2015-30)** is a non-binding agreement adopted at 3rd United Nations World Conference on DRR.
  - It **has 7 targets** and is an **improved version** of **Hyogo Framework for Action (2005-15).**

What is Disaster Risk Reduction (DRR)?

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

7 GLOBAL TARGETS

Reduce | Increase

Mortality/global population 2020–2030 Average << 2005–2015 Average | Countries with national & local DRR strategies 2020 Value >> 2015 Value

Affected people/global population 2020–2030 Average << 2005–2015 Average | International cooperation to developing countries 2030 Value >> 2015 Value

Economic loss/global GDP 2030 Ratio << 2015 Ratio | Availability and access to multi-hazard early warning systems & disaster risk information and assessments 2030 Values >> 2015 Values

Damage to critical infrastructure & disruption of basic services 2030 Values << 2015 Values |

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- **Key Financing Mechanism for DRR**
  - **United Nations and Multilateral Funds:** E.g. **Green Climate Fund (GCF)** supports DRR
  - **Multilateral Development Banks (MDBs): E.g. World Bank's** Disaster Risk Financing and Insurance (DRFI) Program
  - **National-Level:** Includes DRR into national and local budgets, National Adaptation Plans (NAPs) etc.
  - **Bilateral Aid and Partnerships:** E.g., USAID supports various DRR programs.

India's Disaster Risk Reduction (DRR) Financing System

- India follows pre-**determined, rule-based allocations** from national to state/district levels, supported by **Disaster Management Act of 2005**.
- **Current Allocations**: Under **15th Finance Commission**, allocation exceeds INR 2.32 trillion.
- **Four key principles India's DRR financing approach**
  - **Dedicated financial windows** for **preparedness**, **mitigation**, **relief**, and **recovery**.
  - Prioritization of the **needs of affected people** and **vulnerable communities**.
  - Accessibility of **financial resources across all government levels**—central, state, and local.
  - **Accountability**, **transparency**, and **measurable outcomes** guide all expenditures.

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

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

What are the key Challenges in mobilizing adequate DRR Financing?

- **Absence of dedicated international financial mechanism**
- Governments, financial institutions etc. **don't incorporate hazard considerations in financial decisions.**
- **Politically,** Financing DRR is seen as spending on events with no immediate benefits.
- **Other**: Weak Institutional Capacity in Developing Countries, Lack of national DRR strategies etc.

Way Forward

- **Standards and taxonomies by National governments:** E.g., define **sustainable**, **disaster resilient investments**, etc.
- **Tracking Financing Flows in risk prevention and fiscal data:** To identify volume of investment utilized out of budgeted allocation.
- **Adopting Innovative Financial Approaches**: E.g., Blended finance, Debt-for-resilience swaps, Integrating disaster risks into credit ratings, Sovereign Green bonds, Catastrophe bonds etc.
- **Promoting layered financing**: National reserves or contingent credit lines for **Low-cost, high frequency events** and **insurance** or other risk-transfer solutions for more **severe disasters**.

Conclusion

To break the cycle of disaster and recovery, the global community must shift from reactive spending to proactive risk management; ensuring resilience is at the heart of financial and policy decisions.

4.12. COALITION FOR DISASTER RESILIENT INFRASTRUCTURE

Why in the News?

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

About CDRI

- A global partnership of nations, UN agencies, multilateral development banks, and the private sector, launched at **UN Climate Action Summit (2019) by India.**
- **Objective:** To promote the resilience of infrastructure systems to climate and disaster risks ensuring sustainable development.
- **Significance of CDRI**
  - Provides a **global mechanism for financing** and coordination for making **infrastructure systems disaster and climate resilient in** vulnerable regions like Small Island Developing States, mountain regions, Africa etc.
  - **Provides Technical Support and Capacity-building e.g.** disaster response and recovery support, innovation etc.
- **Key Initiatives:** Infrastructure for Resilient Island States (IRIS); DRI Connect platform; Infrastructure Resilience Accelerator Fund (IRAF) etc.

About Resilient infrastructure

- It is the infrastructure that can absorb, respond to, and recover from hazard events and shocks.
- **Need for Infrastructure Resilience**
  - **Climate change may lead to an estimated global average annual loss (AAL)** in infrastructure sectors of about **14 % of GDP.**
    - **Half of this contingent liability is held by** low- and middle-income countries **(LMIC).**
  - **80%** of disaster and climate risk in infrastructure **is concentrated in the critical power, transport, and telecommunications sectors**

Constraints in achieving Infrastructure resilience

- **Limited private participation:** India's central and state governments currently finance over 75% of urban infrastructure.
- **Obsolescence of infrastructure:** E.g., old bridge collapses in India.
- **Weak infrastructure governance:** Deficient planning and design, inadequate standards, ineffective regulation and compliance and low levels of investment

Way Forward

- **Increase Private capital investment** in infrastructure.
- **Standardization and certifications** of resilient infrastructure.
- **Integrating Nature-based Infrastructure Solutions** into national and local planning.
- **Formulating Global digital repository to document best practices.**

Conclusion

With an expanding membership and impactful initiatives, CDRI can **play a crucial role in safeguarding infrastructure systems,** particularly in vulnerable regions, thereby **reinforcing global climate action and SDGs.**

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4.13. CROWD DISASTER MANAGEMENT

Why in the News?

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

About Stampede

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

Crowd Management Failures and Triggers

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

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

Preparedness

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

Constitutional and Legal Provisions regarding Crowd Management

📖 **Article 19: Article 19 (1) (b)** provides citizens **right to assemble** peacefully and without arms. However, **under Article 19(3)** the Government can impose reasonable restrictions on such right.

📋 **Police Act of 1861:** Lays down **conditions** that may be **imposed for regulating lawful processions** and assemblies to prevent public inconvenience.

🌍 **Disaster Management Act 2005:** Deals with vehicular and human traffic, and other **areas related to crowd management.**

Response

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

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How Technology Can Prevent Stampedes in India?

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

Conclusion

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

4.14. URBAN DEVELOPMENT AND DISASTER RESILIENCE IN INDIA

Why in the news?

Rising frequency of various disasters like urban floods in Bengaluru (2024) and Delhi (2023) have highlighted unpreparedness of Indian cities to deal with disasters.

What is a Disaster Resilient City?

As per **National Institute of Disaster Management**, a disaster resilient city is characterized by-

- **Sensible building codes and no informal settlements in vulnerable areas**.
- **Inclusive, competent and accountable local government** focusing on sustainable urbanization.
- **Shared, local information base** on disaster losses, hazards, risks and vulnerability.
- **People empowered** to participate, decide and plan their city with local authorities

Vulnerability of Indian Cities

- **Population Centers:** 40% population will reside in cities by 2030.
- **Impacts of Climate Change:** Urban Heat Island (UHI) effect, Extreme Weather Events.
  - E.g., torrential rains (2023) in Shimla, Himachal Pradesh triggered landslides, flash floods.
- **Unplanned urbanization and Existing Vulnerabilities** such as urban poverty, social inequality etc.

Challenges in building disaster resilience in Indian cities

- **Lack of planning:** 65% of Indian cities currently do not have a master plan. (NITI Aayog)
- **Feedback to climate change**: Urban areas account for **70% of global CO$_2$ emissions**. (IPCC 6th Assessment Report, 2022),
- **Concretization of Urban spaces:** It leads to Urban flooding, **Urban Heat Island** effect etc. further exacerbating climate extremities and increasing risk factors.
- **Crumbling Infrastructure:** E.g., inadequate Sewerage and drainage systems to cope with heavy rainfall.
- **Other issues:** Insufficient health infrastructure; Departments focusing on water, transport, energy, etc. operating in silos; Stagnant Private funding etc.

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Initiatives/Mechanisms for developing urban disaster resilience

- **Government Schemes:** AMRUT, Housing for All (Urban) Scheme and the Smart Cities Mission National Mission on Sustainable Habitat (NMSH) 2021-2030 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 under National Supercomputing Mission (NSM) jointly steered by MeitY and Department of Science and Technology provides **2-day advance flood inundation forecasts** up to village-level.
  - **3 categories of Flood Alerts based on inundation depth:** Yellow Alert- Inundation below 0.5m; Orange Alert-below 1.5m, and Red Alert- inundation exceeding 1.5m.
- **State Initiatives:** Chennai Flood Warning System; Flood forecasting and early warning system for Kolkata City, IFLOWS-Mumbai.

Way Forward

- **Comprehensive city-level climate-action plans** for sustainable urban development.
- **Mobilization of local finance** by **creation of land banks**, leasing of properties, CSR Funding, PPPs etc.
- **Community Involvement,** e.g., by **Disaster management agencies in Japan** to generate awareness about disaster.
- **Nature Based Developments like creation of blue-green infrastructure** to mitigate the impacts of hazards and build community resilience.
  - **E.g., Singapore's ABC Program** focuses on greening public spaces and encouraging **private development to follow sustainable principles.**
- **Data based decision making,** e.g., using real-time hydrometeorological network for dealing with urban flooding.

Conclusion

India's urban vulnerability to disasters underscores the urgent need for climate-informed planning, resilient infrastructure, and inclusive governance—backed by data, community participation, and nature-based solutions.

4.15. COASTAL HAZARDS

Why in the News?

The **theme** of the International Conference on Disaster Resilient Infrastructure (ICDRI) 2025 was **shaping a Resilient Future for Coastal Regions.**

Major Coastal hazards in India

- **Tsunamis:** E.g., 2004 Indian Ocean Tsunami claimed over 230,000 lives, displaced millions across 14 countries, including India
- **Cyclones:** E.g., Cyclone Remal struck India and Bangladesh in 2024 **For example, an** estimated
- **Storm Surges:** E.g., storm surge of height 2-2.5 m above astronomical tide inundated the low-lying areas of Kutch and Morbi districts in 2023. (IMD)
- **Coastal Erosion:** E.g., **33.6% of India's coastline** is threatened by erosion (MoEFCC)
- **Maritime Disasters:** Like shipwrecks, collisions, groundings, fires, explosions, and oil spills and associated release of hazardous waste.
  - E.g., Sinking of **Liberian-flagged vessel MSC ELSA 3 led** to, tiny plastic pellets, known as 'nurdles'**,** being found in large numbers along the coast of Thiruvananthapuram.

Need for building Resilient Coastal Regions

- **Risk to Human life and Property:** Over **two-thirds of world's large cities** are located in coastal zones.
  - Nearly **250 million people** live within the area of 50 km from the coastline of **India.**

- **Climate change**: Increasing intensity and frequency of hazards like sea level rise, floods, and storms.
- **Economic losses**: E.g., Cyclone Fani (2019) caused ~US$1.2 billion power infrastructure damage in Odisha. (Global Assessment Report (GAR), 2025)
- **Threat to biodiversity:** E.g. Half of world's mangroves could face severe risks by 2100 due to increased cyclone frequency and sea level rise (Risk index for mangroves).
- **Social Vulnerability:** Coastal hazards can **worsen existing inequities** for indigenous communities, elderly, fishing communities, etc.

Indian Initiatives for Mitigating Coastal Vulnerabilities

- **Coastal Regulation Zone (CRZ) Notification (2019):** Coastal Zone Management Plan (CZMPs) released by states divide coastal areas into different zones, such as **No Development Zones (NDZ), and Coastal Regulation Zones**.
- **Integrated Coastal Zone Management Project (ICZMP):** Implemented in states like Odisha and West Bengal, to protect and conserve coastal and marine environments through sustainable practices.
- **Multi-Hazard Vulnerability Maps and Coastal Vulnerability Index (CVI):** Developed by INCOIS, to assess and map vulnerability of different coastal regions.
- **Coastal Management Information System (CMIS):** To collect near-shore coastal data, which can be used in planning, design, and construction of protection structures.

Conclusion

As climate risks grow, global action grounded in local needs and innovation is vital to safeguard coastal communities and ecosystems.

4.16. TSUNAMI

Why in the News?

An earthquake of magnitude 8.8 struck **Russia's Kamchatka Peninsula** triggering **tsunami waves near in** the Pacific Ocean.

About Tsunami

- **Series of enormous waves created by an underwater disturbance caused by violent seafloor movement associated with earthquakes, landslides, lava entering sea, seamount collapse, or meteorite impact.**

Characteristics of Tsunami Waves:

- **Wavelength:** Their speed & wavelength primarily depends on ocean depth, not distance from the wave's source.
- **Wave Height (Amplitude)**: Amplitude is negligible in deep ocean, However when **tsunamis approach shallow water, wave amplitude increases.**

Consequences: Loss of lives and livelihoods**,** Destroying Mangroves and coral reefs, **Soil, water Contamination etc.**

Steps taken for Tsunami preparedness

- **Globally:** UNESCO-IOC Tsunami Ready Recognition Programme, Tsunami United Programme, Global Tsunami Early Warning and Mitigation Programme
- **India:** Indian Tsunami Early Warning Centre (ITEWC), NDMA Guidelines on Management of Tsunamis in India, Development of Apps and devices: E.g. GEMINI device for warnings and alerts in sea.

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NDMA Guidelines for Tsunami

- **Mandate a multi-tiered institutional structure (NDMA, SDMAs, DDMAs)** to enhance emergency response
- **Developing early warning systems**, Doing hazard and vulnerability assessment
- **Effective mitigation measures** e.g. Land use planning, Developing Natural buffers etc.
- **Promoting public awareness, education, and comprehensive training** across all stakeholder groups

Conclusion

There is a need of continuous efforts in building infrastructure, strengthening early warning systems, enhancing community awareness and response, and fostering international collaboration, to minimize impact of tsunami events.

4.17. ERRATA

Mains365 Environment 2025

- In Article **1.4.3.1. Article 6**, in the table titled "Mechanisms under Article 6", under the last the column titled Article 6.8, it is incorrectly mentioned that the approach involves One Participating Party.
- The correct information is that **more than one Participating Parties** are involved in mechanisms associated with Article 6.8.

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5. SOCIAL ISSUES

5.1. PUTTING PEOPLE AT THE CENTRE OF THE AI DEVELOPMENT

Why in the News?

2025 Human Development Report titled "**A Matter of Choice: People and Possibilities in the Age of AI**", emphasized placing **people at the centre** of this evolving AI-landscape, asserting that humanity, not machines, should dictate which technologies prosper and for what purposes.

AI's distinctive relationship with Humanity

- **Generative AI** offers rapid, adaptive, and iterative **personalization and customization of outputs at scale,** unlike the "one size fits all" approach of classical programming. As AI automates decisions, it risks inadvertently ceding human agency.
- In **high-stakes situations** where AI outputs have wide-ranging implications, **human input remains critically valuable**, as humans possess "skin in the game" and the unique capacity for contextual appreciation.
- The impact of highly **agentic AI systems** - those capable of autonomous action - depends entirely on their integration into society.

Human development Challenges and risks due to AI

- **Exacerbating existing divides:** AI systems can act as "mirrors," reflecting and amplifying the values, structures, and inequalities of the societies that shape them, leading to **systematic errors (algorithmic bias)** and discriminatory outcomes.
- **Psychological profiling:** AI can **"hallucinate"** by generating false, irrelevant, or contradictory statements and enable **"hypersuasion"** by crafting language tailored to users' psychological profiles.
- **"Cognitive Offloading":** AI could detract from critical thinking skills and threaten individual authenticity and autonomy, particularly through pervasive recommender systems.
- **Techno-determinism**: Oversimplification of complex interactions between technology and society projecting a sense of inevitability for the social consequences that follow technological change, effectively **undermining human agency**.
- **Concentration of power**: AI supply chain is characterized by a **domination of a few big techs**, raising concerns about competition and limiting broad-based innovation.

Pathways to AI-augmented Human Development

- **Building a complementarity economy:** Foster a dynamic where **AI augments and extends human labour,** social dialogue and worker inclusion in AI Governance, strengthen social protection system for labour market, etc.
- **Driving innovation with intent:** Align iinnovation incentives to promote both socially desirable and privately profitable outcomes, centrality of human agency to every stage of AI's design, development, and deployment, etc.
- **Investing in capabilities that count:** 3Is framework - **Invest** in universal access to digital devices and skills, **inform** people about the risks and opportunities of AI, and **Include** people of all ages, genders, ethnicities, and backgrounds in AI design and development.

Conclusion

By prioritizing a complementarity economy, driving innovation with clear intent, and strategically investing in human capabilities, societies can effectively expand people's choices and possibilities. This proactive approach paves the way for new development pathways globally, enabling everyone to thrive in an AI-augmented world.

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5.2. CULTURAL APPROPRIATION

Why in the News?

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

What is Cultural Appropriation?

- Cultural appropriation is when a **dominant group** adopts elements from a marginalized culture in a disrespectful or exploitative way.
  - It involves profiting financially or socially from another culture without consent.
- **Other examples:**
  - **U.S brand Starbucks** "Golden Latte" mirrors traditional Indian turmeric milk (Haldi Doodh).
  - **Italian brand Gucci** selling floral embroidery kaftans resembling Indian kurtas.

Reasons behind Cultural Appropriation

- **Lack of protection:** IP laws focus on individual innovation, not collective heritage.
- **GI Tag Issues:** GI rights are territorial and limited internationally, making legal action difficult abroad (e.g., Kolhapuri chappals in Italy).
- **Digital Marketplace Loopholes**: Platforms act only after violations are flagged; resale and reproductions remain unchecked.
- **Lack of enforcement and awareness:** Over 10,000 families make Kolhapuri chappals, but only 95 are registered under the GI framework.

Ethical dimensions involved in Cultural Appropriation

- **Violates Kantian Ethics** by using cultures as **means to an end** (profit), not respecting communities.
- **Utilitarianism:** Short-term corporate gains cause long-term harm to cultural dignity and artisan livelihoods.
- **Erodes artisan livelihoods**, denying freedom and economic opportunities per Amartya Sen's Capability Approach.

How has globalization impacted India's cultural heritage?

Positive Impact

- **Cultural Exchange**: Indian instruments like sitar and tabla feature in Western music.
- **Global Recognition**: Yoga, Ayurveda, Bollywood, and classical music are globally popular.

Negative Impact

- **Homogenisation**: Global platforms influence youth, sidelining local arts.
- **Cultural Erosion**: Traditional attire is replaced by Western clothing.

Conclusion

Strengthening the enforcement of GI protections, promoting ethical global engagement, and empowering local artisans through legal and digital literacy are essential to ensure that cultural heritage is celebrated — not exploited — in a globalized world.

5.3. DIVERSITY, EQUITY, AND INCLUSION (DEI)

Why in the News?

Companies such as Meta, Amazon have been scaling back DEI initiatives. Earlier, many US Universities also restricted their diversity programmes.

What are Diversity, Equity, and Inclusion (DEI) Initiatives?

- **DEI** is an umbrella term used to describe policies and initiatives that promote the **representation and participation** of different groups of individuals. E.g., Gender, Race, Sexual Orientation, etc.
- **Absence of DEI** at workplace can promote **workplace discrimination**; enhance inherent social biases through homogenization of practices leading to perpetuation of existing biases in technologies like AI, etc.
  - **E.g.,** Allegations of sexism against an algorithmic recruitment tool by Amazon.

Significance of DEI at Workplace

- **Non-discrimination:** It is a **fundamental human right** essential for quality employment and worker welfare.
- **Business development**: It promotes **creativity and innovation**, broadens **talent attraction and retention**, increases **employee engagement** and enhances **reputation.**
  - **E.g.,** Diverse companies are 70% likelier to capture a new market and 45% more likely to report increased market share year-over-year. (Harward Business Review)
- **Impactful decision-making**: Diverse teams make better decisions up to 87% of the time. (Forbes study)
- **Connection to ESG (Environmental, Social, and Governance):** Company's commitment to DEI acts as an indicator of its long-term sustainability and responsible business practices.

Initiatives promoting DEI

- **Principle 6 of 10 Principles of the UN Global Compact**: Businesses should uphold the **elimination of discrimination** in respect of **employment and occupation.**
- **Universal Declaration of Human Rights**: **Article 1** (**Equality**- Everyone is born free and equal in dignity and with rights); **Article 2** (**Freedom from Discrimination**- No discrimination on grounds of race, colour, sex, etc.)
- **National workplace quotas/targets** applied on gender and disability. E.g. Austria, Germany
- **Role of AI**: AI can be used to **identify the inherent biases** and support the development of more inclusive workplaces. E.g., **AI sentiment analytics** for employee feedback detecting trends in **work culture**.

Conclusion

While short-term pressures might lead some organizations to scale back DEI efforts, the long-term consequences are detrimental to innovation, talent attraction, employee well-being, and ultimately, societal progress. Prioritizing DEI is not merely a moral imperative but a strategic necessity for future success and a truly inclusive global community.

5.4. UNIVERSAL SOCIAL SECURITY

Why in the News?

India's social security coverage has increased from 19 per cent in 2015 to 64.3 per cent (Over 94 crore) in 2025 as per the latest data from the International Labour Organisation's ILOSTAT with a 45-percentage point surge over the past decade.

What is Social Security/Protection?

- **Definition:** It is the protection that a society provides to individuals and households to ensure access to health care and to guarantee income security, particularly in cases of old age, unemployment, sickness, maternity, etc.
- **Three pillars** of social protection - **Social assistance**, **social insurance,** and **Labor market programs** to ensure self-reliance and independence.

Need for Universal Social Security in India

- **Large Informal Workforce**: Over 90% workers informal, lacking basic protection.
- **Vulnerability to Economic Shocks**: COVID-19, climate-related disasters.

- **Gig and Platform Workers**: Rapidly growing segment with inadequate coverage.
- **Ageing Population**: Rising old-age population (projected to exceed 20% of total population by 2050).
- **Gender Gap**: Women disproportionately impacted by lack of social security.
- **Poverty and Inequality**: Inadequate safety nets lead to intergenerational poverty.

Initiatives taken for social protection

- **Pradhan Mantri Shram Yogi Maan-Dhan Yojana** (PM-SYM) (Old Age Protection) (18- 40 years): 50% monthly contribution by the beneficiary and equal contribution by the Central Government.
- **Pradhan Mantri Jeevan Jyoti Yojana** (PMJJBY) (18 to 50 years): Rs.2 lakh on death due to any cause.
- **Atal Pension Yojana**: (18-40 years): Can attain a pension of 1000-5000 rupees.
- **Others**: Pradhan Mantri Suraksha Bima Yojana (PMSBY) (18 to 70 years), Public Distribution system, Ayushman Bharat, Pradhan Mantri Awaas Yojana – Gramin, etc.

Way Forward

- **Integrated Social Protection Framework**: E.g., One-nation-one-card for welfare schemes.
- **Strengthen e-Shram**: Real-time updates, portability, integration with Aadhaar.
- **Public-Private Partnerships**: For outreach, insurance, and technology adoption.
- **Participatory Approach**: Involving local bodies, civil society in service delivery.
- **Sustainable Financing Models**: E.g., social security cess on platforms, employers.
- **Gender and Disability Inclusion**: Prioritising vulnerable segments.

Conclusion

Moving beyond fragmented and sectoral approaches towards an integrated, rights-based framework will ensure that no citizen is left behind in the development process. By leveraging digital infrastructure, political will, and fiscal innovation, India can pave the way for a truly inclusive welfare state.

5.5. ROLE OF SOCIAL ORGANIZATIONS IN NATION BUILDING

Why in the News?

Recently, Speaker of the Lok Sabha emphasized the role of Social Organizations in the development of Nation and Society.

What are Social Organizations?

- 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 role in enactment of the RTI Act. • **Awareness & Capacity-Building**: E.g., Role of SEWA's (Self Employed Women's Association) in gender related issues. • **Improved Service delivery**. E.g., Role of NGO Pratham's in education sector. • **Strengthening of Democracy**. E.g., Role of Association for Democratic Reforms (ADR) in decriminalisation of politics.

Conclusion

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.

5.6. STUDENT SUICIDES

Why in the News?

Recently, Supreme Court, **in Sukdeb Saha vs. State of Andhra Pradesh,** issued guidelines to address student suicides and mental health in educational institutions.

More on the News

• Court issued **15 interim guidelines under Article 32 and Article 141** for all educational institutions (e.g., schools, coaching institutes, etc.) to address growing crisis of student suicides and mental health.
• Court also noted that distress among India's youth points to a deeper **"structural malaise"** in the country's educational ecosystem.
• **In 2022,** India recorded over **13,000 student suicides (7.6% of all suicides),** with more than **2,200 directly linked to exam failures (NCRB).**

Reasons for higher Student suicides in India

• **Social and familial factors:** High parental expectations coupled with comparison to peers, childhood trauma, abuse (sexual, physical, emotional), bullying, online harassment, etc.
  o Shift towards **nuclear families can lead to a decline in traditional support systems** and increased loneliness.
• **Academic pressure and education system:** Intense competition especially for entrance into prestigious institutions (e.g., IITs, IIMs), fear of failure emanating from emphasis on marks, rankings, and a narrow definition of success (often equating it with academic achievement and specific career paths), forced career choices, etc.
• **Mental health challenges:** Undiagnosed mental health conditions like depression, anxiety, etc.; lack of emotional and institutional support for students who stay away from home for studies; substance abuse, etc.
• **Institutional issues:** Pervasive culture of silence and stigma around mental health, inadequate mental health infrastructure (many educational institutions, including coaching centers, lack trained personnel (counselors, psychologists)), etc.

Key Highlights of the Supreme Court Guidelines (binding till Legislative Framework emerges)

• **Mandatory Mental Health Policy in Educational Institutions**: Aligned with national frameworks like UMMEED, MANODARPAN, and National Strategy for Suicide Prevention.
• **Appointment of Mental Health Counsellors:** At least one qualified counsellor for institutions with 100 or more students.

- **Prohibits batch segregation** based on performance, public shaming, and unrealistic academic targets.
- **Helpline numbers (including Tele-MANAS)** must be displayed prominently in campuses and hostels.
- **All staff** must undergo **biannual mental health training** on crisis response and identification of warning signs.
- **Institutions must adopt inclusive, non-discriminatory** mental health practices for SC/ST/OBC/EWS, LGBTQ+, and disabled students.
- **Institutions must** set up **confidential reporting systems** for sexual assault, ragging, and identity-based discrimination & ensure **immediate psychosocial support** for affected students.
- **Reduce exam-centric stress** by promoting **interest-based career counselling** and **extracurricular activities**.

Conclusion

Addressing student suicides requires a multi-sectoral approach involving reforms in the education system, enhanced mental health awareness and support services, stronger family and social support, and a societal shift towards a more compassionate and understanding environment that values well-being over narrow definitions of success.

To read more about the Mental Healthcare, refer to Article 6.3. Mental Healthcare at a Glance in Mains 365 (Social Issues) June 2024 to May 2025.

5.7. NATIONAL EDUCATION POLICY, 2020

Why in the News?

The NEP 2020 has completed 5 years since its launch. It envisions a massive transformation in education through education system rooted in **Indian ethos**, contributing to transforming India into an **equitable and vibrant knowledge society.**

National Education Policy 2020 – Salient Features

- **Universal Access**: Ensuring access at all levels of schooling from pre-primary to Grade 12. Target: Increase Gross Enrolment Rate (GER) to 100% in preschool to secondary level by 2030.
- **Competency-Based Learning**: New Curricular and Pedagogical Structure implementing 5+3+3+4 system with NCF-SE 2023 (National Curriculum Framework for School Education).
- **Flexibility**: Enhanced flexibility in and between vocational and academic streams. Introduction of Academic Bank of Credit system for seamless transitions.
- **Multilingualism**: Mother tongue/local language as medium of instruction until at least **Grade 5, preferably till Grade 8 and beyond**. National Mission on Foundational Literacy and Numeracy.
- **Assessment Reforms**: Establishment of National Assessment Centre, **PARAKH** (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development).
- **Inclusivity**: Focus on Socially and Economically Disadvantaged Groups (SEDGs). **Gender Inclusion Fund** and **Special Education Zones** for disadvantaged regions and groups.
- **Institutional Reforms**: Creation of **MERUs** (Multidisciplinary Education and Research Universities), **National Research Foundation (NRF)**, and **Higher Education Commission of India (HECI)**.
- **Key Initiatives**: 'Light but Tight' regulation policy; Quality Vocational, Teacher and Professional education; **Internationalization of Education** with multidisciplinary approach and multiple entry/exit options.

Key Targets & Investment		
50% Higher Education GER by 2035 (from 26.3% in 2018)	6% Public Investment in Education (% of GDP)	100% GER Target for School Education by 2030

Key Achievements of NEP 2020

- **Curriculum Reforms**: The **5+3+3+4** structure and NCF-SE promote e**xperiential and competency-based learning.**
  - ○ **CBSE** board exams include **50% competency-based question**s; subjects are offered at 2 levels (standard and higher).
- **Foundational Skills: NIPUN Bharat** and **Vidya Pravesh** have reached over 4.2 crore students across 8.9 lakh schools
- **Inclusivity**: Over 1.15 lakh SEDG students and 7.58 lakh girls enrolled in residential schools; **PRASHAST App** supports disability screening.
- **Teachers' training**: 4 lakh+ teachers trained under NISHTHA.
- **Leveraging Technology: 72% of schools** now have **internet**. Initiatives like **Vidyanjali, DIKSHA** (Digital Infrastructure for Knowledge Sharing), **PM e VIDYA, e-Jaadui Pitara** (AI powered play-based learning), AI Bots (Katha Sakhi, Teacher Tara)
- **Testing**: The **Common University Entrance Test (CUET) (2022)** is now a key route to undergraduate admissions.
- **Internationalization of Education**: IIT Madras, IIT Delhi, and IIM Ahmedabad have set up international campuses in Zanzibar, Abu Dhabi, and Dubai respectively. University of Southampton campus opened in India.

Conclusion

National Education Policy (NEP) 2020 has introduced significant reforms. However, challenges such as the Centre-States policy divide, difficulties in implementing the three-language formula, and institutional delays in forming key bodies like the Higher Education Commission of India persist. Addressing these challenges through flexible implementation strategies and accelerated institutional reforms will be crucial for the successful realization of NEP 2020's ambitious goals.

5.8. WOMEN IN STEM

Why in the News?

According to the Union Ministry of Education, for the first time in over a decade, more girls passed Class 12 with science (28.14 lakh) than with arts (27.24 lakh) in 2024.

Current Status

- While more boys than girls still pursue science, the **gender gap is narrowing**. **In 2024, girls accounted for 46% of the total students who passed Class 12** in the science stream.
- **Women comprise 52.1% of students in science disciplines** (AISHE 2021–22).
- **In medicine**, **female representation is on par with men** and their presence is steadily increasing in engineering and technology which are traditionally male-dominated fields.

Need for Women in STEM

- **To address the shortage of skilled workers** in these fields.
- To **ensure gender diversity** in a rapidly growing global digital economy.
- **To narrow the gender, pay gap** and enhance women's economic security.
- Seeing women in prominent STEM roles can help **break down various gender stereotypes**, while also promoting young girls to pursue these careers.

Challenges

- **Dual role syndrome**: Professional decisions of women are largely affected by their domestic responsibilities.
- **Discrimination at workplace**: '**Glass-ceiling**' effect at workplace in performance evaluations due to lack of women representation in leadership positions.

- **Gender Stereotypes**: STEM fields are often viewed as masculine, and it is believed that women are intellectually weaker in Mathematics and Science.
- **Lack of benefits**: Inadequate travel allowance, lodging, and maternity benefits deter women from STEM careers.
- **Fewer role models:** Girls lack inspiration in STEM fields.

Initiatives taken to enhance Women participation in STEM

- **Women in Science and Engineering (WISE) – Kiran:** To encourage women to return to workplace after career breaks.
- **Gender Advancement for Transforming Institutions (GATI) programme:** To provide equal opportunity for all, in particular women from **Science, Technology, Engineering, Medicine and Mathematics (STEMM) areas**.
- **SERB – POWER (Promoting Opportunities for Women in Exploratory Research)**
- **SWATI (Science for Women – A Technology and Innovation) Portal**

Way Forward

- **Mentorship and support:** Institute stable mentorships and support networks in each organisation.
- **Equity and inclusion:** Mandate the creation of an **'Office for Equity and Inclusion'** in every institution.
- **Representation:** Ensure women scientists are on panels for career drives, recruitments, budget proposals, etc.
- **Childcare:** Set up a daycare centre on campus.
- **Workplace Culture:** Create a supportive, inclusive culture to attract and retain women in STEM.
- **Remote Opportunities**: Promote online learning, credentialing, and remote work to unlock opportunities for women in STEM.

Conclusion

The growing participation of women in science marks a pivotal step towards a more inclusive and innovative knowledge economy. Sustained policy support, cultural change, and institutional reforms are essential to ensure that women not only enter but thrive in STEM fields.

5.9. WOMEN'S PARTICIPATION IN BLUE-GREY COLLAR JOBS

Why in the News?

A report titled **"State of Women in the Blue-Grey Collar Workforce 2025"** released by Udaiti Foundation & Quess Corp analyses the systemic barriers that hinder women's participation and retention in blue-grey collar jobs in India.

> **About Blue-Grey Collar Work**
>
> - **Blue collar work**: Refers to **labour-intensive** jobs that are typically paid on an hourly basis. They usually involve **unskilled or semi-skilled** workers. E.g., Construction, housekeeping, mining, and home or healthcare services.
> - **Grey collar work**: **Bridges** the gap between **blue- and white-collar jobs**, combining **manual or operational work**, requiring some **technical skills or training**. E.g., sales and customer executive roles in sectors like retail, FMCG, manufacturing or IT.
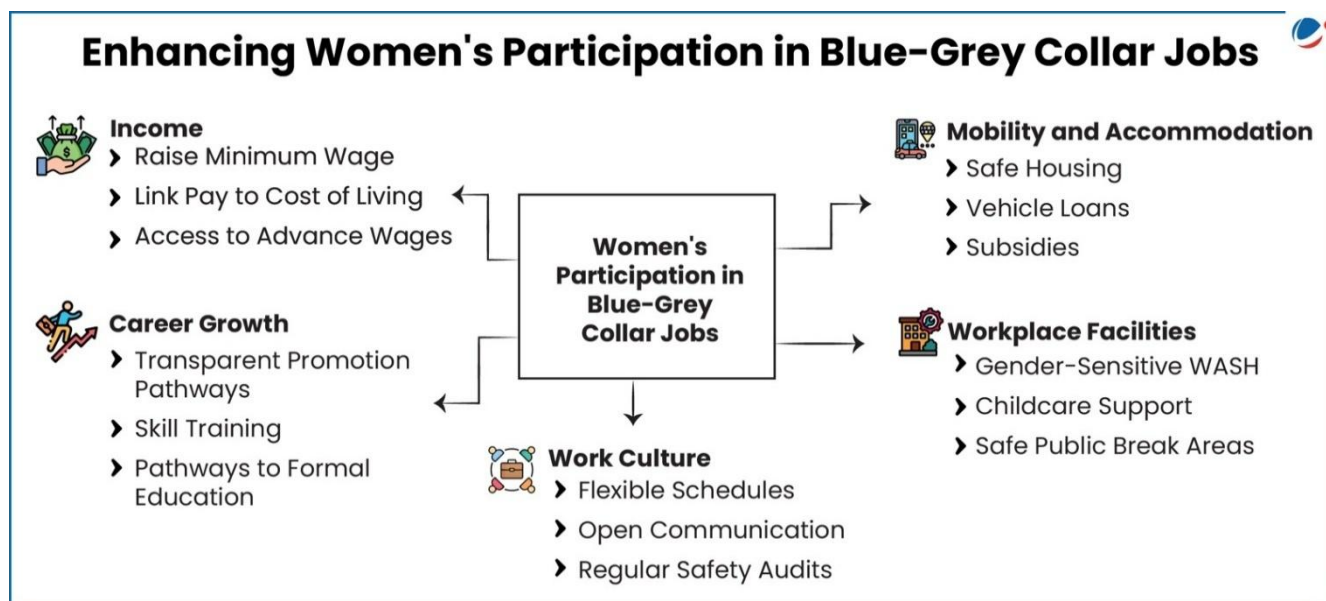> - Formal blue-grey collar employment **increased by 67%** FY 2020-2021 and FY 2023-24.

Key Findings of the Report

- **Low participation of women**: Only 1 out of 5 (19%) blue-grey collar workers is a woman.

- **High attrition rate:** Among surveyed women, 52% of the women with less than 1 year of experience plan to leave their jobs within the next 12 months as against only 3% among those with more than 2 years of experience.
  - Of women who left their jobs in the last six months, 67% are currently out of the workforce.

Reasons for high attrition rate among Women

- **Low income and high opportunity cost**: Women in blue-grey collar roles earn approximately 70% of their male counterparts' wages.
  - 80% of the currently working employees **save nothing or less than ₹ 2,000** a month, reflecting a gap between the living and minimum wage.
- **Poor work culture**: Lack of flexibility in work impacts the exit, retention and return of female workforce.
- **Substandard workplace safety**: One in three working women feels unsafe in the absence of basic facilities like CCTVs, sanitation, good lighting etc.
- **Inadequate facilities**: This is particularly acute in manufacturing and field roles, where women often lack basic amenities like **clean restrooms and safe break areas.**
- **Stagnant career paths and skilling gaps**: Lack of upskilling and training among women despite dissatisfaction with their limited career growth.
- **Mobility issues**: Issues like poor connectivity and unreliable transport, related commuting stress and safety issues (e.g., lack of transport after dark) hinder women's career advancement.
- **Legal hurdles**: Existence of **multiple laws, including night shift laws**, which actually prohibit women from participating in the workforce.
  - E.g., **Delhi Shops and Establishments Act, 1954** prohibits a woman from working between 9:00 PM and 7:00 AM during summer and between 8:00 PM and 8:00 AM during winter.

Enhancing Women's Participation in Blue-Grey Collar Jobs

Income
- Raise Minimum Wage
- Link Pay to Cost of Living
- Access to Advance Wages

Career Growth
- Transparent Promotion Pathways
- Skill Training
- Pathways to Formal Education

Women's Participation in Blue-Grey Collar Jobs

Mobility and Accommodation
- Safe Housing
- Vehicle Loans
- Subsidies

Workplace Facilities
- Gender-Sensitive WASH
- Childcare Support
- Safe Public Break Areas

Work Culture
- Flexible Schedules
- Open Communication
- Regular Safety Audits

Conclusion

Ensuring living wages which includes ability to afford basic needs such as food, housing, healthcare, education, among others, can significantly reduce the opportunity costs concerning women's participation in blue-grey collar jobs and enhance female labour force participation.

In addition to fair living wages, by strategically implementing policies that ensure **secure and accessible infrastructure, targeted skill development,** and **truly gender-sensitive work environments**, India can unlock the full potential of its female workforce, foster their sustained participation and driving inclusive national productivity and progress towards gender parity.

MAINS 365 – UPDATED CLASSROOM STUDY MATERIAL

5.10. SPORTS GOVERNANCE IN INDIA

Why in the News?

Recently, the Union Cabinet approved the National Sports Policy (NSP), 2025 which will supersede the existing NSP, 2001.

Pillars of the NSP or Khelo Bharat Niti, 2025

- **Excellence on Global Stage:** Strengthen sports programs from **grassroots to elite levels**, enhance capacity and governance of **National Sports Federation,** etc.
- **Economic Development:** Promoting the **economic potential** of sports through **sports tourism**, promoting **Start up and entrepreneurship**, etc.
- **Social Development:** Ensuring **social inclusion** through the participation of women, weaker sections, etc.
- **Sports as a People's Movement:** Driving **mass participation**, promoting a **culture of fitness,** universal access to sports facilities, etc.
- **Integration with National Education Policy 2020:** By **integrating sports into school curricula**, specialised training for teachers, etc.

Strategic Framework

- **Governance**: Through a **robust regulatory** framework including legal framework.
- **Private Sector Funding & support**: Innovative financing mechanisms like **Public Private Partnerships** and **Corporate Social Responsibility.**
- **Others:** Leverage **emerging technologies**, including AI and data analytics, **National Level Monitoring Framework,** etc.

India's Sports Ecosystem

- Sports is a **State subject under 7th Schedule**.
  - However, **Central government,** through its various schemes, **supplements** the efforts for state government.
- **Only around 6% of India's population participates in sports,** which is much lower than around 20% in countries like the US, Australia and as high as 60% in Japan.

Challenges in India's Sporting Ecosystem

- **Talent identification issues:** India sent only 117 athletes to the Paris Olympics, compared to 594 from the U.S., 572 from France, and 460 from Australia.
- **Underutilization of budgetary allocation:** For instance, the **Khelo India scheme spent only ₹ 318 crore out of ₹ 500 crore allocated** in 2019-20 (Parliamentary Standing Committee on Human Resource Development).
- **Infrastructure Gaps:** Sports infrastructure is limited, especially in educational institutions and underdeveloped states like Bihar and Jharkhand.
  - **Most facilities** that meet international standards are **concentrated in a few states** like Haryana, Punjab, and Karnataka.
- **Governance Issues:** India's sports governance is dominated by politicians and bureaucrats and often suffers from corruption and unethical conduct.
  - For example, In January 2023, many Olympic medallists accused the then Wrestling Federation of India (WFI) president and the coaches of the Federation of sexual harassment.
- **Mismanagement of athletes:** e.g., Vinesh Phogat's disqualification from Paris Olympic for being 100 grams overweight cost India a confirmed silver and a potential gold medal.
- **Other Challenges:** Lack of awareness about sports opportunities and government supports, shortage of coaching staff, gender disparities, inadequate attract private sector support, etc.

MAINS 365 – UPDATED CLASSROOM STUDY MATERIAL

Initiatives to promote sports ecosystem in India

- **Budgetary support:** Budgetary allocation for the Union Ministry of Youth Affairs and Sports has nearly doubled from 2014-15 to 2023-24.
- **Khelo India program:** For identification and development of athletes at the grassroots and elite levels.
- **Khelo India Rising Talent Identification (KIRTI) programme:** Aimed at school children between nine and 18 years to hunt talent from every nook and corner of the country.
- **Mainstreaming of Sports Activities:** FIT India Movement and the incorporation of sports within the National Education Policy 2020.
- **Target Olympic Podium Scheme (TOPS):** To provide comprehensive assistance to India's top athletes.
- **One School-One Sport policy:** By the Ministry of Defence for Sainik Schools so that they can focus on at least one sporting discipline identified for the respective **State/UT.**

Way Forward for strengthening India's Sports Ecosystem

- **Driving mindset change:** Parents should be made aware of advantages that students with state or national level accreditation in sports enjoy like reservations at higher educational institutes and preferences in government jobs.
  - Separately, corporates should inculcate sports as a constructive means for wellness among employees.
- **Increase the talent pool**
  - **Nourish younger talent pool:** Implement more tournaments in schools and **community-based sports programs, provide nutrition support and address social barriers and gender inequality** in sports.
    - The **'one panchayat, one playground'** initiative by the **Kerala Government** is a parameter that can be advocated across States to promote sporting culture at the grassroots.
  - **One State-One Sport policy:** Region-specific traditional sports needs to be promoted to ensure mass participation and cultivate an interest among people.
    - Localised sports mega events such as **'Rural Olympics',** on the lines of what the Rajasthan government has done, should be promoted countrywide.
- **Improving governance structure of sports federation:** Facilitate independent form of recruitment for top positions and bringing transparency both in the functioning of federations as well as policymaking.
- **Ensuring Accountability:** Implement performance metrics for nutritionists and support staff of athletes and fix the accountability for last-moment mismanagement.

Conclusion

National Sports Policy, 2025 and the National Sports Governance Bill seek to reform India's sporting ecosystem through inclusive development, better governance, and grassroots engagement. Their success, however, hinges on effective implementation, cultural change, and sustained investment in infrastructure and talent.

National Sports Governance Bill, 2025

National Sports Governance Bill, 2025 was introduced in the Lok Sabha **to improve the governance of the sports bodies** and achieve better results in sports and **reduce the disputes and litigation, involving sports federations**.

Key Features of the Bill

- **Establishment of the National Sports Bodies (NSBs)** for their respective recognised sports organisations:
  - **National Olympic Committee (NOC)**: Sole governing body for Olympic sports in India.
  - **National Paralympic Committee (NPC)**: Sole governing body for Paralympic sports.
  - **Other Bodies: National Sports Federation (NSF)** & **Regional Sports Federation (RSF)**
- **National Sports Board**: It will have power to grant recognition to any sports organisation as a National Sports Body.

MAINS 365 – UPDATED CLASSROOM STUDY MATERIAL

- **National Sports Election Panel**: It will oversee free and fair elections for Executive and Athletes Committees of NSBs.
- **National Sports Tribunal:** To ensure speedy resolution of sports-related disputes and its expenses will be covered by the **Consolidated Fund of India.**
  - Civil courts have **no jurisdiction over matters** under **the Tribunal's purview.**
- **Code of Ethics**: Every National Sports Body is required to formulate a Code of Ethics in line with international best practices.
- **Safe Sports Policy and Grievance Redressal**: Ensuring the protection of vulnerable groups like women and minor athletes.

5.11. SWACHH SURVEKSHAN 2024-25

Why in the News?

President of India conferred 9th annual edition of Swachh Survekshan 2024-25 **(Theme - Reduce, Reuse, Recycle – 3Rs)** awards.

About Swachh Survekshan

- **Launched:** In 2016, under ambit of **Swachh Bharat Mission (Urban).**
- **Objective:** To encourage large-scale citizen participation and create awareness about the importance of making towns and cities a better place to live.
- **Institutions involved:** Survey is conducted annually by the Ministry of Housing and Urban Affairs (MoHUA).
  - Field Assessment of Data submitted by ULBs will be verified by **third party agency.**
- **Components: Swachh Survekshan** (Data provided by ULBs, Documents assessment & Field assessment) and **Certification** (Based on ODF+/ODF++/Water+ status) with **80% and 20% weightage.**

Key Highlights of Awards (2024-25)

- **Five tier population-based classification:** Million Plus cities (>10 lakh), Big cities (3-10 lakh), Medium Cities (50000-3 lakh), Small Cities (20000-50000), Very Small Cities (<20000).
- **Awards:** A total of **78 Awards** was presented across **following 4 categories:**
  - **Super Swachh League Cities (New Category Introduced):** Cities that demonstrate extraordinary performance, based on their previous Swachh Survekshan Ranking.
    - **Indore, Surat, Navi Mumbai** entered the premier **Super Swachh League**.
  - **Top 3 Cities in five tier population categories: Ahmedabad, Bhopal and Lucknow** emerged as top Swachh Shehar.
  - **Special Categories:** Ganga Towns, Cantonment Boards, Safai Mitra Suraksha, Mahakumbh.
  - **State level awards: Promising Clean Cities Awards to 34 cities** of States/UTs.

Reasons for improved performance under Swachh Survekshan 2024-25

- **Emphasis on 3Rs:** Encouraging cities to minimize waste generation and find ways to reuse or recycle existing resources which aligns with the broader concept of a circular economy.
- **Innovative waste management practices:** Cities like Indore, with its six-bin system for waste segregation, and Surat, which treats and sells sewage water, showcased innovative approaches to waste management.
- **Enhanced competition:** Introduction of the Super Swachh League, a separate league for top-performing cities, motivated them to maintain high standards and compete for the best rankings.

Conclusion

Swachh Survekshan 2024-25 fosters a competitive spirit among cities, encourages innovation in waste management, and promotes greater public participation, ultimately encouraging improved cleanliness and sanitation across urban India.

6. SCIENCE AND TECHNOLOGY

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

Why in the News?

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

More on the News

- This is the **first dual frequency Radar Imaging mission** marking a major milestone in **Indo-US space collaboration.**

About NISAR

- **Earth Observation Satellite (EOS):** Image the global land and ice-covered surfaces including islands and selected oceans **every 12 days.**
- **Weight:** 2,392 kg.
- **Launch Vehicle:** ISRO's Geosynchronous Satellite Launch Vehicle **(GSLV)-F16**.
- **Placing Orbit: Sun Synchronous Polar Orbit**.
  - It is the first time a **GSLV rocket** is 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

Electromagnetic Spectrum

10^4m — 1 m — 10^{-3} m — 10^{-6} m

Radio Frequencies | Microwaves | Infrared | Visible Light

SAR Bands

P | L | S | C | X

.3 1 2 4 **Frequency (GHz)** 8 12

- **Key Payloads**
  - **Synthetic Aperture Radar (SAR): Dual band** SAR operating on **both L and S bands.**
    - **L Band**: Used for geophysical monitoring, biomass and vegetation mapping
    - **S Band**: Increasingly used for SAR-based Earth observation and agriculture monitoring.

Other Key Features

- **SweepSAR technique**: For high-resolution, wide-swath images across broad **range of terrain.**
- **Expected Mission Life:** At least 5 years.
- **Open-Data Policy:** Information collected will be freely available to global scientific community **benefiting developing countries.**

NISAR: Key Benefits

Measure and track changes in Woody biomass; extent of active crops and wetlands.

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

Characterize land surface deformation related to seismicity, volcanism, landslides, etc.

Urgent-response during weather disasters like hurricanes, storm surges due to its **cloud penetrating abilities.**

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

The launch of the NASA-ISRO Synthetic Aperture Radar (NISAR) satellite marks a historic milestone in Indo-US space collaboration. With its dual-frequency, advanced imaging techniques, and open-data policy, NISAR is poised to revolutionize global environmental monitoring, disaster response, and scientific research.

7. ETHICS

7.1. VALUES OF MAHATMA GANDHI AND SREE NARAYAN GURU

Introduction

India marked 100 years of the historic 1925 conversation between Sree Narayana Guru and Mahatma Gandhi at **Sivagiri Mutt, Kerala**. The dialogue focused on Vaikom Satyagraha, untouchability, non-violence, and upliftment of the downtrodden.

About Sree Narayana Narayan Guru (1856-1928)

* Born in **Chembazhanthi, Kerala.**
* Founded **SNDP** (1903) for marginalized uplift.
* Promoted Advaita Vedanta.
* **Consecrated Shiva Linga at Aruvippuram.**

Views of Sree Narayana Guru and Mahatma Gandhi on Various Aspects

Aspect	Sree Narayana Guru	Mahatma Gandhi
Social Reform	Opposed caste as artificial, promoting "One Caste, One Religion, One God" and urged gradual, educative caste erasure.	Gandhiji opposed untouchability but supported Varnashrama, viewing varnas as natural occupational classifications of society.
Religious Views	He believed all religions could lead to spiritual liberation.	He viewed all religions as moral paths to truth and condemned politics divorced from ethical, spiritual values.
Temple Entry & Social Equality	**Opened temples** to all castes	**Supported temple entry movements** and the rights of Dalits.
Education	He saw education as key to progress, fighting social evils, and empowering women equally.	He promoted **Nai Talim,** blending manual work with academics, stressing vocational skills and mother tongue education.

7.2. INTEGRAL HUMANISM (EKATM MANAVVAD)

Introduction

In the 1960s, Deendayal Upadhyaya's Integral Humanism emphasized dignity, harmony, and solidarity for India's holistic development.

About Integral Humanism Philosophy (Ekatma Manav Darshan)

* **Proposed** by Deendayal Upadhyaya in the 1960s, it seeks a dignified life for all by balancing individual and societal needs.
* It integrates spiritual, social, and economic aspects of life, centered around **Purusharthas i.e. Dharma, Artha, Kama, and Moksha.**
* It **opposes Western ideologies** like capitalist individualism and Marxist socialism, aiming for an indigenous development model.
* **Key principles:**
  o Primacy of whole, no part
  o Supremacy of Dharma
  o Autonomy of society

Core tenets in contemporary times

- **Cultural nationalism** blending tradition with modernity.
- **Social harmony** and caste eradication.
- **Antyodaya:** Upliftment of the poorest.
  - His vision of **'education for all' and 'har hath ko kam, har khet ko pani'** was seen culminating in his idea of Economic Democracy.
- Ethical, transparent governance (Dharma Rajya).
- **Decentralization,** self-reliant village economy.

> **About Pandit Deen Dayal Upadhyay (1916–1968)**
>
> - Indian philosopher, economist, political activist from Mathura
> - **Books:** Samrat Chandragupt, Jagatguru Shankaracharya
>   - Edited Panchajanya and Swadesh
> - Shared Gandhian ideas like Sarvodaya, Gram Swaraj, and opposed untouchability and social injustice.

7.3. ETHICAL CONSIDERATIONS IN STRAY DOG CONTROL

Introduction

India has nearly **1.5 crore stray dog population (2019 livestock census),** and carries a dubious distinction of being the **world's dog-bite-and-rabies-capital**. According to National Centre for Disease Control, **more than 37 lakh dog bite cases** were reported in India in 2024. Thus, there is a growing concern regarding stray dog management.

Key Stakeholders and their Interests

Stakeholders	Interests
Animal welfare organizations/ activists	• Providing shelter, food and healthcare to strays. • Rescue, rehabilitation and rehoming efforts. • Advocating for humane treatment and promoting responsible pet ownership.
Pet owners	• Taking responsibility for their pets including timely immunization. • Supporting community initiatives and intervening in case of inappropriate pet behaviour.
Local authorities	• Control the stray dog population and ensure their well-being. • Carrying out effective immunization and sterilization of stray dogs.
Government	• Frame appropriate policies and legislations for animal control. • Providing adequate healthcare facilities to treat dog bite and rabies cases. • Providing support to animal welfare organizations, NGOs, and community associations for better co-existence.

Ethical aspects surrounding control of stray dogs

- **Compassion vs Public Order:** Citizens have compassion towards feeding stray dogs but others argue that it encourages territorial aggression and public nuisance.
- **Animal Welfare vs Public Safety:** Stray dogs have right to life and dignity yet communities also have the right to safety from dog bites and rabies.
- **Ecological Carrying Capacity vs Population Control:** It is argued that humans are increasing capacity for stray dog population by feeding them and on the other hand are adopting unethical animal control methods.

- **Abandonment:** Abandonment of pets is a moral challenge, as socio-economic changes in human societies have rendered the historical roles of dogs as hunters and herders largely obsolete, thus **weakening the utilitarian component** in human-dog bond.
- **Differential treatment:** Some well-bred animals are seen as **status symbols**, and treated like family members, while others living on the streets are seen as **social outcasts**.
- **Animal control methods:** The use of capture, mass killing and euthanasia methods raises ethical concerns. Ethical alternatives, such as trap-neuter-return (TNR) programs, should be considered.

> **Different ethical perspectives**
>
> - **Utilitarianism:** Utilitarian views of greater benefit to society would support a pro-human strategy for dog management.
> - **Deontology:** Deontology involves approaches that prioritize fulfilling responsibilities toward animals, such as providing proper care and respecting the inherent value of life.
> - **Virtue Ethics:** It involves promoting virtues such as empathy, compassion, and encouraging responsible pet ownership.
> - **Rights-based Ethics:** Stray dogs would be considered as having certain rights, and ethical actions would involve respecting and protecting those rights.
> - **Libertarian view:** Removal of dogs from our surroundings and dumping them in garbage mounds violates their fundamental right to life and dignity.

Present Policy Framework

- **Constitution: Article 243(W)** mandates municipalities to control stray dog population while **Article 51A(g)** places a fundamental duty on citizens "to have **compassion for living creatures**".
- **Prevention of Cruelty to Animals Act (PCA), 1960: Killing** of stray dogs is **punishable** under the PCA, 1960, which classifies torture and transporting them in a manner which causes them suffering, as cruelty.
- **Animal Welfare Board of India (AWBI):** A statutory advisory body, established in 1962 under PCA 1960, to promote animal welfare.
- **Animal Birth Control (ABC) Program:** It aims to control population of stray dogs and spread of rabies through sterilization and vaccination. The program is regulated as per the **Animal Birth Control Rules, 2023** under PCA 1960,
  - Responsibility of **feeding the community animals** lies with the Resident Welfare Association or Local Body's representative of that area.
- **Judicial View:** Supreme Court in AWBI vs Nagaraja case (2014) declared that **every species has a right to life and security**, subject to the law of the land, which includes depriving its life out of human necessity.
  - However, Supreme Court also observed that the **law warrants the protection of street dogs**, but the authorities will also have to bear in mind the **concerns of common man**.

Way Forward

- **Animal control measures:** Formulate and implement policy measures including proper vaccination and sterilization drives, and manage animal waste.
  - A **national policy aiming to solve the human-dog conflict** with focus on block and district levels should be designed with consultation from all relevant stakeholders.
- **Infrastructural support:** Creation of dedicated feeding spots, veterinary healthcare facilities, and support to civil society organizations involved in animal welfare.
- **Training and Education:** Potential/present pet owners shall be

> "Roving dogs do not indicate the civilization or compassion of the society; they betray, on the contrary, the ignorance and lethargy of its members.
> –Mahatma Gandhi"

educated and trained regarding pet behaviour, their development cycle and managing their health and hygiene.

- **Developing new relationships:** Dogs have highly developed cognitive and social communication abilities, which enable them to perform various functions in the roles of service dogs, drug-detecting and bomb-sniffing dogs etc.

7.4. UNDERSTANDING THE GLOBAL DEBATE ON LETHAL AUTONOMOUS WEAPONS SYSTEMS (LAWS)

LAWS is a class of **advanced weapons** that can **identify** and **engage targets** without **human intervention.**

- At present, **no commonly agreed definition of Lethal Autonomous Weapon Systems (LAWS) exists**.
- **Ethical Question**: Can we ethically delegate life-and-death decisions to machines without compromising human moral agency and dignity?

The ethical debate on Lethal Autonomous Weapon Systems (LAWS)

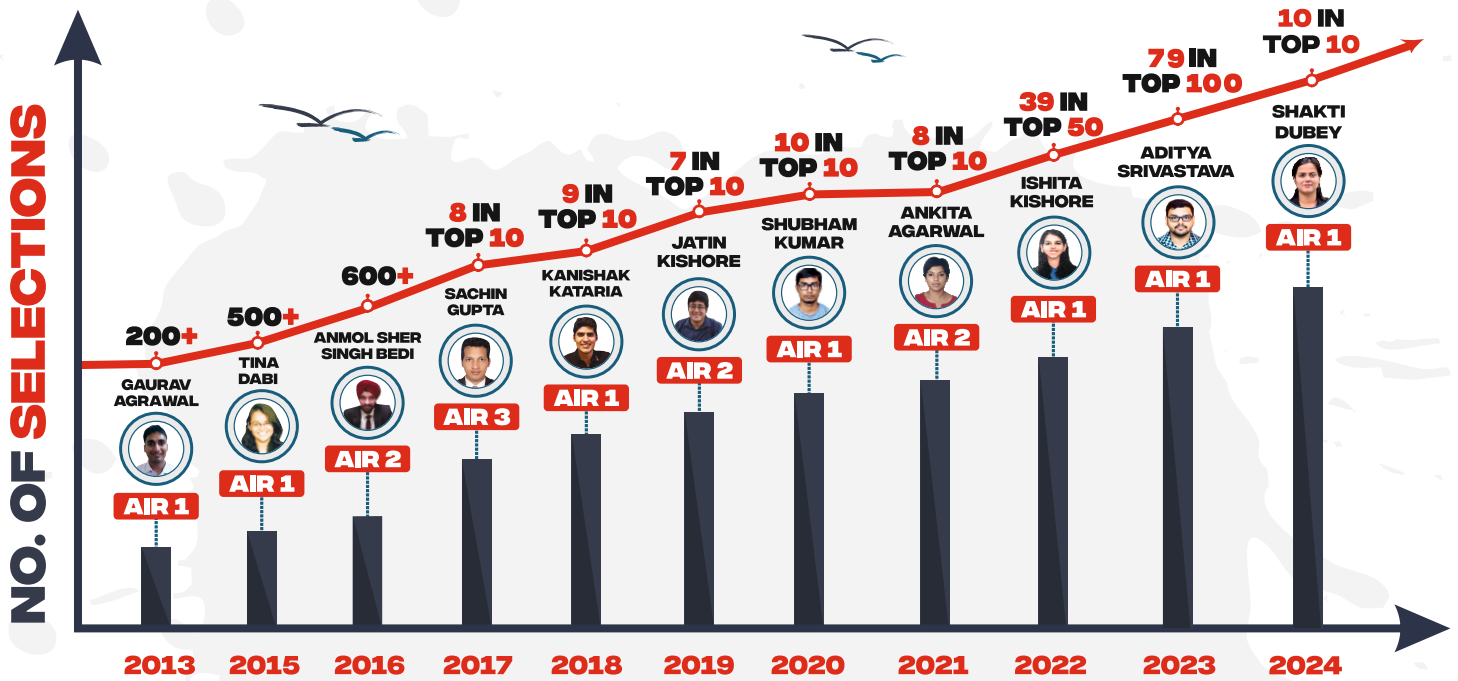| ⚖ For LAWS	⚖ Against LAWS

› **Results-Oriented Justification (consequentialist):** LAWS may improve precision, reducing civilian harm.
  › **E.g.,** An autonomous missile with advanced targeting could minimize collateral damage.
› **Ethical Superiority:** LAWS may reduce human error, potentially increasing the ethical conduct of military operations & better compliance with International Humanitarian Law (IHL).
› **Minimize Harm:** By removing human soldiers from dangerous frontline operations, autonomous weapons could reduce the loss of life in conflict.
	› **Lack of Human Judgment:** LAWS, while precise, may lack the human ability to make ethical judgments in complex, fluid situations.
	› **Accountability Issues:** Assigning responsibility for the actions of autonomous weapons is complicated.
	  › "Who is accountable? Is it the manufacturer? Or the person who programmed the algorithm?" -- **Nicole Van Rooijen**
	› **Undermining the human dignity:** Of those combatants who are targeted, and of civilians who are put at risk of death.
	› **The Banalization of Violence in Warfare:** Increasing human distancing - **physically and psychologically** - from the battlefield, make the use of violence easier.

Ethical Concerns in in human-machine (Lethal Autonomous Weapon Systems) Interactions

- **Automation bias:** Where humans place too much confidence in the operation of an autonomous machine.
- **Surprises:** Where a human is not fully aware of how a machine is functioning at the point s/he needs to take back control.
- **Moral buffer**: Where the human operator shifts moral responsibility and accountability to the machine as a perceived legitimate authority.

Heartiest *Congratulations* to all Successful Candidates

10 in **TOP 10** Selections in **CSE 2024** from various programs of **Vision IAS**

1 AIR
Shakti Dubey

2 AIR
Harshita Goyal
GS Foundation Classroom Student

3 AIR
Dongre Archit Parag
GS Foundation Classroom Student

4 AIR
Shah Margi Chirag

5 AIR
Aakash Garg

6 AIR
Komal Punia

7 AIR
Aayushi Bansal

8 AIR
Raj Krishna Jha

9 AIR
Aditya Vikram Agarwal

10 AIR
Mayank Tripathi

79 Selections in **TOP 100** in **CSE 2023**

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Aditya Srivastava

2 AIR
Animesh Pradhan

5 AIR
Ruhani