

IQRA IAS

JULY

2025

MONTHLY
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POLITY

VP Resignation: Constitutional Provisions

❖ Syllabus Mapping

- ✓ GS Paper II – Polity (Vice-President of India, Constitutional Provisions, Parliamentary Role)
- ✓ GS Paper II – Governance (Functioning of Parliament, Leadership Vacancies, Democratic Institutions)

Context

Vice-President **Jagdeep Dhankhar** has resigned mid-term under **Article 67(a)** of the Constitution, submitting his resignation to **President Droupadi Murmu**. He becomes the **third Vice-President** in India's history to resign before completing his term, following **V.V. Giri** (1969) and **R. Venkataraman** (1987).

This creates a temporary vacuum in both the **Vice-President's constitutional role** and as **ex-officio Chairman of the Rajya Sabha**.

Constitutional Provisions on Vice-President's Resignation

1. **Article 67(a)** → The Vice-President may resign by addressing a letter to the President.
 - o Resignation is effective immediately upon acceptance.
2. **No Acting Vice-President** → The Constitution does not provide for an acting Vice-President.
 - o **Deputy Chairman of Rajya Sabha** presides in his absence.
3. **Election of Successor**
 - o Conducted by the **Election Commission of India**.
 - o Unlike the President (where a vacancy must be filled within 6 months), there is **no fixed time frame**; only that it should be filled "as soon as possible".
4. **Tenure of New Vice-President**
 - o Freshly elected Vice-President enjoys a **full 5-year term**, irrespective of the predecessor's remaining tenure.

Role as Chairman of Rajya Sabha

- **Presiding Authority**: Maintains order, allows debates, ensures decorum.
- **Rule 256**: Can suspend members for disorderly conduct.
- **Casting Vote**: Does not vote ordinarily, but can break a tie (Article 100).
- **Committee Referrals**: Refers bills/motions to committees.
- **Neutrality**: As a non-member, expected to remain impartial.

Limitations Compared to Lok Sabha Speaker

- Cannot preside over **joint sittings of Parliament**.
- Cannot decide/certify **Money Bills**.

India vs USA: Vice-President – A Comparison

Feature	India	United States
Presiding Role	Chairman of Rajya Sabha	President of Senate
Voting Power	Only in case of tie	Only in case of tie
Executive Role	Mostly ceremonial	Active part of executive
Succession	Acts as President temporarily (max 6 months)	Becomes President for remainder of term

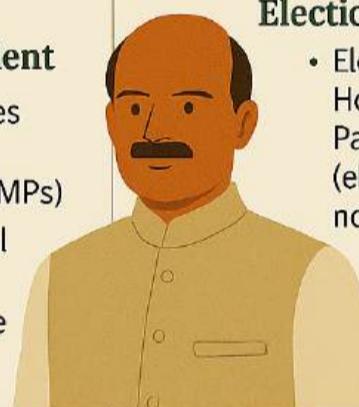
Critical Analysis

- **Strengths of Constitutional Design**
 - o Ensures **continuity** of governance through Rajya Sabha Deputy Chairman.
 - o Separate full-term provision for newly elected VP ensures **institutional stability**.
- **Concerns**

Key Facts about the Vice-President of India

Articles 63-71 deal with the Vice-President

- Elected by both Houses of Parliament (elected + nominated MPs)
- Voting by proportional representation and single transferable vote



Election (Article 66)

- Elected by both Houses of Parliament (elected + nominated MPs)

Eligibility

- Must be an Indian citizen
- 35 years minimum age
- Qualified for Rajya Sabha membership

Roles

- Ex-officio Chairman of Rajya Sabha (Article 64)
- Can act as President (Article 65) if vacancy arises
- Requires 14 days' prior notice

Removal

- Can be removed by a Rajya Sabha resolution with

- **No fixed timeline** for elections after resignation can cause delays.
- **Concentration of dual roles** (Rajya Sabha leadership + Presidential succession) makes resignation impactful.
- Potential disruptions in **Rajya Sabha functioning** during high legislative business.
- **Broader Implications**
 - Highlights the need for **strong institutional safeguards** for continuity in parliamentary leadership.
 - Mid-term resignations often linked to **political transitions** (e.g., V.V. Giri resigned to contest presidential election).

Conclusion

The Vice-President's resignation underscores the **delicate balance of parliamentary and constitutional roles**. While India's constitutional design prevents governance paralysis, the absence of a strict election timeline poses a gap. Strengthening the process with **clearer timelines and institutional safeguards** could ensure smoother functioning of Parliament in such scenarios.

MAINS PRACTICE QUESTION



Q. "The resignation of the Vice-President creates both parliamentary and constitutional challenges. Discuss the provisions relating to mid-term resignation of the Vice-President and critically analyse its implications for Indian governance."

Inter-State Water Disputes: Challenges & Way Ahead

Syllabus Mapping

- ✓ GS Paper II – Governance (Federalism, Centre-State Relations, Inter-State Disputes)
- ✓ GS Paper II – Polity (Constitutional Provisions – Articles 262, 263)
- ✓ GS Paper III – Economy & Environment (Water Resources, Agriculture, Sustainable Development)

Context

- The **Ravi and Beas Waters Tribunal (1986)** has been given a one-year extension to resolve disputes between **Punjab, Haryana, and Rajasthan**.
- The Centre also plans a **technical committee** on the **Polavaram–Banakacherla Link Project** (Telangana–Andhra Pradesh).
- Odisha and Chhattisgarh have shown willingness to resolve the **Mahanadi water dispute amicably**.
- Water disputes in India are **not new**—they trace back to colonial times (e.g., **Cauvery dispute** between Madras Presidency and Mysore).

Causes of Inter-State Water Disputes

1. **Asymmetric Access**
 - **Geography:** Upper riparian states enjoy natural advantage.
 - **State Reorganisation:** Political boundaries were redrawn without considering **river basins**.
2. **Rising Water Demand**
 - Due to **population growth, agriculture expansion, and urbanisation**.
3. **Development Projects**
 - Large dams and diversions (e.g., Narmada, Cauvery) fuel disputes.
4. **Fragmented Governance**
 - **Union:** No integrated water governance structure.
 - **States:** Adopt narrow, competitive approaches.
5. **Data Deficiency**
 - Lack of uniform and transparent data on **river flows, rainfall, and usage**.

Constitutional & Legal Framework

- **Article 262:**
 - Parliament can provide for adjudication of ISWD.
 - Courts' jurisdiction can be excluded.
- **River Boards Act, 1956:** Union may establish boards for regulation (rarely used).
- **Inter-State River Water Disputes (ISRWD) Act, 1956:** Empowers Centre to set up **tribunals** on state request.
- **Seventh Schedule:**
 - **Union List Entry 56** → Inter-state rivers & valleys (regulation, development).
 - **State List Entry 17** → Local water use (irrigation, drainage, canals, embankments).

Challenges in Resolving ISWD

1. Delays at Multiple Levels

- **Constitution of Tribunals:** Cauvery Tribunal set up after decades of demand.
- **Delivery of Awards:** Long delays (Narmada – 9 years, Godavari – 10 years).
- **Enforcement:** Publication of award in Gazette delayed (Krishna – 3 years).

◆ Though ISRWD Act states tribunal awards = Supreme Court decrees, delays weaken enforcement.

2. Politicisation

- Parties exploit water disputes for **regional identity politics**.

3. Judicial Intervention

- Although courts cannot adjudicate original disputes, **Supreme Court interprets tribunal decisions** (e.g., Cauvery verdict 2018).

4. Lack of Stakeholder Participation

- Tribunals often exclude **local communities and indigenous groups**.

5. Unscientific & Fragmented Approach

- River basin treated as **administrative units** rather than integrated ecological systems.

ISRWD (Amendment) Bill, 2019

- Dispute Resolution Committee for pre-litigation mediation
- Single permanent tribunal with multiple benches
- Strict time limits for awards
- Data bank creation at central level

Draft River Basin Management Bill, 2018

- Integrated river basin management
- Creation of River Basin Authority and Master Plans

National River Linking Project (NRLP)

- Transfers water from surplus to deficit basins

Global Lessons:

- **Indus Water Treaty (India–Pakistan)** shows success of **treaty-based framework**.
- **US River Basin Authorities** (Tennessee Valley Authority) highlight **multi-stakeholder, ecological planning**.

Thinker's Perspective:

- **Elinor Ostrom** (Nobel laureate) advocated **polycentric governance** for common-pool resources like water—applicable to ISWD.

Conclusion

Inter-state water disputes remain one of the **most contentious issues in Indian federalism**. Despite a robust legal framework, **delays, politicisation, and lack of integrated planning** weaken resolution. India must move towards a **basin-wide, data-driven, and participatory model of water governance**, balancing **equity, ecology, and federal harmony**.

Way Forward

1. Strengthen Cooperative Federalism

- Union as **mediator & facilitator**, not controller.
- Institutionalise **dialogue forums under NITI Aayog/Inter-State Council (Article 263)**.

2. Legal & Policy Reform

- Amend **ISRWD Act, 1956** for speed and enforcement.
- Implement **2019 Amendment Bill & River Basin Bill** with stakeholder consultation.

3. Integrated River Basin Approach

- Management should be **scientific, ecological, and basin-wide** rather than administrative.

4. Data Transparency

- Centralised river data bank using **AI, IoT, satellite monitoring**.

5. Community Participation

- Involve **local communities, farmers, and indigenous groups** for sustainable management.

Critical Analysis

• **Federal Dilemma:** Water disputes reflect **fissures in cooperative federalism**, where competitive politics often trumps sustainable management.

• **Judicial Overstretch:** Tribunals + Supreme Court create **overlapping jurisdictions**, undermining finality.

MAINS PRACTICE QUESTION

Q. "Water disputes in India reflect the challenges of federalism, ecological neglect, and political opportunism." Critically analyse the constitutional, legal, and institutional mechanisms for resolving inter-state water disputes in India. Suggest reforms to make them more effective and sustainable.

Online Content Regulation: Free Speech vs Responsibility

📌 Syllabus Mapping

- ✓ GS Paper II – Governance (Regulation of Media, Freedom of Speech, Role of Judiciary)
- ✓ GS Paper II – Polity (Fundamental Rights, Reasonable Restrictions under Article 19)
- ✓ GS Paper III – Internal Security (Cybersecurity, Regulation of Digital Platforms)
- ✓ GS Paper IV – Ethics (Freedom vs Responsibility, Harm Principle, Kant's Categorical Imperative)

Context

The **Ministry of Information and Broadcasting (MIB)** recently banned public access to certain **OTT platforms** under the **Information Technology Act, 2000** and the **IT Rules, 2021** for streaming obscene content. This reflects the growing concern over the **unregulated impact of digital media on society**.

The Supreme Court in *Ranjit D. Udeshi v. State of Maharashtra (1965)* upheld that **obscenity constitutes a reasonable restriction** on freedom of speech (Article 19(2)).

Why is Content Regulation Needed?

- Mass Influence**
 - With **950+ million internet users**, unregulated content can shape **social behaviour, morality, and perceptions**.
- Curbing Violence & Aggression**
 - A 2010 study found **90% of pornography videos depicted aggression**, normalising violence.
- Protecting Vulnerable Groups**
 - Children**: Early exposure distorts understanding of relationships.
 - Women**: Often objectified, reinforcing **patriarchal stereotypes**.
 - Minorities**: Online hate speech fuels **polarisation and social unrest**.
- Ethical Imperatives**
 - J.S. Mill's Harm Principle*: Liberty can be limited if it harms others.
 - Kantian Ethics*: Reducing humans to mere sexual objects violates the **categorical imperative**.
 - Bulli Bai Case (2021)**: Women's images "auctioned" online, highlighting risks of digital abuse.
- Digital Inequality**
 - According to the **Indian Policy Foundation**, people from **low-income groups with poor digital literacy** are disproportionately exposed to harmful content.

Challenges in Regulating Online Content

Regulatory Issues

- Overlap**: MeitY frames IT Rules, but MIB regulates content → confusion in authority.
- Subjectivity**: "Obscenity" is context-dependent; risks arbitrary bans.

Technological Challenges

- End-to-End Encryption**: Limits state's ability to monitor.
- Algorithms**: Recommendation systems trap users into cycles of harmful content.
- VPNs & Dark Web**: Users bypass bans easily.

Freedom of Expression Concerns

- Excessive censorship may stifle **creativity, dissent, and minority representation**.
- Example: *Ban on films like Fire (1996)* depicting homosexuality raised questions of artistic freedom.

Regulatory Framework

IT Act, 2000

- Sec 67 & 67A: Punish transmission/publication of obscene content
- Sec 69A: Embows Centre block websites/content
- Sec 79: Prómodes "safe harbour" for intermediaries but liability arises if unlawful content is not removed after notice

IT Rules, 2021

- OTT platforms and digital media brought under MIB supervision
- Introducing regulation mechanism introduced:
 - Self-regulation by publishers
 - Oversight by industry associations
 - Government monitoring

Bhartiya Nyaya Sanhita (BNS), 2023

- Section 294 criminalises dissemination of obscene material, including electronic forms

Special Legislations

- POCSO Act, 2012: Ban child pornography
- Indecent Representation of Women (Prohibition) Act, 1986: Ban objectification of women

Way Forward

1. **Multi-Stakeholder Consultations**
 - o Involving **digital platforms, creators, civil society, and users** to balance rights and responsibilities.
2. **Technology-Driven Regulation**
 - o AI-powered filters, real-time content flagging, and user-driven reporting systems.
3. **Strengthening Self-Regulation**
 - o Encourage **industry-led content councils** instead of blanket state bans.
4. **Learning from Global Best Practices**
 - o **EU Audiovisual Media Services Directive**: Applies broadcast standards to digital media.
 - o **GDPR**: Balances privacy with accountability.
5. **Promote Digital Literacy**
 - o Awareness campaigns to empower users to distinguish harmful content.

Critical Analysis

- **State vs Individual Freedom**: Regulation often walks a fine line between **protecting society** and **curbing free expression**.
- **Judicial Balancing Role**: Courts have often upheld restrictions (e.g., *Aveek Sarkar case*, 2014 – upheld that “nudity is not always obscene”).
- **Cultural Context**: Indian society is diverse, hence a **one-size-fits-all censorship** risks alienating some groups.
- **Global Debate**: Countries are split between **open internet** (US model), **state-controlled internet** (China), and **regulated free space** (EU). India must carve out a **middle path**.

Conclusion

Online content regulation is not just about **protecting morality**, but about **preserving social harmony, protecting vulnerable groups, and ensuring ethical digital ecosystems**. However, overregulation may threaten **constitutional freedoms, innovation, and democratic values**. India must adopt a **balanced, transparent, and participatory framework** to regulate digital platforms while safeguarding free expression.

MAINS PRACTICE QUESTION

Q. “The regulation of online content in India is a balancing act between freedom of expression and societal interests.” Critically analyse the current framework of online content regulation in India. Suggest reforms to ensure digital responsibility without stifling creativity and rights

Monsoon Session 2025 & Bills of Lading Reforms

Syllabus Mapping

- ✓ GS Paper II – Polity (Parliamentary Procedures, Sessions of Parliament, Role of the President)
- ✓ GS Paper II – Governance (Legislative Reforms, Ease of Doing Business, Maritime Trade)
- ✓ GS Paper III – Economy (Infrastructure, Shipping, Trade Facilitation, Logistics Sector)

Context

The **Monsoon Session of Parliament 2025** has commenced. During this session, the **Bills of Lading Bill, 2025**—already passed in the Lok Sabha—was cleared by the Rajya Sabha. The Bill seeks to modernize India's **maritime trade documentation framework**, replacing the colonial-era **Indian Bills of Lading Act, 1856**.

The Bills of Lading Bill, 2025

◆ What is a Bill of Lading (BoL)?

- A crucial document in **maritime trade**, serving as:
 1. **Proof of goods loaded** on the ship.
 2. **Record of goods' details** (quantity, condition, destination).
 3. **Title of ownership**—transferable to buyers/receivers.

◆ Provisions of the Bill

- **Repeals** Indian Bills of Lading Act, 1856 (colonial framework).
- **Affirms BoL as conclusive evidence** of shipment.
- Clarifies **rights and liabilities of receivers and transferees**.

Sessions of Parliament

CONSTITUTIONAL BASIS

- **Article 85** : The President summons each House, ensuring that the gap between two sessions does not exceed six months.



- **Budget Session** – February to May
- **Monsoon Session** – July to August
- **Winter Session** – November to December

- **Special Sessions**: Can be convened for extraordinary situations (e.g., 1962 India-China War)

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PARLIAMENTARY PROCEDURES



Summoning
Initiated by the President (Art. 85)



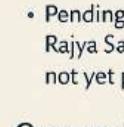
Adjournment
Temporary suspension; adjournment sine die – no fixed resumption date



Prorogation
Formal end of a session by the President



Dissolution
Ends the Lok Sabha's tenure; does not apply to Rajya Sabha (permanent body)



• Pending business lapses, except Rajya Sabha-originated bills not yet passed by Lok Sabha



Quorum: Minimum 1/10th of House strength required:



55 | **25**

Sabha

Rajya

- Grants powers of enforcement to **Ministry of Ports, Shipping & Waterways**.
- Seeks to align India's laws with **global maritime trade standards**.

◆ Significance

- Enhances **legal clarity** and reduces disputes in shipping contracts.
- Strengthens India's role in **international maritime trade**.
- Supports **Ease of Doing Business** → smoother logistics and trade flows.
- Encourages **digitization of trade documentation**, reducing transaction costs.

Critical Analysis

✓ Positive Aspects

- **Modernization**: Moves away from outdated colonial law to meet **contemporary trade needs**.
- **Dispute Reduction**: Clear rights/liabilities → faster settlement of cargo disputes.
- **Global Trade Alignment**: Harmonises Indian law with conventions like **Hague-Visby and Rotterdam Rules**.
- **Boost to Shipping Sector**: Enhances investor confidence in India's maritime infrastructure.

✗ Challenges

- **Implementation**: Smooth transition from old practices requires training of port and shipping personnel.
- **Digital Divide**: Smaller shipping agents/exporters may struggle with digital trade documentation.
- **Legal Synchronization**: Needs alignment with customs laws, marine insurance, and port regulations.

Contemporary Relevance

- India's logistics sector contributes ~**13% of GDP**, but inefficiencies raise costs.
- The Bill supports the **PM Gati Shakti Master Plan** and **National Logistics Policy (2022)**.
- Maritime reforms are crucial since **95% of India's trade by volume** and ~**68% by value** moves through ports.
- Aligns with India's **Blue Economy strategy** and **Sagarmala Project**.

Conclusion

The **Monsoon Session of Parliament** demonstrates the vitality of India's legislative process in modernizing governance frameworks. The **Bills of Lading Bill, 2025** not only replaces colonial-era legislation but also positions India's maritime trade system in sync with **global best practices**. Together, they highlight how **parliamentary procedures and legislative reforms** directly impact India's **economic and strategic aspirations**.

MAINS PRACTICE QUESTION

Q. "Parliamentary sessions remain vital for democratic accountability, but their declining productivity and political disruptions raise concerns. Discuss the constitutional significance of parliamentary sessions in India. Also, critically evaluate the Bills of Lading Bill, 2025 in the context of India's maritime trade reforms."

Electoral Rolls Revision: Accuracy vs Exclusion

📌 Syllabus Mapping

- ✓ GS Paper II – Polity (Representation of the People Act, Election Commission of India, Electoral Reforms)
- ✓ GS Paper II – Governance (Democratic Institutions, Electoral Process, Role of Judiciary)
- ✓ GS Paper II – Indian Constitution (Universal Adult Suffrage, Articles 324, 326-329)

Context

The **Supreme Court** recently reviewed the **Election Commission of India's (ECI) Special Intensive Revision (SIR)** of electoral rolls in Bihar, suggesting acceptance of **Aadhaar, voter ID, and ration cards** as valid documents for voter enumeration.

- Petitioners had argued that the ECI lacked authority for such revisions, but the SC reaffirmed the **ECI's constitutional powers under Article 324**.
- This debate reflects the **balance between accurate voter lists** and the risk of **voter disenfranchisement**.

What are Electoral Rolls?

- **Definition**: Official list of all registered voters in a constituency.
- **Prepared under**: **Representation of the People Act, 1950**.
- **Eligibility**: Citizens aged **18 years+** ordinarily resident in the constituency (Section 19).
- **Exclusions**: Non-citizens, disqualified individuals (criminal conviction, unsound mind, corrupt practices) (Section 16).

Judicial Stand on ECI's Powers



- **Mohinder Singh Gill v. CEC (1977)** → ECI's powers under Article 324 are wide and residuary
- **Article 329(b)** → Judicial review during elections is limited

SC clarified:

- ECI can take independent action if laws (Articles 327-328) are silent
- Principle of natural justice applies, but practical decisions are permitted for election integrity

What is Special Intensive Revision (SIR)?

- **Definition:** A time-bound, house-to-house verification exercise conducted by Booth Level Officers (BLOs) to ensure electoral rolls are accurate, inclusive, and updated.
- **Powers:**
 - **Section 21, RP Act 1950** – empowers ECI to conduct revisions anytime.
 - **Article 324** – ECI's plenary power to supervise electoral rolls and elections.
- **Previous SIRs:** Conducted periodically (1952-56, 1983-84, 1992, 2003, 2004). In Bihar, the last was in **2003**.

Why is Special Intensive Revision Needed?

1. **Error-Free Voter List**
 - Removes ghost voters, duplicates, deceased persons.
 - Adds **newly eligible 18+ voters**.
2. **Safeguarding Democratic Legitimacy**
 - Ensures "**one person, one vote**".
 - Prevents electoral fraud.

3. **Boosting Participation**
 - Awareness campaigns, door-to-door surveys.
 - Helps marginalized groups and migrants access registration.
4. **Tech & Policy Upgrades**
 - Supports digitization and remote voting pilots.
 - Example: Bihar's **E-SECBHR app** → blockchain-based e-voting trial with biometrics and AI-based voter verification

Concerns with Special Intensive Revision

1. **Risk of Mass Disenfranchisement**
 - If Aadhaar, voter ID, or ration card are excluded or inconsistently applied, many voters may be dropped.
 - Linking to **place of birth** rather than residence could exclude migrants.
2. **Impact on Migrant Workers**
 - Frequent relocation makes proof of residence difficult.
 - Seasonal workers and students most vulnerable.
3. **Fear of NRC-like Exercise**
 - Document-heavy requirements resemble a **citizenship test**, raising concerns of exclusion of minorities and poor.
4. **Lack of Public Consultation**
 - Top-down implementation risks ignoring **grassroots realities**.
 - Illiterate, homeless, and marginalized populations may be disproportionately excluded.

Critical Analysis

- **Democratic Necessity:** Free & fair elections demand accurate rolls; otherwise, democracy risks manipulation.
- **Balancing Rights:** Overemphasis on documentation may undermine **Article 326's guarantee of universal suffrage**.
- **Political Sensitivities:** SIR exercises may be misused in politically volatile states to **exclude or favour certain groups**.
- **Technology vs Access:** Digital solutions (blockchain, e-rolls) boost transparency but risk widening the **digital divide**.

Thinker's Lens:

- *B.R. Ambedkar* → called universal adult suffrage the **cornerstone of Indian democracy**.
- Any measure undermining it risks **weakening democratic legitimacy**.

Way Forward

1. **Inclusive Verification:** Accept multiple ID proofs (Aadhaar, voter ID, ration card) → minimize exclusion.
2. **Migrant-Friendly Mechanism:** Special provisions for **migrant workers and students** (portable voter registration).
3. **Transparency & Consultation:** Ensure **public awareness campaigns** before SIR.
4. **Use of Technology:** Expand **online correction portals** but complement with offline support for rural voters.
5. **Independent Oversight:** Regular monitoring by **civil society observers and State Election Commissions**.

MAINS PRACTICE QUESTION

Q. "Electoral rolls form the foundation of free and fair elections. Critically analyse the Special Intensive Revision (SIR) process of the Election Commission, highlighting its significance and the concerns of exclusion."

Conclusion

The **Special Intensive Revision of Electoral Rolls** is vital for ensuring electoral legitimacy, but it must not turn into an exercise of exclusion. The challenge lies in **balancing accuracy with inclusivity**, safeguarding **democratic participation of every citizen**, especially the most marginalized.

Rising Cost of Politics in India

📌 Syllabus Mapping

- ✓ GS Paper II – Governance (Election Commission, Political Parties, Electoral Reforms)
- ✓ GS Paper II – Polity (Representation of People's Act, Democratic Processes, Electoral Funding)
- ✓ GS Paper III – Economy (Black Money, Corporate Funding, Corruption)

Context

The **Observer Research Foundation (ORF)** in collaboration with the **Westminster Foundation for Democracy (WFD)** conducted a case study on the **"Cost of Politics in India."** It highlights how **rising campaign costs, personal financing, and opaque funding structures** are reshaping political competition, democratic integrity, and governance outcomes.

Implications of High Cost Politics

A. Governance Implications

1. **Business-Politics Nexus:**
 - Corporates fund parties → influence policy in their favour (tax concessions, deregulation).
 - Wealthy industrialists directly contest elections, securing influence.
2. **Fundraising Focus:**
 - Leaders spend more time **raising money** than fulfilling legislative responsibilities.
3. **Corruption & Black Money:**
 - Campaign financing fosters electoral corruption.
 - India ranked **96th in Transparency International's 2024 Corruption Perceptions Index**.

B. Democratic Integrity at Risk

1. **Erosion of Public Trust:**
 - Voters doubt fairness of elections → democratic disengagement.
2. **Power Concentration:**
 - Large parties dominate campaigns → small/regional parties get sidelined.
3. **Barriers for Non-Elites:**
 - Women, youth, marginalized groups cannot afford campaigns → **exclusion from representation**.

Way Forward

1. **Enforce Spending Limits**
 - Strengthen **Election Commission's monitoring and audit powers**.
 - Example: **UK's expenditure caps** with strict audits.
2. **Constitutional Status for Political Parties**
 - Bring parties under **formal regulatory scrutiny** (like other public institutions).
3. **State Funding of Elections**
 - To reduce corporate dominance.
 - Suggested by:
 - **Indrajit Gupta Committee (1998)**
 - **Law Commission (1999)**
 - **NCRWC (2001)**
 - **2nd ARC (2008)**
 - Models: **Germany, Canada** – partial state funding linked to vote share.
4. **Transparency & Disclosure**
 - Real-time reporting of donations (like **US Federal Election Commission system**).
 - Electoral bonds system needs **reform or replacement** for transparency.

Key Findings of the Study

- ◆ **1. Escalating Campaign Expenditure**
 - **Lok Sabha candidates** of major parties spend **₹5–10 crore**, often higher in resource-rich states like **Tamil Nadu, Telangana, Andhra Pradesh, Maharashtra**.
 - **Routine political expenditure** → community events, party activities, constituency upkeep.
- ◆ **2. Social Media & Digital Campaigns**
 - Spending on **digital experts, influencers, ads** is rising.
 - Yet, **traditional campaigning** (rallies, food, transport, cash handouts) still accounts for **higher costs**.
- ◆ **3. Vote Buying Pressures**
 - Direct **cash distribution** before elections has intensified.
 - Even reluctant candidates feel compelled to participate.
- ◆ **4. Sources of Funding**
 - **Primary:** Candidate's personal wealth, family contributions.
 - **Secondary:** Borrowings from business groups, crowdfunding, sale of assets.
 - Most parties expect **self-funding** by candidates, favouring **wealthy and dynastic politicians**.

5. Voter Sensitisation

- Awareness campaigns to curb demand for **cash-for-votes**.
- Leverage **civil society, media, and ECI** drives.

Critical Analysis

- **Strength of Democracy:** Universal franchise means political opportunity should not depend on wealth.
- **Paradox:** India has one of the **highest voter turnouts** globally but also one of the **most expensive elections**.
- **Global Context:**
 - **US:** Election spending skyrocketed to **\$14 billion in 2020 elections**.
 - **UK:** Strict caps & transparent audits maintain **electoral integrity**.
- **Thinker's Lens:**
 - *Gunnar Myrdal* warned of "soft state" tendencies in South Asia where laws exist but enforcement is weak.
 - Without strict enforcement, reforms risk remaining **cosmetic**.

Conclusion

India's democracy faces a **structural challenge**: elections have become prohibitively expensive, dominated by money power, corporate influence, and opaque financing. Unless urgent reforms—**state funding, expenditure limits, transparency measures, and stricter regulation of political parties**—are adopted, electoral politics will remain tilted in favour of the **wealthy few**, undermining **democracy, equality, and governance accountability**.

MAINS PRACTICE QUESTION

Q. "High cost of elections has emerged as a serious threat to democracy and good governance in India." Critically analyse. Suggest reforms to make election financing more transparent and equitable.

Lowering Voting Age: Democracy & Youth Debate

Syllabus Mapping

- ✓ GS Paper II – Polity (Universal Adult Suffrage, Electoral Reforms, Constitutional Amendments)
- ✓ GS Paper II – Governance (Democratic Participation, Youth Engagement in Politics)
- ✓ GS Paper I – Society (Role of Youth, Intergenerational Equity)

Context

- Globally, a number of countries have reduced the **voting age below 18 years**:
 - **Germany, Austria, Malta, Estonia, Argentina, Nicaragua** – voting age set at **16 years**.
 - Recently, the **United Kingdom** also announced plans to lower its voting age to 16.
- In India, a **Constitution (Amendment) Bill, 2020** was introduced as a **Private Member's Bill**, proposing to amend Article 326 and reduce the voting age from **18 to 17 years**.

Constitutional Provisions in India

- **Article 326:** Provides for **universal adult suffrage** → citizens aged **18 years or above** can vote.
- **61st Constitutional Amendment Act, 1988:** Reduced the voting age from **21 years to 18 years**.
- **Right to Vote:** Not a Fundamental Right but a **statutory right** under the **Representation of the People Act, 1950**; Parliament can amend it by ordinary legislation.

Arguments in Favour of Lowering Voting Age

1. **Cognitive Readiness**
 - Research shows **16-year-olds possess adequate cognitive maturity and critical thinking** for political decision-making.
2. **Intergenerational Equity**
 - While older citizens retain voting rights indefinitely, younger groups remain excluded, creating **policy bias favouring older electorates**.
 - Lowering voting age ensures **forward-looking, youth-centric policies**.
3. **Broadening Political Agendas**
 - Election manifestos would focus more on **education, child rights, employment opportunities, digital access, and gender justice**.

Arguments Against Lowering Voting Age



Perceived Lack of Maturity

Critics argue that adolescents often **lack** political awareness, making them prone to manipulation by populist narratives.



Low Youth Turnout

Even among 18-19-year-olds, participation remains low: lowering the age might not guarantee higher engagement.



Inconsistency with Other Age Thresholds

Could create debates on marriageable age, alcohol consumption, criminal liability, and eligibility for office.



Logistical & Administrative Hurdles

Expanding the electorate requires large-scale voter registration, awareness campaigns, and infrastructure expansion, increasing costs.



Political Opportunism

Risk that parties might use youth-centric populism without ensuring genuine empowerment.

4. Habit Formation & Democratic Culture

- Early participation fosters **lifelong voting habits**, enhancing civic engagement.
- Could help counter voter apathy seen in the **18-19 age group**, where turnout is often below 40%.

5. Global Trends

- Countries with lower voting ages (e.g., **Austria**) report **higher youth political engagement** and long-term democratic participation.

Critical Analysis

- **Youth as Stakeholders:** India is a **youth-majority country (65% below 35 years)** → their participation must be meaningfully harnessed.
- **Comparative Global Evidence:**
 - *Austria (2007)*: First EU country to lower voting age to 16; saw **steady youth engagement**.
 - *Scotland Referendum (2014)*: 16-17-year-olds showed **higher turnout than 18-24 group**, indicating readiness.
- **Democratic Deepening:** Lowering voting age alone is not sufficient; it must be coupled with **civic education and awareness programmes**.
- **Thinker's View:** *John Stuart Mill* emphasized the role of **education and civic responsibility** in democracies—suggesting that readiness to vote depends more on **civic knowledge than chronological age**.

Way Forward

1. Gradual Approach

- Pilot projects in **local body elections** for 16-17-year-olds before extending to national elections.

2. Civic Education

- Integrate **civics, political literacy, and rights awareness** into school curricula.

3. Enhanced Registration Mechanisms

- Automatic voter registration at 16-17 years with Aadhaar or school IDs.

4. Balanced Electoral Reforms

- Lowering the voting age must go hand in hand with **political party reforms, transparency in funding, and youth representation quotas**.

Conclusion

The debate on lowering the voting age reflects a **tension between inclusivity and maturity**. While a younger voting population could democratize representation and bring **fresh energy into politics**, concerns about preparedness and administrative feasibility remain. The way forward lies in **strengthening civic education, piloting reforms, and ensuring genuine youth empowerment** rather than tokenistic electoral expansion.

Legislative Productivity: Declining Standards

❖ Syllabus Mapping

- ✓ GS Paper II – Polity (Parliament, State Legislatures, Law-Making, Parliamentary Committees)
- ✓ GS Paper II – Governance (Accountability, Role of Legislature, Democratic Institutions)
- ✓ GS Paper II – Constitution (Separation of Powers, Parliamentary Privileges, Federalism)

Context

While addressing the **National Conference of Urban Local Bodies (ULBs)** Chairpersons, the **Lok Sabha Speaker** expressed concern over the **declining legislative productivity** and urged lawmakers to improve both the **efficiency of legislative business** and the **quality of parliamentary discourse**.

This raises larger questions about the **health of India's parliamentary democracy**, which is marked by fewer sittings, disruptions, declining committee scrutiny, and erosion of consensus-driven lawmaking.

What is Legislative Productivity?

- **Definition:** It refers to the **efficiency and effectiveness** with which legislatures (Parliament & State Assemblies) perform their **core constitutional functions**:

- Lawmaking
- Executive oversight
- Budget approval
- Debates on issues of national/public importance

Current Status of Legislative Productivity in India

1. Declining Sitting Days

- 1st Lok Sabha (1952-57) → ~135 days/year.
- 17th Lok Sabha (2019-24) → ~55 days/year.

2. Reduced Working Hours

- o 2023 Budget Session → LS worked for 33% of scheduled time; RS for 24% (6th shortest session since 1952).

3. Attendance vs Participation

- o 17th Lok Sabha → MP attendance averaged 79%, but participation in debates was low (45 debates/MP).

4. Frequent Disruptions

- o 15th Lok Sabha (2009–14) → lost 30% time due to slogan shouting, walkouts, adjournments.

5. Weakening Committee Scrutiny

- o Only 10% of Bills in 17th LS referred to committees.
- o Contrast: 14th LS (60%), 15th (71%), 16th (25%).
- o Only 14 Bills reviewed in 17th LS; growing partisanship weakens bipartisan scrutiny.

6. Underutilisation of Question Hour & Zero Hour

- o 17th Lok Sabha → Question Hour functioned for 19% of allotted time; RS for only 9%.

7. Private Member Bills

- o Over 300 introduced since Independence, but only 14 passed.
- o Last one passed in 1970.

8. Vacant Deputy Speaker Post

- o Article 93 mandates election "as soon as possible".
- o The 17th Lok Sabha completed its term without a Deputy Speaker, raising constitutional concerns.

9. Erosion of Consensus

- o Bills often passed with minimal debate; only 3 joint sittings held since 1950.

Implications of Low Legislative Productivity

1. Weakening of Executive Oversight

- o Disruptions + fewer sittings = reduced parliamentary accountability.
- o Leads to unchecked executive dominance.

2. Compromised Quality of Lawmaking

- o Hastily passed Bills without adequate debate/committee scrutiny → higher chances of judicial intervention.

3. Marginalisation of Opposition

- o Limited floor time and absence of Private Member Bills reduce pluralism & inclusivity in lawmaking.

4. Erosion of Public Trust

- o Citizens perceive Parliament as dysfunctional → political apathy & declining voter confidence.

5. Executive Overreach

- o Frequent use of ordinances, delegated legislation, and executive orders.
- o Upsets balance between legislature and executive.

Critical Analysis

- **Democratic Functionality:** A robust legislature is essential to separate powers and check the executive. India's declining productivity risks a rubber-stamp Parliament.
- **Comparative Context:**
 - o UK House of Commons: ~150 sittings/year, strong committee scrutiny.
 - o US Congress: Structured debates + powerful committees enhance oversight.
 - o India lags behind in sittings, debate time, and bipartisan culture.
- **Thinker's Lens:**
 - o B.R. Ambedkar: Warned against "executive dictatorship" if Parliament fails to exercise its control.
 - o Montesquieu: Separation of powers requires a strong and functional legislature to balance the executive.

Way Forward

1. **Mandatory Minimum Sitting Days**
 - o National Commission to Review the Working of the Constitution (2001) recommended:
 - LS/RS → 120 days/year
 - State Assemblies → 90 days/year
2. **Strengthen Committee System**
 - o Make committee referrals mandatory for all non-urgent Bills.
3. **Reform Question Hour & Zero Hour**
 - o Ensure non-disruptive functioning with strict penalties for repeated disruptions.
4. **Revive Private Member Bills**
 - o At least some floor time must be allocated → to strengthen inclusivity in lawmaking.



5. Institutional Reforms

- Deputy Speaker election within 6 months of LS constitution.
- Independent Parliamentary Budget Office (PBO) to enhance scrutiny.

6. Citizen Engagement

- Greater use of digital platforms, live data dashboards, public submissions to enhance trust and accountability.

Conclusion

Legislative productivity is the **lifeline of parliamentary democracy**. Its decline in India undermines **executive accountability, inclusivity, and constitutional balance**. Reviving productivity requires **institutional reforms, bipartisan consensus-building, strengthening committee systems, and mandatory sitting requirements**. A vibrant, deliberative legislature is indispensable for **deepening India's democracy**.

MAINS PRACTICE QUESTION

Q. "Declining legislative productivity in India reflects the growing dominance of the executive over Parliament." Critically analyse, and suggest measures to restore the balance of power between the legislature and the executive.

Phone Tapping: Legality & Judicial Safeguards

Syllabus Mapping

- ✓ GS Paper II – Polity (Fundamental Rights, Judiciary, Surveillance Mechanisms)
- ✓ GS Paper II – Governance (Executive Accountability, Privacy, Security vs Rights)
- ✓ GS Paper III – Internal Security (Cyber Laws, Surveillance, Digital Security)

Context

- Recently, the **Madras High Court** and the **Delhi High Court** gave **contrasting rulings** on whether the government can legally tap phones in cases involving **economic offences like bribery**.
- The debate highlights the **tension between national security, public safety, and the fundamental right to privacy**.

LEGAL FRAMEWORK GOVERNING PHONE TAPPING IN INDIA

1. Indian Telegraph Act, 1885

Section 5(2): Allows Centre or State to intercept phone calls during public emergency or for public safety.

2. Information Technology Act, 2000

Covers surveillance of digital communications (emails, WhatsApp, internet-based platforms)

3. Indian Post Office Act, 1898

Deals with interception of postal communications.

What is Phone Tapping?

- **Definition:** Monitoring or recording of telephone conversations by a third party (generally the State) without the knowledge/consent of the individuals.
- **Purpose:** Used by government agencies for **security, intelligence, and law enforcement**.

Procedural Safeguards

- **Rule 419A of Telegraph Rules, 1951:**
 - Only the **Home Secretary (Centre/State)** can authorise interception.
 - Review Committee must examine orders within 2 months:
 - **Centre:** Cabinet Secretary, Law Secretary, Telecom Secretary.
 - **State:** Chief Secretary, Law Secretary, another senior member.
 - Surveillance must respect **Article 19(1)(a) (free speech)** and **Article 21 (right to life & privacy – Puttaswamy Judgment, 2017)**.

Judicial Stand on Phone Tapping

1. Supreme Court – PUCL vs Union of India (1997)

- Phone tapping permissible only under **public emergency/public safety**.
- Laid down **procedural safeguards**: limited duration, review committees, proportionality.
- Unlawfully tapped calls are **inadmissible in court**.

2. Delhi High Court – Aakash Deep Chouhan vs CBI (2020)

- Upheld tapping in corruption cases, treating corruption in public projects as a **threat to economic security**, thus a **public safety issue**.

3. Madras High Court – P. Kishore vs Secretary to Govt (2018)

- Quashed interception order in bribery case → **no public emergency or threat to safety**.
- Held that order violated **PUCL safeguards (1997)**.

Key Issues in Phone Tapping

- **Ambiguity in Law:** "Public emergency" and "public safety" undefined → scope for misuse.
- **Executive Dominance:** Authorisation by Home Secretary may lack independent checks.

- **Privacy Concerns:** Violates **right to privacy (Puttaswamy, 2017)** if excessive or disproportionate.
- **Admissibility in Court:** Evidence from illegal tapping is not valid.
- **Technological Challenge:** Rise of encrypted platforms (WhatsApp, Signal) → makes lawful interception harder.

Critical Analysis

- **Security vs Liberty Dilemma:**
 - **Pro:** Phone tapping essential for **counter-terrorism, organised crime, money laundering, corruption control.**
 - **Con:** Risks creating a **surveillance state**; can be misused against political opponents, journalists, activists.
- **Thinker's Lens:**
 - *Jeremy Bentham:* Surveillance as deterrence (Panopticon model).
 - *J.S. Mill:* Liberty can only be restricted to prevent **harm principle.**
 - *Ambedkar:* Warned against concentration of executive power without accountability.
- **Global Practice:**
 - **UK:** Investigatory Powers Act, 2016 (strict judicial oversight).
 - **US:** FISA Court authorises surveillance orders.
 - India lags in **independent judicial authorisation.**

Way Forward

1. **Independent Judicial Oversight** – Require prior approval from a **judge**, not only executive.
2. **Clear Definitions** – Codify “public emergency” and “public safety” to reduce arbitrariness.
3. **Time-Bound & Proportionate Orders** – Regular review to avoid excessive intrusion.
4. **Data Protection Law** – Align with **DPDP Act, 2023** for citizen safeguards.
5. **Transparency & Accountability** – Annual reports on interceptions (without compromising security).

MAINS PRACTICE QUESTION

Q. “Phone tapping in India raises the classic dilemma between security and liberty. Critically analyse with reference to constitutional provisions, judicial rulings, and global best practices.”

Conclusion

Phone tapping in India sits at the crossroads of **national security imperatives and democratic freedoms**. While laws permit interception under defined conditions, **weak oversight and vague definitions** risk abuse. To balance **privacy and security**, India must strengthen **judicial scrutiny, transparency, and proportional safeguards** in line with global best practices.

National Commission for Minorities: Role & Challenges

❖ Syllabus Mapping

- ✓ GS Paper II – Polity (Statutory Bodies, Constitutional Safeguards for Minorities, Welfare Measures)
- ✓ GS Paper II – Governance (Rights of Vulnerable Sections, Inclusivity in Policy Making)
- ✓ GS Paper I – Society (Communalism, Social Empowerment, Minority Issues)

Context

- The **National Commission for Minorities (NCM)** has been functioning without a **Chairperson** and several members since April 2025.
- The vacuum raises concerns over the **protection of minority rights, efficiency of grievance redressal, and the credibility of the statutory body.**

About the National Commission for Minorities (NCM)

- **Statutory Basis:** Established under the **National Commission for Minorities Act, 1992.**
- **First Commission:** Constituted on **17th May 1993.**
- **Genesis:**
 - Formed as **Minorities Commission (1978)** via a Home Ministry resolution.
 - Shifted to Ministry of Welfare (1984).
 - In **1988**, linguistic minorities were excluded from its ambit.

Composition

- Chairperson, Vice-Chairperson, and **5 members** (nominated by Central Government).
- **All members must belong to notified minority communities:** *Muslims, Christians, Sikhs, Buddhists, Parsis, and Jains.*
- **Tenure:** 3 years from date of assumption of office.

Powers

- **Quasi-judicial authority** → can investigate, summon, and recommend actions.
- **Removal:** Central Government may remove members for insolvency, corruption, misconduct, incapacity, or criminal conviction.

Who are Minorities in India?

- **Constitutional Position:** No explicit definition; recognised as **religious and linguistic minorities**.
- **Notified Minorities (GoI):** Muslims, Christians, Sikhs, Buddhists, Parsis, Jains.
- **Population (Census 2011):** Together constitute nearly **19.3% of India's population**.

Community	Population (in crore)	% Share (2011 Census)
Muslims	17.22	14.2%
Christians	2.78	2.3%
Sikhs	2.08	1.7%
Buddhists	0.84	0.7%
Jains	0.45	0.4%
Parsis	~0.006 (57,000 est.)	-

Significance of NCM

1. **Rights Protection:** Ensures safeguards under Articles 29 & 30 are upheld.
2. **Advisory Role:** Recommends policies for minority welfare to Union & State Governments.
3. **Grievance Redressal:** Investigates specific complaints of rights violations.
4. **Monitoring Welfare Schemes:** Evaluates effectiveness of government schemes targeted at minorities (e.g., scholarships, skill development).
5. **Bridge Role:** Acts as a **link between minority communities and the State**, reducing alienation.

Challenges

- **Vacancies & Political Appointments:** Weakens independence and credibility.
- **Lack of Enforcement Power:** Recommendations are advisory, not binding.
- **Overlap with Other Bodies:** Confusion with National Human Rights Commission, Ministry of Minority Affairs, etc.
- **Perception of Bias:** Often accused of being symbolic or politically motivated.
- **Awareness Deficit:** Limited public awareness of its role among minority communities.

Critical Analysis

- **PUCL vs Union of India (1997)** (though on surveillance) reminded that **constitutional bodies must function effectively** for safeguarding fundamental rights. The same principle applies to NCM.
- **Justice Krishna Iyer** emphasized that rights without **institutional enforcement mechanisms** are "a paper promise."
- In comparison:
 - **USA:** Equal Employment Opportunity Commission enforces anti-discrimination laws.
 - **UK:** Equality and Human Rights Commission has wide powers including legal action.
 - India's NCM has weaker **enforcement capability**.

Way Forward

1. **Strengthen Statutory Powers** → Make recommendations **binding**, akin to NHRC.
2. **Ensure Timely Appointments** → Transparent, merit-based process to avoid political capture.
3. **Expand Scope** → Include **linguistic minorities** and other vulnerable groups.
4. **Integration with Welfare Schemes** → Work closely with MoMA to ensure last-mile delivery of scholarships, skills, entrepreneurship support.
5. **Greater Autonomy** → Financial and administrative independence to act impartially.

Conclusion

The NCM was envisaged as a **guardian of minority rights** and an instrument to build trust in a plural, diverse democracy. Its current vacancies and weakened functioning

CONSTITUTIONAL SAFEGUARDS FOR MINORITIES

- Article 29: Right to conserve distinct language, script, or culture.
- Article 30: Right to establish & administer educational institutions
- Article 347: Special recognition of languages spoken by sections of population
- Article 350A: Instruction in mother tongue at primary stage for minority children
- Article 350B: Special Officer for Linguistic Minorities

MAINS PRACTICE QUESTION

Q. "The National Commission for Minorities has remained more advisory than authoritative. Critically evaluate its role and suggest reforms to strengthen minority rights in India."

risk alienating minority communities and undermining constitutional guarantees. For India's democratic fabric, ensuring a robust, empowered, and credible NCM is not optional but essential.

Rajya Sabha Nominations: 4 Eminent Personalities

📌 Syllabus Mapping

- ✓ GS Paper II – Indian Polity (Parliament, Role of Rajya Sabha, Representation of People Act)
- ✓ GS Paper II – Governance (Institutional Functioning, Democratic Accountability)
- ✓ GS Paper I – Indian Society (Contributions of Eminent Personalities)

Context

- The President of India has nominated Harsh Vardhan Shringla, Ujjwal Nikam, Meenakshi Jain, and C. Sadanandan Master to the Rajya Sabha.
- These nominations are made under the 12 seats reserved for distinguished persons in literature, science, art, and social service (Article 80).
- The move reflects the constitutional vision of enriching Parliament with expertise and diverse experiences beyond electoral politics.

About Rajya Sabha and Nominated Members

- **Rajya Sabha** = Upper House of Parliament (Article 80).
- **Composition:**
 - Max strength: 250 members.
 - 238 – Indirectly elected by State/UT legislatures.
 - 12 – Nominated by the President for their expertise in literature, science, art, or social service.
- **Tenure:** 6 years (Representation of the People Act, 1951).
- **Special Powers:**
 - Article 249: Can allow Parliament to legislate on State List in national interest.
 - Article 312: Can authorize creation of new All-India Services.

Procedure of Election and Nomination to Rajya Sabha

- **Indirect Elections** (238 members):
 - Elected by MLAs via **Single Transferable Vote (STV)** system.
 - Quota Formula:

Quota = Total Valid Votes / Seats + 1

$$\text{Quota} = \frac{\text{Total Valid Votes}}{\text{Seats}} + 1$$
- **Nominations:**
 - Under **Article 80(1)(a)** → 12 seats for experts in literature, science, art, and social service.
 - *Sports*, though not explicitly listed, is interpreted as part of "Art" → led to nominations of Sachin Tendulkar, Mary Kom earlier.

Legal Safeguards & Cross-Voting in RS Elections

- **Open Ballot System (2003 Amendment, RPA 1951):**
 - Party MLAs must show their ballot to party's authorised agent → ensures party discipline.
 - Independent MLAs barred from revealing their votes.
- **Anti-Defection Law:** Does not apply to Rajya Sabha elections. But cross-voting remains a political reality.

Significance of Nominated Members

1. **Enriching Parliamentary Debates** → Experts provide **domain knowledge** beyond partisan politics.
2. **Strengthening Democracy** → Inclusion of historians, diplomats, social workers, and legal professionals ensures **plurality of voices**.
3. **Bridging Politics and Society** → Nominees often act as **non-partisan mediators** in debates.
4. **Recognition of Eminent Citizens** → Symbolises **state acknowledgement of public service & excellence**.

Concerns & Criticism

- **Political Use of Nominations** → Sometimes criticised as a way to reward loyalists.

- **Underutilisation** → Some nominated members rarely participate in debates.
- **Lack of Diversity** → Representation often skewed, neglecting certain fields or communities.

Comparative Perspective

- **UK House of Lords** → Eminent persons, clergy, experts nominated for life.
- **Canada Senate** → Appointees chosen by PM on merit.
- **India's Rajya Sabha** → Limited to 12 experts, but questions remain about *merit vs politics*.

Way Forward

- Ensure **merit-based and transparent criteria** in nominations.
- Encourage nominated members' **active engagement** in debates and committees.
- Explore expanding nominations to include **emerging fields** (technology, climate science, digital innovation).
- Institutionalise mechanisms for **parliamentary performance review** of nominated members.

MAINS PRACTICE QUESTION

Q. "The provision of nominated members in the Rajya Sabha under Article 80 has been a unique feature of Indian democracy. Critically examine its relevance, significance, and challenges in today's context."

GOVERNANCE

PRI Finances: Fiscal Decentralisation Challenges

📌 Syllabus Mapping

- ✓ GS Paper II – Governance (Devolution of Powers, Local Governance, 73rd Amendment)
- ✓ GS Paper III – Economy (Fiscal Federalism, Budgetary Allocations, Public Finance)
- ✓ GS Paper II – Polity (Role of Panchayati Raj in Grassroots Democracy, Federalism)

Context

The Standing Committee on Rural Development and Panchayati Raj recently presented a report on the **Devolution of Funds to Panchayati Raj Institutions (PRIs)**. Despite three decades since the **73rd Constitutional Amendment (1992)**, the **3Fs – Functions, Funds, and Functionaries** remain only partially devolved. The report highlighted **persistent financial challenges** that restrict the effectiveness of PRIs in fulfilling their developmental mandate.

Issues with PRI Finances

1. Declining Budgetary Allocations

- Union budgets have progressively reduced direct allocations to PRIs, undermining the spirit of **fiscal decentralisation**.

2. Imbalance in Tied vs Untied Grants

- **15th Finance Commission Grants:**
 - **40% untied** (flexible use).
 - **60% tied** (for sanitation, drinking water etc.).
- Tied funds often remain **unutilised** once the mandated tasks are completed.

3. Delays in Panchayat Elections

- Example: Telangana's delay due to OBC reservation implementation.
- Absence of elected representatives causes **funds to remain idle**.

4. Weak District Planning Committees (DPCs)

- Constitutionally mandated to consolidate plans from Panchayats and Municipalities.
- Poor functioning leads to **fragmented planning and fund leakage**.

5. Irregular State Finance Commissions (SFCs)

- Despite Article 243I mandating quinquennial SFCs, only **9 states have constituted the 6th SFC**.
- Leads to delayed and inadequate financial transfers.

6. Poor Compliance on eGram Swaraj

- Many Panchayats fail to upload **Gram Panchayat Development Plans (GPDPs)** → delays in **15th FC grants**.

7. Weak Own-Source Revenue (OSR)

- RBI: Panchayats' OSR only **1.1% of total revenue**.
- Overdependence on state/central transfers restricts **fiscal autonomy**.

Why PRI Finance Matters

1. **Rural Development:** PRIs identify beneficiaries, align schemes (MGNREGS, PMAY, NRLM) with local needs.
2. **Agriculture:** Panchayats strengthen **cooperative models** (Amul started at the village level) and sustainable practices.
3. **Health:** Local health centres, training of community health workers; states with stronger Panchayats record **better nutrition and lower IMR** (RBI findings).
4. **Education:** School infrastructure, enrolment drives, reducing dropouts.
5. **SDGs Localisation:** PRIs are critical for **bottom-up achievement** of SDG 2030 targets.
6. **Women's Empowerment:** 33% reservation → increased focus on **health, child welfare, and education**.

Initiatives to Strengthen PRI Finances

- **AuditOnline:** Online auditing of Panchayat accounts.
- **SVAMITVA Scheme:** Use of property mapping data for better tax collection.
- **District Mineral Foundation (DMF) Funds:** Shared with PRIs.
- **Performance Ranking:** Incentivises PRIs through performance-based grants.
- **eGramSwaraj Portal:** Digital GPDPs for transparency & monitoring.

Recommendations of the Standing Committee

1. **Reallocation Flexibility:** Allow tied funds to be repurposed when needed.
 - o More **untied, formula-based grants** (based on backwardness, area, population).
2. **Election Continuity:** Establish mechanism for fund utilisation during **election delays**.
 - o Eg: temporary nominated representatives with defined roles.
3. **Regular SFCs:** States must **timely constitute SFCs** with uniform reporting formats.
4. **GPDP Compliance:** Train Panchayat members in digital planning, ensure integration with **block and district plans**.
5. **Adequate Devolution:**
 - o Transfer **administrative control** over frontline workers (health, education).
 - o MoPR to prepare an annual "**State of Devolution Report**" benchmarking states on the **3Fs**.
6. **Strengthen OSR:**
 - o Empower Panchayats to raise local taxes (property, markets, cess).
 - o Provide financial & technical support for capacity building.

Critical Analysis

- **73rd Amendment** envisioned PRIs as the "**third tier of government**", but **fiscal dependence on states and Centre** undermines autonomy.
- **15th FC Grants** improved predictability, but tied-grant dominance reduces flexibility.
- **SFC vs Finance Commissions:** While Union Finance Commissions function regularly, State Finance Commissions remain irregular and weak.
- **Global Comparisons:**
 - o *Brazil* – strong municipal taxation powers.
 - o *South Africa* – robust intergovernmental fiscal transfers.
 - o India lags in ensuring **stable revenue streams** for PRIs.
- **Thinker's View:**
 - o *Mahatma Gandhi*: Gram Swaraj envisioned self-sufficient village republics.
 - o *B.R. Ambedkar*: Advocated state oversight to avoid "**village tyranny**", indicating balance needed.

MAINS PRACTICE QUESTION



Q. "Despite the 73rd Constitutional Amendment, Panchayati Raj Institutions in India continue to suffer from fiscal dependency." Discuss the challenges of PRI finances and suggest measures to strengthen financial decentralisation.

Conclusion

PRIs are the **foundation of participatory democracy**, but without adequate financial powers, they risk becoming **implementing agencies** of top-down schemes rather than autonomous self-governing bodies. Strengthening **SFCs, OSR, and flexible devolution** is critical to realize **Gandhi's vision of Gram Swaraj** and ensure that local governments can drive **inclusive rural development**.

Mizoram Refugee Challenge: Ethnic Ties & Policy Gaps

📌 Syllabus Mapping:

- ✓ GS Paper II – International Relations (India–Myanmar Relations, Refugee Issues, India’s Foreign Policy)
- ✓ GS Paper II – Governance (Centre–State Relations, Human Rights, Welfare of Vulnerable Sections)
- ✓ GS Paper III – Internal Security (Border Management, Cross-border Movement, Ethnic Conflicts)

Context

Since the **2021 military coup in Myanmar**, Mizoram has emerged as one of the frontline states absorbing refugee inflows. By early **2025**, nearly **4,000 new refugees from Myanmar's Chin State** entered Mizoram following fresh clashes, compounding the strain on the state's limited resources. Refugees also continue to arrive from **Bangladesh and Manipur**, making the issue both **international and intra-national in character**.

Dimensions of Mizoram's Response

1. Ethnic and Cultural Solidarity

- Mizoram's **Mizo community** shares common ethnic roots with the **Chin (Myanmar)**, **Bawm (Bangladesh)**, and **Kuki-Zo (Manipur)** under the wider **Zo ethnic group**.
- This kinship has shaped a **humanitarian and sympathetic approach**, despite economic hardship.
- Historically, cross-border movement existed much before the **Free Movement Regime (FMR) of 1968**.

2. Community-led Relief

- **Young Mizo Association (YMA)**, churches, and local groups have stepped in with **food, shelter, and care**.
- Reflects **civil society strength** in India's Northeast but also **unsustainable strain on local livelihoods**.

3. Mizoram Government's Stance

- The State Government avoids deportation, citing **ethnic responsibility and humanitarian concerns**.
- However, **local tensions** are rising: certain villages restrict refugee trade and mobility over fears of **security risks and economic displacement**.

4. Centre's Limited Role

- The Union Government initially hesitant, later sanctioned **₹8 crore relief assistance**.
- Mizoram leaders, however, regard this as **inadequate**, pointing to the **Centre–State friction** in refugee management.

Legal and Institutional Framework

1. International Refugee Law

- **1951 UN Refugee Convention & 1967 Protocol**: defines refugees as persons fleeing persecution based on race, religion, nationality, social group, or political opinion.
- India is **not a signatory**, hence lacks binding obligations.
- Distinction: **Refugee ≠ Illegal Migrant** → refugees are forced by persecution; illegal migrants cross voluntarily for better livelihood.

2. India's Legal Position

- Governed under **Foreigners Act, 1946, Passport Act, 1920, Repatriation of Prisoners Act, 2003**, and related rules.
- **No comprehensive refugee law**, making treatment of refugees **ad hoc and case-specific**.

3. Free Movement Regime (FMR), 1968

CONTEMPORARY RELEVANCE

- Similar refugee crises: **Rohingya (Bangladesh)**, **Afghan asylum seekers**, **Sri Lankan Tamils** in past decades.



- Highlights India's need for a **uniform refugee policy** balancing **human rights, national security, and federal concerns**.



- Relevant in debates on **citizenship, illegal migration, and NRC/CAA controversies**.



- Bilateral pact between India–Myanmar enabling **cross-border tribal movement**.
- Initially **40 km radius**, later reduced to **10 km** due to security and smuggling concerns.
- **QR-based passes with biometric data** are issued, monitored by Assam Rifles and state officials.
- While intended to **strengthen cultural ties and India's Act East Policy**, in practice, it raises **security and migration challenges**.

4. Role of UNHCR

- Refugees registered with **UN High Commissioner for Refugees (UNHCR)** get minimal services.
- However, without Indian recognition, they remain **excluded from welfare schemes, banking, and official documentation**.

5. Proposed Mizoram Household Registers Bill, 2019

- Aims to **document foreign nationals** for clarity between locals, refugees, and illegal migrants.
- Reflects the state's attempt at **structured refugee management**.

Critical Analysis

- **Humanitarian Angle**: Mizoram's compassion demonstrates the **strength of ethnic solidarity** and grassroots resilience.
- **Security Concerns**: Long porous border poses risks of **smuggling, drug trafficking, and insurgency linkages**.
- **Centre–State Federal Friction**: While states face **direct impact**, refugee and immigration policy remains a **Union List subject**, causing friction in relief allocation and decision-making.
- **Absence of Refugee Law**: India's ad hoc policy creates **uncertainty for refugees** and undermines India's **human rights credentials** internationally.
- **Geopolitical Angle**: India–Myanmar ties are impacted, especially in light of **China's rising influence** in Myanmar and India's **Act East Policy**.

Way Forward

1. **National Refugee Law**: Clear criteria separating **refugees from illegal migrants**.
2. **Humanitarian Aid**: Increase **Centre's assistance** to border states like Mizoram, Manipur, Arunachal Pradesh.
3. **Strengthen Border Infrastructure**: Use **smart fencing, biometric monitoring, and local cooperation**.
4. **Community Engagement**: Support **civil society groups** already working with refugees.
5. **Regional Diplomacy**: Coordinate with **Myanmar and Bangladesh** for long-term resettlement and safe return.

MAINS PRACTICE QUESTION

Q. Mizoram's refugee crisis highlights the intersection of ethnic solidarity, humanitarian concerns, and national security challenges. Critically analyse India's approach to refugees in the absence of a dedicated refugee law. Suggest measures to balance humanitarian obligations with security and federal concerns.

National Cooperation Policy 2025: Reviving Cooperatives

Syllabus Mapping

- ✓ GS Paper II – Governance (Cooperative Federalism, Role of Cooperatives in Inclusive Development)
- ✓ GS Paper III – Economy (Agriculture, Rural Development, Employment Generation)
- ✓ GS Paper II – International Relations (UN, Sustainable Development Goals)

Context

In July 2025, India launched the **National Cooperation Policy (NCP) 2025** to mark the **United Nations' International Year of Cooperatives (IYC) 2025**. The policy aims to transform the cooperative sector into a **grassroots-driven, people-centric economic force**, replacing the older **2002 National Policy on Cooperatives**. It envisions a **20-year roadmap (2025–2045)** to make cooperatives key contributors to inclusive growth, employment, and sustainable development.

International Dimension – IYC 2025

- Declared by UN; coordinated by the **Committee for the Promotion and Advancement of Cooperatives (COPAC)**.
- **Theme**: "Cooperatives Build a Better World", linking cooperatives to the **UN Sustainable Development Goals (SDGs 2030)**.
- **Global Significance**:
 - 3 million cooperatives worldwide, involving **12% of the global population**.
 - Provide **280 million jobs** (10% of global workforce).
 - **International Cooperative Alliance (ICA)** represents 1+ billion members.
- **India's Position**: As home to the **largest number of cooperatives globally (8.42 lakh)**, India's policy carries international weight.

Key Features of the National Cooperation Policy 2025

1. Vision & Objective

- Based on “**Sahakar se Samriddhi**” (Prosperity through Cooperation).
- Strengthens **grassroots cooperatives** as inclusive institutions.
- 20-year vision** for modernization, resilience, and global competitiveness.

2. Convergence of Schemes

- Integrates **Dairy Infrastructure Development Fund (DIDF)**, **PM Matsya Sampada Yojana (PMMSY)**, and **National Programme for Dairy Development (NPDD)**.
- Target: Establish **2 lakh Multi-purpose Primary Agricultural Credit Societies (M-PACS)** in **5 years**.

3. Inclusive Growth & Employment

- Special focus on **Dalits, Adivasis, women, and youth**.
- Cooperatives as vehicles of **rural empowerment and economic democracy**.

4. Diversification & Cooperative Education

- Expansion into **25+ sectors**: dairy, fisheries, organic farming, food procurement, etc.
- Launch of **Tribhuvan Sahkari University** – India's **first national cooperative university**.

5. Technology & Global Engagement

- Modernization of cooperatives to remain competitive in the digital age.
- Creation of **National Cooperative Exports Limited (NCEL)** to enhance global access, focusing on **export of rice, wheat, and organic products**.

What are Cooperatives?

- Definition:** Voluntary associations of individuals, democratically managed, aimed at meeting **common socio-economic needs**.
- Principle:** “*One Member, One Vote*” → Equality in decision-making.
- Evolution in India:**
 - 19th century: Emerged against **rural indebtedness** and exploitation.
 - Cooperative Credit Acts (1904, 1912)** laid foundations.
 - Post-independence: Cooperatives central to **rural credit, agriculture, and dairy development**.
 - Amul's success:** Led by **Tribhuvandas Patel** and **Verghese Kurien**, making India the world's top milk producer.

Scale of Cooperatives in India

- 8.42 lakh cooperatives** with **29 crore members** (27% of global total).
- IFFCO** and **Amul** feature among world's top 300 cooperatives.
- State-wise concentration:** Maharashtra (25%), Gujarat, Telangana, MP, Karnataka.

Key Initiatives in India's Cooperative Sector

- Primary Agricultural Credit Societies (PACS):** New model by-laws for transparency and efficiency.
- Farmer Producer Organisations (FPOs):** ~1,900 formed under NCDC; **Fish FPOs** for fisherfolk.
- National Cooperative Organics Limited (NCOL):** Promoting **organic farming** through *Bharat Organic* brand.
- White Revolution 2.0 (2024):** Target to raise **milk procurement by 50%** in 5 years.
- Cooperative Banking Reforms:** UCBs can expand branches; rural cooperatives allowed into real estate lending.
- GeM Portal:** 550+ cooperatives onboarded to ensure **transparent procurement**.

Critical Analysis

- Strengths:**
 - Democratic, inclusive, and community-driven.
 - Key to **self-reliance in food, milk, and organic farming**.
 - Provides **employment and resilience in rural economy**.
- Challenges:**
 - Political interference** in cooperative elections.
 - Regional imbalances:** strong in Western India, weak in Eastern/North-Eastern states.

LEGAL AND CONSTITUTIONAL BACKING

❖ 97TH CONSTITUTIONAL AMENDMENT, 2011:

- Added Part IXB (Articles 243ZH-243ZT) – governance of cooperatives.
- Article 19(1)(c): Right to form cooperatives.
- Article 43B (DPSP): Promotes cooperative development

❖ GOVERNANCE:

- State cooperatives → under State List
- Multi-State Cooperatives → governed by Multi-State Cooperative Societies (MSCS) Act, 2002
- MSCS Amendment Act, 2023 improved transparency & accountability

❖ INSTITUTIONAL SUPPORT:



NABARD



NCDC



Since 2021, then Ministry, from 2021, assisny

- **Digital divide:** weaker cooperatives struggle with modernization.
- Risk of **elite capture** – domination by wealthy members over marginalized groups.
- **Global Learning:**
 - Japan's agricultural cooperatives (JA),
 - Kenya's cooperative-based coffee sector,
 - Spain's Mondragón cooperative federation – models of **professionalized cooperative success**.

Way Forward

1. **Strengthen Governance:** Transparent elections, capacity-building for cooperative leadership.
2. **Expand to Sunrise Sectors:** Renewable energy, tourism, handicrafts, digital services.
3. **Digital Transformation:** Promote blockchain, AI-driven platforms for traceability in supply chains.
4. **Equity and Inclusion:** Ensure representation of women, Dalits, Adivasis in leadership positions.
5. **International Integration:** Use NCEL to make cooperatives global players.

MAINS PRACTICE QUESTION

Q. The National Cooperation Policy 2025 seeks to make cooperatives the foundation of India's inclusive growth model. Critically examine the challenges facing the cooperative movement in India and suggest measures to make it a globally competitive and people-centric model.

Digital Colonialism: Threat to Sovereignty

Syllabus Mapping

- ✓ GS Paper II – Governance (Regulation of Technology, Sovereignty, Citizens' Rights)
- ✓ GS Paper II – International Relations (Global Governance of Cyberspace, North-South Divide)
- ✓ GS Paper III – Economy & Security (Digital Infrastructure, Data Protection, Cybersecurity)

Context

In a recent address, the **former Vice President of India** flagged **digital colonialism** as a greater threat to India's sovereignty than traditional invasions. The concern arises from India's **dependence on foreign-owned digital infrastructure**, big tech dominance, and the risks it poses to **economic autonomy, privacy, and national security**.

What is Digital Colonialism?

- It refers to the **domination of global digital infrastructure and data** by a few Big Tech companies.
- These corporations extract, analyse, and own user data—often **without explicit consent**—and influence markets, politics, and even culture.
- Unlike classical colonialism based on territorial control, this is about **data capture, surveillance, and digital dependency**.

Challenges Posed

- **North-South Divide:** Tech dominance by Global North deepens global inequalities.
- **National Security:** Reliance on foreign cloud/data infra → risks of espionage & manipulation.
- **Privacy & Rights:** Weak safeguards → data exploitation & surveillance.
- **Threat to Local Businesses:** E-commerce, ads, retail monopolies undermine indigenous enterprises.
- **Economic Losses:** Base Erosion and Profit Shifting (BEPS) → Big Tech evades taxes, draining revenues from countries like India.
- **Regulatory Vacuum:** International law struggles to regulate **borderless cyberspace**.
- **Network Effect:** Once users are locked into a global platform, local competitors collapse.

Global Responses

India

- **Digital Personal Data Protection Act, 2023:** Framework for data privacy, includes extraterritorial provisions.
- **Competition Act, 2002:** Prevents abuse of dominance.
- **Digital Sovereignty Advocacy:** At G20, BRICS, WTO → India pushes for **data localization & fair digital trade**.
- **Domestic Initiatives:**
 - **ONDC:** Open digital commerce to counter Amazon/Flipkart dominance.
 - **India Stack:** UPI, Aadhaar, DigiLocker → world's leading Digital Public Infrastructure (DPI).
 - **Global DPI Task Force** under India's G20 Presidency (2023).

Other Nations

Key Pillars of Digital Colonialism



Economic Domination

- Global monopolies in search engines (Google), operating systems (Windows), social networks (Meta, Twitter/X)
- Creates dependency for local economies



Control of Architecture

- Proprietary, closed-source systems limit digital autonomy
- App Store policies of Google/Apple allow unilateral control over global app ecosystems



Surveillance Capitalism

- AI and big data enable corporations to profile citizens, influence behaviour
- Cambridge Analytica-Facebook scandal showed manipulation of elections



Tech Hegemony

- Few players control cloud services (AWS, Azure, Google Cloud) → critical dependence
- Concentration of control risks economic coercion



Cultural Imperialism

- Algorithmic bias reinforces dominant Western narratives and sidelines local voices
- Prioritization of English-language, Western-centric content

- **European Union:** GDPR, AI Act, Data Governance Act → strictest global privacy and AI framework.
- **China:** Digital Silk Road → exports telecom, AI, and surveillance infrastructure globally.
- **Russia:** Sovereign Internet Law (2019) → centralised state control of digital flows.

Way Forward

1. **Digital Sovereignty:** Nations must control their **data value chain**—from **generation to storage and processing**.
2. **Data Localisation:** Store and process sensitive data **within national borders**.
3. **Governance Frameworks:** Integrated legal framework for **data lifecycle management**.
4. **Cross-Border Data Rules:** Balance between global integration and national interest.
5. **Reforming the Digital Ecosystem:** Encourage **open-source systems, indigenous apps, and decentralized infrastructure**.
6. **Inclusive Digital Future:** Bridge digital divide, prevent **data monopolies**, and ensure **ethical AI use**.

Critical Analysis

- **Paradox of Openness vs Security:** Restricting data flows ensures sovereignty but risks **isolation from global innovation**.
- **Splinternet Debate:** Countries like Russia, China pursue controlled internets → risk of fragmenting the **global free internet**.

India's Leadership Opportunity: With UPI, Aadhaar, and ONDC, India is Western free-market

MAINS PRACTICE QUESTION



Q. Digital colonialism is emerging as the new form of imperialism in the 21st century. Discuss its implications for India's sovereignty, economy, and society. Suggest a roadmap for achieving digital self-reliance while ensuring global digital cooperation.

showcasing a **third model—a middle path** between dominance and China's state-controlled digital regime.

- **Thinkers' Insight:**
 - *Shoshana Zuboff* (Harvard): coined **“Surveillance Capitalism”**, warning how corporations commodify personal data.
 - *Evgeny Morozov*: Criticizes **“digital benevolence narratives”** of Big Tech.

Conclusion

Digital colonialism represents a **21st-century imperialism**, where control over **data, algorithms, and digital infrastructure** equals control over economies and societies. For India and the Global South, the challenge is to strike a balance between **digital self-reliance and global digital cooperation**. Without robust governance, the future risks being one where sovereignty is eroded—not by armies, but by algorithms.

Maharashtra & Hindi Rollback: Policy & Federal Tensions

Syllabus Mapping

- ✓ GS Paper I – Indian Society (Diversity of India, Regionalism, Cultural Identity)
- ✓ GS Paper II – Polity & Governance (Federalism, Education Policy, Role of State and Centre)
- ✓ GS Paper II – Constitution (Fundamental Rights, Language Provisions)
- ✓ GS Paper II – Governance (NEP 2020, Language in Education)

Context

The **Maharashtra government** recently rolled back its earlier resolutions mandating **Hindi as a compulsory third language (Grades 1–5)** in Marathi and English medium schools. The move, though initially aligned with the **National Education Policy (NEP) 2020** and its multilingual vision, faced **pushback over cultural identity, linguistic hegemony, and administrative feasibility**.

To reassess the issue, a committee under **economist Dr. Narendra Jadhav** has been constituted to study the **three-language policy framework**.

Key Issues in Implementing the Three-Language Formula

1. Pedagogical Challenges

- Neuroscience supports early exposure (ages 2–8) to languages, but not heavy formal learning.
- Students must **first master literacy in the mother tongue** before handling multiple languages.
- Early imposition of three languages risks weakening **foundational comprehension**.

2. Federal Concerns

- Education is a **Concurrent List subject**; unilateral imposition of Hindi undermines **federal spirit**.
- In states like Tamil Nadu, the policy is seen as **linguistic centralization**.
- Tamil Nadu adopted the **Two-Language Policy (Tamil + English) since 1968**, rooted in the **Dravidian movement**, and strongly opposed mandatory Hindi in NEP 2020 drafts.

3. Deviation from NEP 2020

- NEP stresses **mother tongue (R1) + second language (R2)** in foundational years, not **three languages** compulsorily.
- Flexibility was emphasized → “no language will be imposed.”
- Allows inclusion of **classical languages** (Tamil, Telugu, etc.) and even **foreign languages** (French, German, Japanese) at higher levels.

4. Cultural & Societal Concerns

- Civil society argues **compulsory Hindi** sidelines tribal/minority tongues.
- Critics term it “**backdoor imposition of Hindi**.”
- Lack of **consultation with linguistic experts and public stakeholders** undermined legitimacy.

5. Administrative & Infrastructure Constraints

- Many schools, especially rural, lack **trained teachers in three languages**.
- Designing **age-appropriate curriculum** for three languages is complex.
- Risks **rote learning** rather than comprehension.

NEP 2020 on Language

- **Medium of Instruction:** Mother tongue/local language till **Grade 5 (ideally Grade 8)**.
- **Bilingualism Encouraged:** Home language + English, especially in early years.
- **Flexibility in Three-Language Formula:** Unlike **NPE 1968**, NEP 2020 does not mandate specific languages.
- **Foreign Languages:** Optional at secondary stage (Korean, French, German, etc.).
- **CBSE Framework:** Two Indian languages till Class 10; flexibility for foreign languages in Classes 11–12.

Constitutional Provisions on Language

- **Article 29** – Right to conserve distinct language & culture.
- **Article 343** – Hindi in Devanagari as Union’s official language; English continues as associate language.
- **Article 347** – President can recognise a language for a state if demanded.
- **Article 350A & 350B** – Education in mother tongue for minorities; Special Officer for linguistic minorities.
- **Article 351** – Union duty to promote Hindi while enriching it with other languages.
- **Eighth Schedule** – 22 Scheduled Languages recognized.

Arguments For and Against the Three-Language Policy

Arguments in Favour

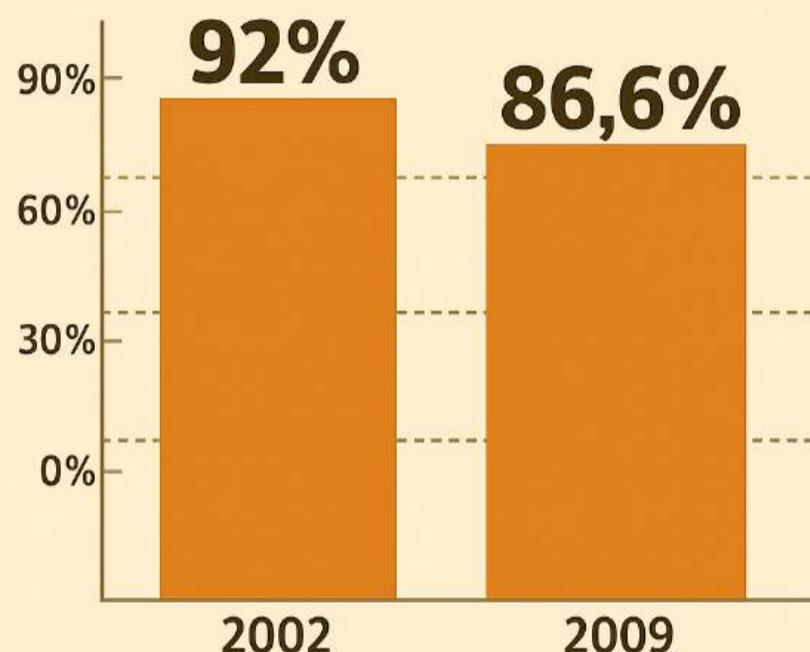
- **Cognitive Benefits:** Enhances memory, flexibility, problem-solving.

Decline of Mother Tongue in Schools (Data Insight)

• NCERT's AISES Survey:

2002 → 92% schools used mother tongue at primary stage.

2009 → 86,6% schools



- Urban decline sharper (90,39% → 80,99%).
- Indicates growing preference for English medium over mother tongue

- **National Integration:** Promotes linguistic empathy & cultural exchange.
- **Global Competitiveness:** Multilingual proficiency boosts job prospects in IT, diplomacy, tourism.

✖ Arguments Against

- **Political Sensitivities:** Seen as Hindi imposition in non-Hindi states. Fuels **regional identity politics**.
- **Burden on Students:** Early education is already challenging; third language adds stress.
- **Implementation Failures:** Past attempts (e.g., Tamil in Haryana schools) collapsed due to lack of demand, teachers, and support.

Critical Analysis

- **Linguistic Diversity as Federal Strength:** India has 22 scheduled and hundreds of unscheduled languages. Imposing Hindi risks alienating **regional identities**.
- **Balance Needed:** A **flexible multilingual model**, as suggested by NEP 2020, respects diversity while promoting integration.
- **Global Perspective:**
 - Canada: promotes **bilingual education (English-French)**.
 - South Africa: multiple official languages, with **regional flexibility**.
 - Lessons: India should avoid “one-size-fits-all” approach.
- **Thinkers' Angle:**
 - *Ram Manohar Lohia* advocated **plural linguistic identity** as a democratic necessity.
 - *Tagore* emphasized **mother tongue education** as essential for creative growth.

Conclusion

Maharashtra's rollback highlights the **tension between national integration and regional autonomy**. The three-language policy can be effective only if implemented with **flexibility, adequate infrastructure, and sensitivity to cultural identities**. NEP 2020 provides a balanced approach by **promoting multilingualism without imposition**.

MAINS PRACTICE QUESTION

Q. "The three-language formula has remained more of a political debate than an educational framework in India." Critically evaluate in light of Maharashtra's rollback of Hindi as a third language.

Aadi Karmayogi & TALASH: Tribal Governance & Education

✖ Syllabus Mapping

- ✓ GS Paper II – Governance (Welfare of Vulnerable Sections, Responsive Governance, Capacity Building)
- ✓ GS Paper II – Polity (Role of Local Institutions, Decentralisation)
- ✓ GS Paper II – Social Justice (Education, Empowerment of Tribals, NEP 2020 Implementation)
- ✓ GS Paper I – Indian Society (Tribal Communities, Social Empowerment)

Context

The **Ministry of Tribal Affairs** recently launched two important initiatives:

1. **Aadi KARMA YOGI** – a **National Mission for Responsive Governance** to empower tribal grassroots functionaries and local leaders.
2. **TALASH (Tribal Aptitude, Life Skills, and Self-Esteem Hub)** – a programme by **NESTS (National Education Society for Tribal Students)** and **UNICEF India**, to strengthen the **holistic development of tribal students** in Eklavya Model Residential Schools (EMRSSs).

Both initiatives reflect India's efforts to improve **tribal governance and education**, in line with the **73rd Constitutional Amendment, NEP 2020, and SDG 2030 goals**.

Aadi KARMA YOGI: Responsive Governance for Tribals

◆ About

- Aims to build a **cadre of 20 lakh tribal grassroots functionaries and village-level leaders**.
- Focus: **inclusive development, last-mile service delivery, community empowerment**.
- Aligned with **PM Janjati Adivasi Nyaya Maha Abhiyaan (PM JANMAN)** and **Dharti Aaba Janjatiya Gram Utkarsh Abhiyan (DAJGUA)**.

◆ Objectives

1. **Local Leadership Development** → Training of **State Master Trainers (SMTs)**, **District Master Trainers (DMTs)**, and **Block-level trainers**.
2. **Strengthen Last-Mile Delivery** → Ensure effective execution of tribal welfare schemes.
3. **Community-Centric Governance** → Promote empathy, dignity, and participatory decision-making.

◆ Implementation

- First **Regional Process Lab (RPL)** set up in **Bengaluru** for southern states.
- Trainers will expand into **State Process Labs (SPLs)** → further training DMTs.
- **Civil society involvement** ensures participatory and context-specific learning.
- Convergence with departments like **Rural Development, Women & Child Development, Education, Jal Shakti, and Forests** for integrated governance.

TALASH: Empowering Tribal Students

◆ About

- Launched by **NESTS** in collaboration with **UNICEF India**.
- Targets **1.38 lakh students** in **Eklavya Model Residential Schools (EMRSs)**.
- Equips students with **life skills, self-esteem, and career clarity**, in line with **NEP 2020's** emphasis on holistic and inclusive education.

◆ Features

1. **Psychometric Assessment**
 - Based on **NCERT's "TAMANNA Test"** (Try And Measure Aptitude and Natural Abilities).
 - Provides a **career card** mapping strengths to opportunities.
2. **Career Counselling**
 - Aligns aspirations with aptitude and interests.
3. **Life Skills & Self-Esteem Modules**
 - Builds confidence, emotional intelligence, adaptability.
4. **E-Learning for Teachers**
 - Digital tools and training to enable teachers as **mentors and guides**.

◆ Rollout

- Pilot: **189 teachers trained from 75 EMRSs**.
- Full Coverage: By **2025**, all **EMRSs** to be included.

Critical Analysis

- **Strengths:**
 - Builds **tribal self-governance capacity**.
 - Encourages **participatory development & accountability**.
 - TALASH provides **structured career guidance** in underserved communities.
- **Challenges:**
 - **Capacity gaps** – shortage of trained trainers and teachers.
 - **Digital Divide** – rural/tribal areas may lack tech access for TALASH modules.
 - **Implementation Burden** – risk of bureaucratisation instead of genuine community empowerment.
 - **Sustainability** – ensuring continuity beyond pilot phases.
- **Comparative Global Lens:**
 - Canada's **Indigenous Leadership Programs** → empower First Nations communities.
 - Australia's **Aboriginal Education Strategy** → focuses on self-determination in learning.
 - India's initiatives align with these but need **consistent funding and monitoring**.

Conclusion

Together, **Aadi KARMAYOGI** and **TALASH** mark a step towards **inclusive governance and education** for tribal communities. While the former empowers **grassroots governance**, the latter nurtures **human capital through education and life skills**. For lasting impact, these initiatives must focus on **sustainability, digital access, and continuous capacity-building**, ensuring tribal communities move from being **beneficiaries** to becoming **active agents of change**.

Broader Significance

For Tribal Governance (Aadi Karmayogi)



- Creates local ownership of development programmes
- Reduces dependency on external bureaucratic structures
- Strengthens accountability and grievance redressal in tribal areas



For Tribal Education (TALASH)

- Helps tribal students bridge the skill gap in competitive environments
- Counters high dropout rates by boosting motivation & clarity
- Empowers students from vulnerable groups to access higher education & jobs



NEP 2020 Alignment

- Emphasis on mother tongue learning, life skills, career guidance
- Integrates holistic learning beyond academics



SDG Contribution

- SDG 4 (Quality Education) - through TALASH
- SDG 10 (Reduced Inequalities) through inclusion of tribal students

MAINS PRACTICE QUESTION



Q. "Aadi Karmayogi and TALASH represent India's twin approach to strengthen tribal self-governance and education. Critically analyse their potential in addressing structural challenges of tribal empowerment."

Common Service Centres: Rural Digital Inclusion

📌 Syllabus Mapping

- ✓ GS Paper II – Governance (e-Governance, Service Delivery, Digital India Mission, PPP Models)
- ✓ GS Paper III – Economy (Digital Infrastructure, Financial Inclusion, Rural Economy)
- ✓ GS Paper II – Polity & Social Justice (Empowerment of Vulnerable Groups, Women & Youth Empowerment)

Context

The **Common Services Centres (CSCs)**, a flagship initiative under the **Digital India Mission**, have emerged as **last-mile digital service hubs**. By 2025, CSCs have expanded to over **6.5 lakh centres** across India, strengthening **grassroots governance, rural entrepreneurship, and inclusive digital empowerment**.

► EVOLUTION OF CSCs



◆ CSC 1.0 (2006–2014)

- Initial rollout: 83,000 CSCs
- Focus on e-governance services



◆ CSC 2.0 (2015–Present)

- Aim: at least 1 CSC in every Gram Panchayat (2.5 lakh GPs)
- Utilizes BharatNet, SWAN, SDCs, e-District portals
- Promotes entrepreneurship-driven service delivery, digital literacy and DBT efficiency



◆ Key Expansion Measures

- 2022 partnership with NABARD & Ministry of Cooperation – enabled PACS and LAMPS to operate as CSCs

680% growth in a decade (2014–2025)

What are Common Services Centres (CSCs)?

- **Origin:** Approved in 2006 under the **National e-Governance Plan (NeGP)**.
- **Institutional Structure:**
 - Managed by **CSC e-Governance Services India Ltd.**, an SPV under MeitY (2009).
 - Operates on a **Public-Private Partnership (PPP)** model with a 3-tier structure:
 - **Village Level Entrepreneur (VLE)** → Service delivery at village level.
 - **Service Centre Agency (SCA)** → Cluster management (500–1000 CSCs).
 - **State Designated Agency (SDA)** → Nodal state authority.
 - **Objectives:**
 - Provide **affordable digital services** in governance, education, health, **agriculture, and finance**.
 - Empower local entrepreneurship via **Village Level Entrepreneurs (VLEs)**.
 - Strengthen **self-sustainable ICT-driven delivery systems**.

Significance of CSCs

1. Advancing Digital India Goals

- Deliver Aadhaar, PAN, DigiLocker, utility payments, pensions, and DBT.
- Digital literacy via **PMGDISHA** and skill training programmes.
- Over **300 services integrated** at rural doorsteps.

2. Inclusive Growth

- 74,000+ **women VLEs**, enabling gender empowerment.
- Uplifts **youth, SC/ST, and marginalized communities**.
- Bridges the **rural-urban digital divide**.

3. Boosting Rural Economy

- CSCs as **rural fintech hubs** → banking, insurance, pensions, PM-KISAN enrolment.
- Strengthen **rural credit delivery** and DBT efficiency.
- Integration with **PACS** deepens outreach in agricultural finance.

4. Strengthening PPP Model

- Interface between **government, business, and citizens**.
- Services expanded beyond governance → **IRCTC bookings, CSC Grameen eStore, rural e-commerce**.
- Promotes **digital rural entrepreneurship**.

CSCs & Digital India Mission

- **Digital India (2015)** vision: *Transform India into a digitally empowered society and knowledge economy.*
- **Key achievements (2014–2025):**
 - Internet users grew **285%**, broadband penetration rose by **1450%**.
 - UPI: **1,867.7 crore transactions in April 2025** worth ₹24.7 lakh crore (49% of global real-time payments).
 - DigiLocker → **53.9 crore users**; UMANG → **2,300+ services in 23 languages**.

- **BHASHINI** platform → supports **35+ Indian languages** for inclusivity.
- **IndiaAI Mission (2024-25)** → 34,000 GPUs deployed for AI-driven governance & startups.

Critical Analysis

✓ Strengths

- **Scalable PPP model** ensures cost-effective delivery.
- CSCs directly contribute to **financial inclusion, women empowerment, and rural entrepreneurship**.
- Aligned with **Digital India, BharatNet, and AI-enabled governance**.

✗ Challenges

- **Infrastructure Gaps**: Rural connectivity still patchy in remote areas.
- **Capacity Issues**: Many VLEs lack advanced digital training.
- **Service Quality**: Variation across states in efficiency and reliability.
- **Digital Divide**: Low digital literacy in tribal and backward districts.

Global Parallels

- **Kenya's Huduma Centres** → one-stop citizen service points.
- **Estonia's e-Governance** → model of digital state delivery.
- India's CSC model is unique for its **PPP-based village-level entrepreneurship approach**.

Conclusion

CSCs have become **pillars of India's rural digital ecosystem**, ensuring **last-mile governance, digital inclusion, and rural empowerment**. By combining **public trust, private entrepreneurship, and digital infrastructure**, CSCs embody the vision of **Digital India**. Going forward, **capacity-building of VLEs, rural broadband expansion, and AI-driven rural solutions** will further strengthen CSCs as **catalysts of inclusive growth**.

MAINS PRACTICE QUESTION

Q. "Common Service Centres (CSCs) represent India's most successful Public-Private Partnership in governance. Discuss their role in bridging the digital divide and empowering rural India, while highlighting the challenges in scaling them further."

Intellectual Property Rights: Trends & Challenges

❖ Syllabus Mapping

- ✓ GS Paper II – Governance, Policies & Regulatory Frameworks
- ✓ GS Paper III – Science & Technology, IPR, R&D and Innovation
- ✓ Essay Paper – Innovation, Knowledge Economy & Development

❖ Why in News?

- India's IP filings have risen by 44% in the last 5 years, led by a 380% surge in **Geographical Indications (GIs)**.
- Growth reflects **legal reforms, digitalisation, awareness programmes, and global integration** of India's IPR ecosystem.

❖ Reasons for the IPR Boom in India

1. **Legal & Procedural Simplification**
 - Patent examination timeline cut from **48 months** → **31 months**.
 - **Mandatory e-filing** for patents and trademarks.
2. **Modernisation of IP Offices**
 - 95%+ applications now filed online.
 - AI-based tools like **IP Sarthi chatbot** and **IP Dashboard**.
3. **Global Alignment**
 - Adoption of **Locarno Classification** for Industrial Designs (WIPO treaty, 1968).
4. **Awareness & Capacity Building**
 - **SPRIHA Scheme** – integrates IPR education in higher institutions.
 - **National IP Awards** – reward commercialization & innovation.
5. **Financial & Digital Incentives**
 - **Fee concessions** for online filings.
 - AI/ML-enabled tools for patent search and examination.

Understanding Intellectual Property Rights (IPR)

- **Definition:** Legal rights that grant creators **exclusive use** of their intellectual creations (artistic, industrial, scientific).
- **Administered by:** Controller General of Patents, Designs and Trademarks (DIPP, Ministry of Commerce & Industry).

Types of IPR & Legal Frameworks in India

Type of IPR	Subject Matter	Law	Term of Protection
Patents	Novel, useful, inventive products/processes	Patents Act, 1970	20 years
Trademarks	Brand names, logos, business identity	Trade Marks Act, 1999	10 years (renewable)
Copyrights	Artistic, literary, musical, audio-visual works	Copyright Act, 1957	Lifetime + 60 yrs
Industrial Designs	Visual/ornamental designs	Design Act, 2000	10 + 5 years
Geographical Indications (GI)	Goods linked to geography (Darjeeling tea, Pashmina)	GI Act, 1999	10 yrs (renewable)
Plant Varieties	Traditional/new agricultural varieties	PPV&FR Act, 2001	6–18 years
Semiconductor Layout Designs	Circuit designs	SICLD Act, 2000	10 years
Trade Secrets	Confidential commercial info	Common Law/Contracts	As long as secrecy lasts

Challenges in India's IPR Regime

1. **Low R&D Spending**
 - o India invests only **0.7% of GDP in R&D**, vs South Korea (4.8%) & Israel (5.6%).
2. **Patent Disputes & Evergreening**
 - o Pharma sector faces disputes under **Section 3(d), Patents Act** (restricting evergreening).
3. **Compulsory Licensing Concerns**
 - o While ensuring medicine access, it strains ties with global pharma.
4. **Weak IP Financing Ecosystem**
 - o Lack of IP valuation norms; limited acceptance of IP as collateral.
5. **Regulatory Delays & Backlogs**
 - o Long delays in granting IPR; backlog in patent applications.
6. **Weak Enforcement & Piracy**
 - o Counterfeit goods, online piracy, and weak state-level enforcement.
7. **Commercialisation Gaps**
 - o High IP filings don't always translate into **market-ready innovations**.

Significance of IPR for India's Development

- **Economic Growth:** Boosts innovation-driven industries (pharma, IT, biotechnology).
- **Soft Power & Cultural Exports:** Protection of **GI**s (Darjeeling Tea, Banarasi Saree).
- **FDI & Trade:** Stronger IPR regime attracts global investment & tech transfer.
- **Self-Reliance:** Supports **Atmanirbhar Bharat** by promoting indigenous R&D.

Way Forward

1. **Strengthening Policy & Regulation**
 - o Revise **National IPR Policy** to address digital IPR, AI-generated content, biotech innovations.
 - o Harmonise with global trade obligations (TRIPS, WIPO treaties).
2. **Boosting R&D & Innovation**
 - o Raise R&D spend to **2% of GDP by 2030** (National STI Policy).
 - o Tax incentives, R&D-linked funding, and industry-academia collaboration.
3. **State-Level IPR Ecosystems**
 - o State Innovation Councils, IP facilitation centres in universities.
 - o Focus on traditional knowledge & tribal innovations.
4. **Efficient IP Financing & Commercialisation**
 - o Establish **IP Funds** & encourage IP-backed loans.
 - o Support MSMEs/startups in monetising patents.
5. **Strengthening Enforcement Mechanisms**
 - o Specialised IPR courts, trained judges, better customs enforcement.
 - o Stronger cyber-IPR laws to combat digital piracy.
6. **Global Partnerships**
 - o Collaborate with **WIPO, WTO, EU, US, Japan** for best practices.
 - o Ensure balanced IP provisions in trade negotiations.

MAINS PRACTICE QUESTION

Q. "India's rising Intellectual Property filings reflect progress, but weak enforcement and low R&D spending limit innovation-led growth." Critically analyse.

Conclusion

India's IPR ecosystem has made **remarkable progress in the past decade**, with simplified procedures, digitalisation, and rising global competitiveness. However, challenges of **low R&D, enforcement gaps, and commercialisation hurdles** persist.

👉 A balanced IPR regime—that protects innovation while safeguarding public health, access, and equity—will be crucial for India's aspiration to become a **knowledge economy & global innovation hub by 2040**.

Digital India @10 Years: Achievements & Challenges

📌 Syllabus Mapping

- ✓ GS Paper II – Governance, Transparency & Accountability, E-Governance
- ✓ GS Paper III – Science & Technology, IT, Cybersecurity
- ✓ Essay Paper – Digital transformation, Inclusive growth

📰 Why in News?

- India is celebrating **10 years of the Digital India Mission (2015–2025)**.
- The programme has transformed governance, service delivery, and inclusion, but gaps remain in **literacy, connectivity, and cybersecurity**.

⭐ Key Achievements of Digital India (2015–2025)

1. Digital Economy

- India ranks **3rd globally in digital economy size** (2024 Report).
- Expected to contribute **20% of GDP by 2030**.

2. Connectivity Revolution

- Internet connections grew **285% (2014–2024)**.
- **Data cost drop**: from ₹308/GB (2014) → ₹9.34/GB (2024), making India among the cheapest data markets.

3. Financial Inclusion

- India leads in **real-time payments (49% of global share, 2023)**.
- **Direct Benefit Transfer (DBT)**: ₹44 lakh crore transferred till May 2025, eliminating leakages.

4. Inclusivity & Language Access

- **BHASHINI platform** → AI-enabled support for 30+ Indian languages.
- Integrated in **IRCTC, NPCI systems, police documentation**, enhancing accessibility.

5. e-Governance Transformation

- **Aadhaar-enabled services**, CoWIN platform (vaccine delivery), DigiLocker, and e-Sign → improved service access.
- **UMANG & MyGov portals** → single window for services & citizen participation.

⚠️ Challenges Hindering Full Potential

1. **Digital Literacy Gaps**
 - Only **38% households** digitally literate.
 - Rural-urban divide → internet usage **31% (rural) vs 67% (urban)**.
2. **Connectivity & Quality Issues**
 - Poor broadband quality → India still uses **2 Mbps definition vs 25 Mbps global standard**.
 - Frequent call drops, outages in rural areas.
3. **Cybersecurity Risks**
 - Cyber regulatory framework inadequate.
 - **Data breach cost**: rose 13% to ₹220 million in 2025 (IBM).
 - Rise in ransomware, phishing, and identity theft cases.
4. **Healthcare & Education Digitisation Gaps**

ABOUT DIGITAL INDIA MISSION



- Launched: 1 July 2015
- Nodal Ministry: Ministry of Electronics & Information Technology (MeitY)
- Nature: Umbrella programme integrating various e-governance initiatives
- Mode: Public-Private Partnership (PPP) for infrastructure and service delivery
- Objectives
 - Transform India into a digitally empowered society & knowledge economy
 - Promote digital access, inclusion & empowerment
 - Deliver government services electronically to all citizens





VISION PILLARS:

1. Digital Infrastructure as Utility to Every Citizen
2. Governance & Services on Demand
3. Digital Empowerment of Citizens

- NDHM & e-Sanjeevani hampered by poor rural infrastructure.
- CoWIN vaccination drive excluded citizens without smartphones/digital skills.

5. Regional Disparities

- Digital adoption concentrated in **urban & affluent states** (Maharashtra, Karnataka, Delhi) while lagging in **Bihar, Jharkhand, NE states**.

🚀 Way Forward: Unlocking Full Potential

1. Universal Broadband & Connectivity

- Fast-track BharatNet Phase-II with state-private-CPSU partnerships.
- Deploy **radio, satellite, and 5G technologies** in remote Gram Panchayats.

2. Improving Quality of Service

- Allocate more **contiguous spectrum**.
- Encourage private investment in **network upgradation**.
- Keep **devices & data affordable** for inclusivity.

3. Expanding & Standardising e-Services

- **National e-Governance Division (MeitY)** to regularly audit compliance.
- Make **state-level services interoperable** with national platforms.

4. Strengthening Cybersecurity

- Establish **National Cybersecurity Authority** with real-time response.
- Cross-border cooperation against cybercrime.
- R&D investment in **secure IT networks & AI-driven threat detection**.

5. Boosting Digital Literacy & Skills

- Integrate **digital literacy** in school/college curricula.
- Expand **National Digital Literacy Mission (NDLM)**.
- Focus on **cybersecurity awareness, AI literacy, and financial safety**.

Conclusion

The **Digital India Mission (2015–2025)** has transformed governance, service delivery, and financial inclusion, making India a **global leader in digital transformation**. However, **literacy, connectivity, and cybersecurity gaps** remain bottlenecks.

👉 By **bridging the digital divide, strengthening cybersecurity, and expanding digital literacy**, India can truly realise the vision of a **digitally empowered society & knowledge economy** by 2040.

MAINS PRACTICE QUESTION



Q. "Digital India has transformed service delivery in India but has not yet bridged the digital divide." Critically evaluate in the context of 10 years of the programme.

Unified Payments Interface (UPI): Expansion & Impact

📌 Syllabus Mapping

- ✓ GS Paper II – Governance, e-Governance, and Service Delivery
- ✓ GS Paper III – Indian Economy, Growth, and Development (Digital Economy, Infrastructure)
- ✓ GS Paper II – International Relations (Digital Diplomacy, India's Soft Power)

Why in News?

- The **International Monetary Fund (IMF)** released a note titled "*Growing Retail Digital Payments: The Value of Interoperability*", emphasizing the role of **UPI** in transforming India's digital payment ecosystem.

What is UPI?

- **Real-time mobile payment system** developed by **National Payments Corporation of India (NPCI)**.
- Enables linking of multiple bank accounts into one app for **peer-to-peer and merchant transactions**.
- **Working:** Push (send) & pull (receive) transactions using **Virtual Payment Address (VPA)** with 2-factor authentication.
- **Technologies Used:**

- **IMPS** (Immediate Payment Service) → real-time transfers via bank account/mobile no.
- **AePS** (Aadhaar Enabled Payment System) → basic banking services using Aadhaar authentication.
- **BHIM App**: NPCI's flagship UPI-based payment app.

UPI's Transformation of India's Digital Payments

1. Scale & Adoption

- June 2025: ₹24.03 lakh crore processed via **18.39 billion transactions**.
- **491 million users, 65 million merchants, 675+ banks connected**.
- Handles **85% of India's digital payments** & ~50% of global real-time payments.
- Surpasses Visa in daily transaction volumes (UPI: 640M vs Visa: 639M).

2. Interoperability

- Seamless, platform-agnostic payments → removed closed-wallet barriers.
- Encouraged innovation & competition among apps.

3. Financial Inclusion

- Zero-cost, instant transfers → empowered **small vendors, kirana stores, rural users**.
- Expanded **digital literacy** & built **trust in formal finance**.

4. Global Reach & Diplomacy

- Live in **7 countries** (UAE, Singapore, Bhutan, Nepal, Sri Lanka, France, Mauritius).
- Push for adoption in **BRICS**, expanding remittances & soft power.

Significance of UPI

- **Economic**: Drives financial inclusion, boosts tax compliance (digital transactions tracked).
- **Social**: Reduces gender gap in financial access; empowers women SHGs & micro-entrepreneurs.
- **Geopolitical**: Instrument of **digital diplomacy** → India exporting *digital public goods* (part of India Stack).
- **Global Model**: IMF & World Bank cite UPI as benchmark for digital interoperability.

Challenges Ahead

- **Cybersecurity Risks**: Rising frauds, phishing, data breaches.
- **Digital Divide**: Rural smartphone penetration still lower (~28%).
- **Merchant Dependency**: Small businesses still prefer cash due to **interoperability issues with PoS**.
- **Global Integration**: Currency conversion and cross-border regulatory frameworks are still evolving.

Way Forward

- Strengthen **cybersecurity frameworks** & consumer grievance redressal.
- Improve **financial & digital literacy** in rural areas.
- Expand UPI's global presence through **bilateral digital agreements**.
- Encourage **innovation in UPI 2.0 features** (recurring payments, IPO mandates, credit integration).
- Ensure **inclusive design** to cover women, elderly, and marginalized groups.

Conclusion

UPI exemplifies India's digital revolution, combining **financial inclusion, affordability, and interoperability**. As India expands UPI globally, it strengthens its **digital sovereignty, economic diplomacy, and leadership in fintech innovation**, making it a key driver for India's ambition to be a **global digital hub**.

DIGITAL FOUNDATION BEHIND UPI

JAM TRINITY (JAN DHAN, AADHAAR, MOBILE)

- **55.9 crore Jan Dhan accounts** (July 2025)
- Aadhaar → 142 crore IDs enabling secure authentication
- Mobile connectivity → 116 crore users, cheap data (₹9.34/GB)



5G ROLLOUT: 4.74 lakh base stations covering nearly all districts



MAINS PRACTICE QUESTION



1. "Discuss the role of Unified Payments Interface (UPI) in deepening financial inclusion and transforming India's digital economy. Highlight its global significance."
2. "UPI is not just a payment system but a tool of India's digital diplomacy." Critically analyze.

Urban Resilience in India: Opportunities & Challenges

📌 Syllabus Mapping

- ✓ GS Paper I – Urbanisation, problems and remedies
- ✓ GS Paper II – Governance, 74th Constitutional Amendment, Local Governance
- ✓ GS Paper III – Disaster Management, Climate Change, Sustainable Development

Context

A recent World Bank report, "Towards Resilient and Prosperous Cities in India", highlights the vulnerabilities of Indian cities due to **rapid urbanisation, climate change, and weak governance structures**. With India's urban population projected to nearly **double from 480 million (2020) to 951 million (2050)**, resilience planning has become critical for sustainable growth.

What is Urban Resilience?

- Defined as the **ability of an urban system to withstand, adapt, and recover quickly** from disasters, climate shocks, and systemic failures.
- Goes beyond disaster management to include **infrastructure durability, economic continuity, social inclusion, and adaptive governance**.

Key Findings of the Report

1. Urban Flooding

- Pluvial (stormwater) flooding risk** expected to rise **3.6–7 times by 2070**.
- Annual losses: Currently **\$4 bn**, projected **\$5 bn by 2030**.
- Example: Bengaluru's 2022 floods due to unregulated concretisation and encroached lakes.

2. Coastal Flooding

- 40% of India's population** lives within 100 km of the coast.
- Annual costs: **\$2.4 bn (2010) → \$21 bn (2030) → \$75 bn (2050)**.
- High risk cities: Mumbai, Chennai, Visakhapatnam.

3. Urban Heat Island Effect (UHI)

- Night temperatures in cities **3–4°C higher than rural areas**.
- By 2050, **Chennai could lose 3.2% of GDP** due to heat-linked productivity loss.

4. Cascading Infrastructure Failures

- Flooding → road closures, power cuts, economic paralysis.
- Illustrates high **interconnectedness and systemic risks** in cities.

5. Concretisation of Urban Spaces

- Loss of green cover → worsens **floods, heat stress, pollution, and climate vulnerability**.

Challenges in Building Urban Resilience

1. Fragmented Governance

- Multiple agencies with overlapping mandates.
- Example: Drainage, transport, and land use managed by different authorities.

2. Weak Planning & Technical Capacity

- 52% of Indian towns lack master plans**.
- Severe shortage of **urban planners and climate experts**.

3. Poor Municipal Finances

- Urban local bodies' own revenues ~ **1% of GDP**.
- Insufficient to fund resilient infrastructure.

4. Crumbling Infrastructure

- Drainage, sewerage, and public health systems inadequate.

5. Limited Private Sector Role

- Only **5% of urban infrastructure financing** comes from private sector.

6. Social Inequality

- Urban poor face the greatest risks but are least represented in resilience planning.

Recommendations by the Report

- **Flood & Heat Resilience Programs:** Climate action plans at city-level.
- **Strengthen 74th CAA (1992):** Empower ULBs in urban planning & disaster management.
- **Financial Reforms:** Improve cost recovery from water, sanitation, solid waste, roads.
 - India needs \$2.4 trillion by 2050 for resilient urban infrastructure.
- **Re-engineer Urban Governance:** Clearly defined roles, tech-driven service delivery.
- **Global Commitments:** Align with SDG-11 (Sustainable Cities), Habitat III New Urban Agenda.
- **Inclusive Development:** Focus on Tier 2 & Tier 3 cities, satellite towns, Transit-Oriented Development (TOD), and circular economy.

Way Forward

- **Institutional Strengthening:** Unified command centres integrating disaster, health, and infrastructure management.
- **Nature-based Solutions:** Restoring wetlands, urban forests, and sponge cities to tackle floods & UHI.
- **Green Infrastructure Financing:** Explore municipal bonds, green bonds, PPPs.
- **Community-Centric Resilience:** Promote citizen participation in disaster risk reduction.
- **Integration of Technology:** Use of GIS, AI-based flood forecasting, remote sensing for urban planning.

Conclusion

As PM Modi rightly noted, "Cities are not only growth centres, but also poverty mitigation engines." Urbanisation should be treated as an opportunity to design resilient, inclusive, and sustainable cities. Building resilience is not just about protecting against risks, but also about unlocking growth potential for a prosperous urban future.

National Indicator Framework 2025: Progress Report

Syllabus Mapping

- ✓ GS Paper II – Governance, Welfare Schemes, SDGs
- ✓ GS Paper III – Environment, Economy, Development Indicators
- ✓ Essay – Inclusive and Sustainable Development

Why in News?

- The National Indicator Framework (NIF) Progress Report 2025 was released by the Ministry of Statistics and Programme Implementation (MoSPI).
- It reflects India's progress towards Sustainable Development Goals (SDGs) through a set of nationally defined indicators.
- NIF is the backbone for monitoring SDGs in India and aligns with global SDG indicators while considering domestic priorities.

Key Progress Highlighted in NIF Report 2025

SDG Goal	Progress Indicators	Key Insights
Zero Hunger (SDG 2)	Agriculture productivity improved; income per worker rose from ₹61,247 (2015–16) → ₹94,110 (2024–25).	Reflects improved farm mechanisation, MSP coverage & crop diversification.
Clean Water & Sanitation (SDG 6)	Rural access to safe drinking water increased from 94.57% → 99.62%.	Linked to Jal Jeevan Mission success (tap water to rural households).
Clean Energy (SDG 7)	<ul style="list-style-type: none"> - Share of renewables in installed electricity rose from 16.02% → 22.13%. - Renewable generation capacity grew from 64.04 watts (2014–15) → 156.31 watts per capita (2024–25). 	Supports India's 500 GW RE target by 2030 and commitment under Paris Agreement.
Decent Work & Economic Growth (SDG 8)	Social protection coverage expanded from 22% (2016) → 64.3% (2025).	Indicates expansion of schemes like PM-JAY, PM-KISAN, E-Shram, Atmanirbhar Bharat packages.
Industry, Innovation & Infrastructure (SDG 9)	Emission intensity of GDP reduced by 36% (2005–2020).	India on track to achieve 45% reduction target by 2030 (NDC) .
Reduced Inequalities (SDG 10)	Gini coefficient (household expenditure) declined: <ul style="list-style-type: none"> - Rural: 0.283 → 0.237 (2011–12 → 2023–24). - Urban: 0.363 → 0.284. 	Suggests narrowing income inequality, but concerns remain over wealth inequality .
Responsible Consumption & Production (SDG 12)	Waste processing increased from 17.97% (2015–16) → 80.7% (2024–25).	Reflects impact of Swachh Bharat Mission 2.0, solid waste management reforms .
Life on Land (SDG 15)	Forest cover rose from 21.34% (2015) → 21.76% (2023).	Progress modest; concerns remain about forest quality, biodiversity loss .

MAINS PRACTICE QUESTION

1. **Urban resilience is critical for India's sustainable development in the era of climate change. Discuss with reference to World Bank's recent report.**
2. **Critically analyse the challenges faced by Indian cities in building climate-resilient infrastructure. Suggest institutional and financial reforms to address them.**
3. **"Urbanisation in India is both a challenge and an opportunity." Examine in the context of SDG-11 and India's 74th Constitutional Amendment.**

Significance of NIF

- **Domestic Relevance:** Provides India-specific indicators (e.g., poverty measured via **multidimensional indicators** not just income).
- **Policy Tool:** Supports evidence-based policymaking for **NITI Aayog's SDG India Index**.
- **Accountability Mechanism:** Tracks progress at **state and district level**, fostering competitive federalism.
- **Global Alignment:** Helps align India's commitments with **Agenda 2030** and **Paris Climate Goals**.

Challenges & Concerns

- **Data Gaps:** Many SDG indicators lack reliable district-level data.
- **Uneven Progress:** While **renewable energy and water access** improved, **hunger, malnutrition, gender inequality, and urban air pollution** remain concerns.
- **Forest & Land Use:** Increase in "forest cover" includes monoculture plantations, raising **ecological sustainability concerns**.
- **Social Protection:** Coverage expanded, but **quality of access & adequacy of benefits** remain issues.
- **Inequality:** While expenditure inequality fell, **wealth inequality** (Oxfam 2024: top 10% hold ~77% of wealth) continues.

Way Forward

- **Strengthen Data Systems:** More **real-time, district-level disaggregated data** using AI, big data, and satellite monitoring.
- **Deepen Social Security:** Focus on informal workers, women, and migrants to make coverage universal.
- **Green Growth Pathway:** Invest in **renewables, circular economy, and sustainable agriculture**.
- **Inclusive Growth:** Address urban housing, education quality, and healthcare access gaps.
- **Strengthen Federal Mechanism:** Empower states/ULBs for SDG monitoring & implementation (linked to **Finance Commission grants**).

Conclusion

The **NIF Progress Report 2025** shows India's commitment to SDGs with significant improvements in **renewable energy, social protection, and inequality reduction**. Yet, challenges like **hunger, ecological sustainability, and inequality of wealth** remain. India's success in meeting SDGs will not only determine its **domestic resilience and inclusivity** but also shape the **global trajectory towards Agenda 2030**.

MAINS PRACTICE QUESTION

1. "The National Indicator Framework (NIF) is central to India's SDG monitoring but gaps remain." Discuss with examples.
2. How does the NIF 2025 progress report reflect India's balance between growth and sustainability?
3. Critically examine whether India's reduction in income inequality, as shown by NIF, translates into reduction in wealth inequality.

WELFARE SCHEMES & POLICY

NAMASTE Scheme: Mechanized Sanitation & Dignity

❖ Syllabus Mapping

- ✓ GS Paper II – Governance (Welfare Schemes, Rights of Vulnerable Sections, Government Policies)
- ✓ GS Paper II – Polity & Social Justice (Issues of Caste, Social Empowerment, Manual Scavenging)
- ✓ GS Paper III – Economy & Environment (Urban Local Bodies, Waste Management, Sanitation Infrastructure)

Context

On the occasion of **NAMASTE Day (16th July 2025)**, the Union Minister of State for Social Justice & Empowerment launched:

- A **helpline (14473)** for waste pickers.
- Distribution of **PPE kits and Ayushman Bharat cards** to sanitation workers.

The NAMASTE (National Action for Mechanized Sanitation Ecosystem) Scheme reflects India's commitment to eliminating **manual scavenging**, ensuring **worker dignity**, and promoting **mechanized sanitation**.

What is the NAMASTE Scheme?

- **Launched by:** Ministry of Social Justice & Empowerment (MoSJE) in collaboration with Ministry of Housing & Urban Affairs.
- **Objective:** To eliminate unsafe sanitation practices, ensure the safety, dignity, and welfare of **Sewer and Septic Tank Workers (SSWs)** and **waste pickers**.

◆ Key Components

1. **For Sewer and Septic Tank Workers (SSWs):**
 - Digital profiling through mobile app by ULBs.
 - PPE kits & safety tools.
 - Occupational safety training & skill upgradation.
 - **Ayushman Bharat-PMJAY coverage**, subsidized sanitation vehicles.
 - Promotion of "**Sani-preneurship**" (entrepreneurship in sanitation).
2. **For Waste Pickers (added in 2024):**
 - Enumeration & profiling.
 - Seasonal PPE kits & training in safety practices.
 - Ayushman Bharat coverage.
 - Capital subsidy for waste collection vehicles, livelihood projects.
3. **Institutional Mechanisms:**
 - Strengthening **Emergency Response Sanitation Units (ERSUs)** for hazardous sanitation work.
 - **IEC campaigns** to promote safety, awareness, and dignity of sanitation workers.

Manual Scavenging in India

- **Definition:** Handling of human excreta from dry latrines, sewers, septic tanks, gutters in unsafe, undignified conditions.
- **Legal Ban: Prohibition of Employment as Manual Scavengers & Rehabilitation Act, 2013 (PEMSR Act)** - criminalises the practice and Challenges in Abolition & Rehabilitation

1. **Caste-Based Entrapment**
 - Manual scavenging is linked to **Dalit sub-castes** through hereditary occupation.
 - Stigma & discrimination perpetuate exclusion.
2. **Inadequate Rehabilitation**
 - Many workers remain unskilled, with limited alternative livelihood support.
 - Delays in disbursal of loans & subsidies.
3. **Data Gaps**
 - Official records (around 60,000 identified workers) underreport actual numbers.

RELATED SCHEMES & INITIATIVES

	National Safai Karamcharis Finance & Development Corporation (NSKDFC) financial support
	Swachh Bharat Mission 2.0 mechanization of sanitation
	DAY-NULM livelihood for urban poor
	Safaimitra Suraksha Challenge zero deaths in sewers
	Swachhta Udyami Yojana promoting sanitation-based entrepreneurship
	Swachhta Abhiyan App monitoring manual scavenging cases
	National Commission for Safai Karamcharis safeguards rights

4. Occupational Hazards

- Deaths due to exposure to **toxic gases in septic tanks/sewers** continue despite legal bans.

5. Weak Enforcement

- Despite PEMS Act, prosecutions & convictions remain rare.

Critical Analysis

- Human Dignity vs Caste System:** Manual scavenging represents **structural violence of caste**. True abolition requires social reform, not just legal prohibition.
- Mechanization vs Employment:** Mechanization may reduce deaths, but risks **job loss for sanitation workers** unless linked with **rehabilitation & reskilling**.
- Urban Local Body Gaps:** Limited funds and dependence on informal labour make compliance weak.
- Thinker's Lens:**
 - Ambedkar called caste-based occupations "a prison house of tradition," highlighting how forced hereditary labour denies human dignity.
 - Amartya Sen's *capability approach* → true justice means expanding **freedom and choices**, not just banning practices.

Way Forward

- Universal Mechanization:** Strict mandate that **no human should enter sewers/septic tanks** → enforce technology-led solutions.
- Rehabilitation First:** Ensure effective **livelihood substitution** before banning practices.
- Caste Sensitization:** Social campaigns to dismantle caste-linked stigma around sanitation.
- Health & Insurance:** Full coverage under **Ayushman Bharat** with special occupational health packages.
- Community Entrepreneurship:** Encourage **self-help groups & cooperatives of sanitation workers** to run mechanized sanitation units.
- Robust Monitoring:** Independent body for grievance redressal, real-time reporting of deaths.

MAINS PRACTICE QUESTION

Q. "Despite legal prohibition, manual scavenging persists in India. Critically analyse the role of schemes like NAMASTE in addressing the issue of sanitation worker safety, dignity, and rehabilitation."

Conclusion

The **NAMASTE Scheme** is a step towards **ending manual scavenging, ensuring worker safety, and restoring dignity** to sanitation workers. However, without **rigorous enforcement, comprehensive rehabilitation, and caste-based stigma removal**, manual scavenging will persist as India's "invisible inequality." A just sanitation ecosystem requires both **technological modernization and social justice reforms**.

PM VIKAS Scheme: Minority Skills & Entrepreneurship

Syllabus Mapping

- ✓ GS Paper II – Governance (Welfare Schemes, Role of Ministries, Education, Skill Development)
- ✓ GS Paper II – Social Justice (Minorities, Vulnerable Sections, Inclusive Development)
- ✓ GS Paper III – Economy (Employment, Skill India, Entrepreneurship Development)

Context

The **Ministry of Minority Affairs (MoMA)** launched a **skill training and women entrepreneurship development project** under the **PM Virasat Ka Samvardhan (PM-VIKAS) scheme**.

- 150 youth will be trained in **Internet of Things (IoT)**.
- 300 women will undergo **entrepreneurship training**, with stipends and industry linkages for employment.

This reflects the scheme's focus on **skilling, traditional art preservation, and minority empowerment**.

What is PM-VIKAS Scheme?

- About:**
 - A flagship **skilling & entrepreneurship initiative** of MoMA.
 - Integrates earlier schemes like *USTTAD, Nai Roshni, Seekho Aur Kamao, Nai Manzil*.
 - Covers India's **six notified minority communities**: *Muslims, Sikhs, Christians, Buddhists, Jains, Parsis*.
- Objective:**
 - To promote **skill development, entrepreneurship, leadership, and education** among minority & artisan communities.
 - Linked with **Skill India Mission** via the **Skill India Portal (SIP)**.
 - Provides **credit linkages** through the **National Minorities Development & Finance Corporation (NMDFC)**.
- Implementation:**

- Targets **art & craft clusters in Minority Concentrated Areas (MCAs)**.
- Converges with ministries like **Tourism, Women & Child Development, Panchayati Raj, Education, Skill Development** for holistic development.

Components of PM-VIKAS

1. **Skilling & Training Component**
 - *Traditional Training (USTTAD/Hamari Dharohar)* → Focus on **artisan families & endangered crafts**.
 - *Non-Traditional Skilling (Seekho aur Kamao)* → Training in **NSQF-compliant roles**, with modern industry linkages.
2. **Leadership & Entrepreneurship Component (Nai Roshni)**
 - Leadership training for youth & artisans.
 - *Women-focused entrepreneurship*: Creation of **Biz Sakhis** (business mentors).
 - Support for **individual & group enterprises**.
3. **Education Component (Nai Manzil)**
 - Bridge courses for **school dropouts** (Classes 8-12).
 - Certification via **NIOS** or equivalent institutions.

Significance of PM-VIKAS

1. **Promoting Inclusive Growth**
 - Empowers minorities, a group often facing **educational & employment gaps**.
2. **Preservation of Traditional Arts**
 - Supports *handloom, handicraft, embroidery, woodwork*, protecting India's cultural heritage.
3. **Women Empowerment**
 - Dedicated entrepreneurship modules + Biz Sakhis ensure **economic independence**.
4. **Employment Generation**
 - Training in emerging technologies like **IoT, AI, digital economy** bridges gap between artisans and modern industry.
5. **Convergence with Skill India**
 - Aligns minority skilling with **national standards & NSQF compliance**, improving employability.

RELATED SCHEMES

For Minorities

- Pre & Post-Matric Scholarship Schemes
- National Means-cum-Merit Scholarship (NMMSS)
- Jiyo Parsi Scheme
- PM Jan Vikas Karyakram (PMJVK)



For Skills & Entrepreneurship

- Skill India Mission
- SANKALP Scheme (livelihood enhancement)
- SHREYAS (apprenticeship & higher education)
- TEJAS Project (skilling abroad)
- Model Skill Loan Scheme



Challenges

- **Awareness Deficit** → Low outreach in remote clusters.
- **Credit Barriers** → Minority entrepreneurs often face hurdles in accessing formal finance.
- **Dropout Issue** → Many candidates discontinue due to poverty & family responsibilities.
- **Market Linkages** → Trained artisans often lack digital marketing or e-commerce access.
- **Cultural Erosion** → Youth shift away from traditional arts due to lower income prospects.

Way Forward

1. **Digital Integration**: Strengthen linkages with **GeM portal, ONDC, and e-commerce platforms**.
2. **Financial Inclusion**: Simplify NMDFC loan procedures & integrate with **Jan Dhan-Aadhaar-Mobile (JAM) framework**.
3. **Cluster Development**: Create **artisan hubs** combining training, design innovation, and export promotion.
4. **Public-Private Partnerships**: Involve **industry mentors & CSR initiatives** to modernize training.
5. **Monitoring & Transparency**: Use **real-time dashboards** to track skilling outcomes, placements, and income growth.

Conclusion

The **PM-VIKAS scheme** represents a major step towards **mainstreaming minority communities, preserving heritage crafts, and ensuring women-led entrepreneurship**. However, its success depends on **effective convergence with Skill India, strong market linkages, and social inclusion measures** that address the historic disadvantages faced by minorities.

MAINS PRACTICE QUESTION

Q. "Schemes like PM-VIKAS are not just about skilling minorities but about mainstreaming them into India's socio-economic growth story." Discuss with reference to challenges and opportunities in minority empowerment.

INTERNATIONAL RELATIONS

India–UK CETA: Strategic Partnership

❖ Syllabus Mapping

- ✓ GS Paper II – International Relations: Bilateral, Regional and Global Groupings
- ✓ GS Paper III – Indian Economy: Trade Agreements, Growth and Development
- ✓ GS Paper II – Governance & Diaspora

Context

- India and the UK have signed the **Comprehensive Economic and Trade Agreement (CETA)** in 2025, marking a **watershed moment** in bilateral relations.
- Alongside, both nations adopted the **India-UK Vision 2035** and a **Defence Industrial Roadmap**, expanding cooperation in **economy, technology, defence, climate, health, and education**.

Key Highlights of the Agreement

1. Trade in Goods

- Tariff Elimination:**
 - 99% of tariff lines eliminated covering nearly all Indian exports.
 - India opened **89.5% of tariff lines**, covering 91% of UK exports.
- Sensitive Sector Safeguards:**
 - Dairy, cereals, millets, gold, jewellery, lab-grown diamonds protected.
- Bilateral Safeguards:**
 - Measures to prevent sudden import surges that could damage domestic industries.

2. Trade in Services

- Deep Market Access** for Indian IT, finance, healthcare, education.
- Comprehensive Commitments** across all 12 major service sectors.

3. Professional Mobility

- Mutual Recognition Agreements (MRAs):** Nursing, accountancy, architecture to be recognised within a year.
- Temporary Entry Provisions:** Professionals from India can stay **90 days–3 years** in the UK, with possible extensions.
- Double Contribution Convention (DCC):** Exemption from UK social security contributions for up to 3 years.

4. Rules of Origin (RoO)

- Exporters can **self-certify origin**.
- No documents for consignments under £1,000.
- Product-specific rules aligned with **India's existing supply chains**.

Significance for India

- Boost to Exports:** 20–40% rise expected in **textiles, jewellery, machinery**.
- Agriculture Market Access:** UK's \$37.5 bn agri-import market opened; 95% of Indian agricultural/processed food items to enter duty-free.
- Geographical Indications (GI):** Indian products like **Feni, Toddy, Nashik Wine** gain protection.
- Labour Rights & Gender Equality:** Provisions on **non-discrimination, fair tribunals**, and women worker protection.
- MSME & Regional Growth:** Gains for hubs like **Tiruppur (textiles), Kolkata (leather), Surat-Bharuch (chemicals)**.

India–UK Relations: Beyond CETA

1. Economic Ties

- Bilateral trade: **USD 56 bn**, target to double by 2030.
- UK is the **6th largest investor** in India (USD 35 bn till 2024).

2. Geopolitical Cooperation

- Shared platforms: **UN, UNSC, G20, Commonwealth, Indo-Pacific**.
- UK supports India's **UNSC permanent seat bid**.

3. Defence & Security

- **Joint Military Exercises:** Konkan (navy), Cobra Warrior (air), Ajeya Warrior (army).
- **Defence Industrial Roadmap:** Joint R&D and co-production of military technologies.

4. People-to-People & Diaspora

- Indian diaspora: **1.86 million (UK Census 2021)** – influential in politics, economy, and culture.
- Education: **170,000 Indian students** in UK; University of Southampton to open first UK campus in India (Gurugram).

5. Health Collaboration

- **COVID-19 vaccine collaboration:** AstraZeneca & Serum Institute of India.
- **Healthcare workforce agreement:** Recruitment and training of Indian nurses, allied health professionals.

Concerns & Challenges

- **Foreign Policy Divergences:** Different stances on Russia-Ukraine conflict.
- **UK Domestic Politics:** Parliamentary debates on **Kashmir**, criticism of Indian policies.
- **Khalistani Separatism:** India's concern about pro-Khalistan networks in UK.
- **Extradition Hurdles:** Despite treaty, fugitives like **Vijay Mallya** remain in UK due to legal delays.

Strategic Significance

- UK is a **P5, G7, and Five Eyes member**.
- India is the **fastest-growing major economy**.
- Together, they can:
 - Build **resilient supply chains**.
 - Shape **global trade governance**.
 - Enhance **Indo-Pacific stability**.
 - Act as partners in **climate and green energy transition**.

Way Forward

- **Institutionalise CETA mechanisms** → Joint committees for dispute settlement, RoO compliance, and monitoring safeguards.
- **Address Political Sensitivities** → Avoid friction over diaspora, Kashmir, and domestic politics.
- **Promote Technology Partnership** → AI, semiconductors, space, and green hydrogen.
- **Inclusive Growth** → Ensure **MSMEs, farmers, and women entrepreneurs** benefit.
- **Extradition & Security Cooperation** → Streamline legal procedures for fugitives.

MAINS PRACTICE QUESTION



Q. The India-UK Comprehensive Economic and Trade Agreement (CETA) is more than a trade pact; it is a strategic alignment in a multipolar world. Critically analyse its potential for economic growth, geopolitical cooperation, and the challenges that remain.

China's Brahmaputra Dam: Ecological & Strategic Implications

Syllabus Mapping

- ✓ **GS Paper II – International Relations: India-China Relations, Transboundary Rivers, Treaties**
- ✓ **GS Paper III – Environment & Disaster Management: Water Security, Hydropower, Climate Risks**
- ✓ **GS Paper I – Geography: River Systems and Natural Hazards**

Context

- China is constructing a **60,000 MW hydropower project** on the Yarlung Zangbo (Brahmaputra) in Tibet near Gelling, close to the Arunachal Pradesh border.
- First announced in **2021**, it involves **5 cascade dams**, expected by the **2030s**.
- When completed, it will be **3 times bigger than the Three Gorges Dam**, making it the world's largest hydropower project.

India's Key Concerns

1. Ecological & Seismic Risks

- **Seismically active zone:** Located where the Indian and Eurasian plates collide → high risk of earthquakes & landslides.
- **Flash floods & displacement:** Dam failures could cause catastrophe in Arunachal & Assam.
- Comparison: **Three Gorges Dam (China)** displaced 1.3 million people, altering ecosystems.
- **Water bomb scenario:** India fears China may use the dam as a strategic weapon (release or diversion).

2. Hydrological & Environmental Impact

- **Livelihoods at risk:** Brahmaputra sustains agriculture, fisheries, and forests in NE India & Bangladesh.
- **Artificial flow regulation:** Sudden release/diversion could harm fragile ecosystems like the **Siang Belt** (home of the Adi tribe).
- **Loss of indigenous practices:** Traditional flood-control knowledge and farming cycles disrupted.

3. Legal & Diplomatic Gaps

- **No water-sharing treaty:** Unlike Indus with Pakistan, India and China have no formal river agreement.
- China is not a party to **UN Watercourses Convention (1997)** or **Helsinki Rules**.
- Past issue: China suspended **hydrological data sharing since 2022**, increasing risks for India's flood management.

4. Regional Security & Food Risks

- Dam impacts **irrigation, hydropower, navigation, & food security** of India's NE states.
- Could exacerbate **seasonal drought-flood cycles**.
- Downstream Bangladesh (Jamuna Basin) may also face water insecurity → affecting trilateral relations.

India's Response

1. Strategic Hydropower Projects

- **Siang Upper Multipurpose Project** (11.2 GW) planned in Arunachal to regulate Brahmaputra flows.
- Involves **local tribal participation (Adi community)** for legitimacy.

2. River Contribution Advantage

- Although Tibet contributes only **300 mm rainfall**, Indian side receives **2371 mm rainfall + snowmelt**, giving India **80% of Brahmaputra's flow**.
- Tributaries from Arunachal & Assam contribute **30% of water** and **41% of hydropower potential**.

3. Proposed River Linking Projects

- **Manas-Sankosh-Teesta-Ganga Link** and **Jogighopa-Teesta-Farakka Link** to divert surplus Brahmaputra waters to drought-prone Ganga basin.

4. Diplomatic Engagements

- India raised concerns in **bilateral talks (Beijing, March 2025)** → discussions on water & border disengagement.
- **Confidence Building Measures (CBMs):** Resumption of tourist visas & Kailash Mansarovar Yatra after 5 years.
- Need for a **new hydrological data-sharing MoU**.

Measures India Should Take

1. Accelerate Strategic Water Infrastructure

- Expedite **Upper Siang project** (300 m high dam) for water storage & flood regulation.
- Expand **basin-wide storage capacity** to manage seasonal variability.

2. Strengthen Scientific & Institutional Preparedness

- Real-time **hydrological monitoring & AI-based predictive models** for early warnings.
- Build institutional capacity via **Central Water Commission & ISRO data integration**.

3. Implement Interlinking Projects

- Operationalise **NWDA's interlinking plans** to distribute surplus Brahmaputra water to drought-prone regions.

4. Regional Cooperation & Diplomacy

- Revive **Brahmaputra MoU (2002–2023)** for data sharing.
- Coordinate with **Bangladesh & Bhutan** for joint flood forecasting & disaster management.
- Push for **multilateral water governance framework in South Asia**.

Brahmaputra River System: Key Facts

- **Origin:** Chemayungdung Glacier, Kailash Range, Tibet → called **Yarlung Tsangpo**.
- **Course:**
 - Enters India (Arunachal) as **Siang/Dihang**.
 - Joins tributaries in Assam, flows into Bangladesh as **Jamuna**.
 - Joins **Ganga (Padma)** at Goalundo, then Meghna → Bay of Bengal.
- **Length:** 2,900 km (916 km in India).
- **Tributaries:**
 - **Right bank:** Lohit, Dibang, Subansiri, Manas, Torsa, Teesta.
 - **Left bank:** Burhidihing, Desang, Dhansiri (south), Kopili.
- **Unique features:**
 - **Majuli:** world's largest river island.
 - **Umananda:** smallest river island.
- **Importance:** Holds **30% of India's water resources, 41% hydropower potential**, sustains biodiversity (Kaziranga, Manas).

MAINS PRACTICE QUESTION

Q. China's mega-dam on the Brahmaputra highlights the link between hydropower, geopolitics, and environmental security. Critically analyse its implications for India's water security and regional stability. Suggest measures for India to mitigate associated risks.

India–Maldives @60 Years: Strategic Depth

📌 Syllabus Mapping

✓ **GS Paper II – International Relations:** Bilateral Relations, Neighbourhood First Policy, India & Indian Ocean Region

✓ **GS Paper III – Security:** Maritime Security, Terrorism, Regional Cooperation

Context

- In **2025**, India and Maldives marked **60 years of diplomatic relations** with the Indian PM's official visit to Male.
- Key outcomes included a **Line of Credit of ₹4,850 crore**, launch of **India–Maldives Free Trade Agreement (IMFTA)** negotiations, and **UPI launch in Maldives**.

Key Outcomes of the 2025 Visit

- **Economic & Debt Support:** LoC of ₹4,850 crore + reduced repayment obligations.
- **Trade Integration:** Launch of IMFTA negotiations.
- **Digital Cooperation:** UPI payment integration.
- **MoUs Signed:** Fisheries, Aquaculture, Digital Solutions, Indian Pharmacopoeia recognition.

Areas of Cooperation

1. Geostrategic Importance

- Maldives = “Toll gate” of the Indian Ocean → between **Hormuz–Aden** and **Malacca Strait**.
- Vital for **sea lane security** and India's **Vision MAHASAGAR**.

2. Security & Defence

- **Action Plan for Defence (2016)** → strengthens defence ties.
- Joint exercises: *Ekuverin* (army), *Ekatha* (coast guard).
- Maldives = **founding member of Colombo Security Conclave**.
- India = **Net Security Provider** (patrol boats, radars, training).

3. Economic & Trade

- Bilateral trade (2023): **USD 548.97 million**.
- India = Maldives' **largest trading partner** in 2023.
- Investments in **infrastructure, fisheries, health, renewable energy**.

RECENT IRRITANTS

1. Domestic Politics

Maldives' politics divided into Pro-India vs Pro-China factions



2. Strategic Realignment under President Muizzu

“India Out Campaign” → withdrawal of Indian military, cancellation of hydro surveys



Shift from “India First” → “Maldives First” policy (greater foreign policy diversification)

3. China Factor

Maldives joined BRI (2014)
Chinese projects: China–Maldives Friendship Bridge, large infrastructure investments



4. Economic Instability

Public debt projected at 135.7 % of GDP by 2027 (World Bank)



5. Radicalization Threats

ISIS & Al-Qaeda networks flagged in 2023 by USA
Maldives has one of the highest per capita foreign fighter counts in West Asia conflicts

4. Humanitarian Diplomacy

India's role as First Responder:

- 1988 coup attempt (*Operation Cactus*).
- 2004 tsunami relief.
- 2014 Malé water crisis.
- Covid-19 supplies (vaccines & medicines).

5. People-to-People (P2P) Ties

- India = **top tourist source** for Maldives (2.09 lakh arrivals in 2023).
- Ethnic, cultural, and linguistic linkages strengthen civilizational ties.

Significance of India–Maldives Ties

- **Strategic Leverage:** Ensuring Indian Ocean security & countering China's influence.
- **Economic Integration:** IMFTA + UPI to deepen trade & financial links.
- **Regional Cooperation:** Maldives vital for India's **Neighbourhood First & SAGAR vision**.
- **Soft Power:** Tourism, culture, education, and humanitarian assistance boost goodwill.

Conclusion

India and Maldives stand at a **strategic crossroads** in the Indian Ocean. Despite recent irritants, both nations share civilizational bonds, mutual security interests, and economic interdependence. Strengthening **maritime security, economic resilience, and people-centric diplomacy** will be vital to keep Maldives anchored within India's strategic sphere while promoting stability in the wider **Indian Ocean Region (IOR)**.

MAINS PRACTICE QUESTION



Q. "India and Maldives are natural partners in the Indian Ocean, but recent developments signal growing challenges." Examine the evolving dynamics of India–Maldives relations with special reference to security, economic, and strategic aspects.

India–Africa Ties: Towards South–South Partnership

📌 Syllabus Mapping

- ✓ **GS Paper II – International Relations:** India's Foreign Policy, Bilateral & Multilateral Relations, South–South Cooperation
- ✓ **GS Paper III – Economy & Security:** Critical Minerals, Energy Security, Maritime Security, Digital Partnerships
- ✓ **Essay Paper:** "India and Africa: Partners in Progress"

Context

- PM of India recently visited **Ghana and Namibia**, marking **60 years of diplomatic ties** with Africa.
- PM reiterated that "*Africa's goals are India's priority*", highlighting the **Kampala Principles (2018)** of equality, demand-driven development, and mutual respect.
- India and Africa agreed to elevate ties to a **Comprehensive Partnership**, signaling a shift from transactional aid to **strategic collaboration**.

Strategic Significance of Africa for India

1. Geopolitical & Strategic Convergence

- **Voice of Global South:** Joint advocacy for **multilateral reforms** in UN, WTO, IMF.
- **African Union's G20 Membership (2023)** → supported by India.
- **Asia–Africa Growth Corridor (AAGC, 2017):** Indo–Japan initiative to promote sustainable development and connectivity in Africa.
- **Maritime Security:**
 - Exercises: *MILAN, Cutlass Express, Africa–India Key Maritime Engagement (AIKEYME)*.
 - Africa's eastern seaboard critical for **sea lanes of communication (SLOCs)**.

2. Economic & Trade Cooperation

- India = **Africa's 3rd largest trading partner** (after EU & China).
- **Trade basket:**
 - *India → Africa:* Pharmaceuticals, machinery, food products.

- *Africa → India*: Oil, diamonds, copper, gold.
- **Duty-Free Tariff Preference (DFTP)** scheme → India is the **first developing country** to give non-reciprocal market access to LDCs.
- **Critical Minerals**: Africa has **48% of cobalt** and **47% of manganese reserves**, vital for EVs, semiconductors, and green transition.

3. Defence & Security

- **IORA & IOC platforms** strengthen maritime security.
- India provides training, defence equipment, and support to African militaries.
- Anti-piracy missions & counter-terrorism cooperation (Sahel, Horn of Africa).

4. Technology & Digital Diplomacy

- Expansion of **India Stack technologies** in Africa.
- Example: **UPI & RuPay launched in Mauritius (2024)**.
- e-VidyaBharati & e-ArogyaBharati (e-VBAB): tele-education and tele-medicine projects across Africa.

5. Energy & Climate Cooperation

- Africa has **10 TW solar, 100 GW wind, 15 GW geothermal potential**.
- **International Solar Alliance (ISA)** – mini-grids, financing mechanisms, and clean hydrogen projects.
- India partnering for **Global Biofuels Alliance** expansion.

6. Soft Power & Capacity Building

- **Scholarships & Training**: Indian Technical & Economic Cooperation (ITEC), ICCR scholarships.
- **Cultural Diplomacy**: Yoga, Ayurveda, Bollywood.
- **Diaspora**: ~3 million Indians in Africa, particularly in East & South Africa.

Concerns in India–Africa Relations

1. **Project Delays**: India-funded LoCs & infrastructure projects delayed by **bureaucratic bottlenecks, logistics, and financing issues**.
2. **Strategic Competition**: India's concessional approach cannot always match China's **deep pockets, speed, and scale** (e.g., BRI megaprojects).
3. **Political Instability**: Coups, terrorism (ISIS, Boko Haram, Al-Shabaab) → risks to Indian investments and workers.
4. **Global Governance Gaps**: Africa remains **underrepresented in UNSC & Bretton Woods institutions**.
5. **Trade Structure Limits**: Heavy reliance on **commodities** reduces value addition; limited diversification.

India–Africa Relations: Recent Developments

- **Ghana**: India PM addressed Ghana's Parliament, conferred *Order of the Star of Ghana*.
- **Namibia**: Partnership in **green hydrogen, critical minerals, and wildlife conservation**.
- **G20 (2023)**: India championed **African Union's permanent membership**.
- **Digital Finance Diplomacy**: NPCI exploring **UPI expansion to multiple African economies**.

Conclusion

India–Africa ties are shifting from aid-based cooperation to **strategic, sustainable, and future-oriented engagement**. With Africa at the **centre of global geopolitics** (critical minerals, climate action, maritime security, and demographic dividend), India must leverage its **soft power, digital technology, and moral diplomacy** to present itself as a dependable partner, distinct from China's extractive model.

Thus, India's approach should be: *partnership over patronage, cooperation over competition, and sustainability over short-term gains*.

MAINS PRACTICE QUESTION



Q. "Africa is central to India's foreign policy vision of South–South Cooperation and Global South leadership." Discuss the strategic, economic, and political dimensions of India–Africa relations in this context.

India–Brazil & BRICS Rio Declaration: Global South Cooperation

📌 Syllabus Mapping

- ✓ **GS Paper II – International Relations:** Bilateral Relations, BRICS, Global South, Multilateral Institutions
- ✓ **GS Paper III – Economy & Environment:** Climate Finance, Energy Transition, Digital Governance
- ✓ **Essay Paper:** “Global South cooperation is reshaping world order”

Context

- The Indian PM was recently awarded **Brazil's highest civilian honour – Grand Collar of the National Order of the Southern Cross**.
- India–Brazil ties were reaffirmed with multiple agreements covering **defence, digital solutions, renewable energy, and trade monitoring**.
- On the sidelines, at the **17th BRICS Summit (Rio de Janeiro, 2025)**, the Rio Declaration was adopted, focusing on **Global South leadership, multipolarity, climate finance, and AI governance**.

Part I – India–Brazil Relations

◆ Key Agreements Signed

- **Defence & Security:** Agreement on combating terrorism and transnational crime; exchange of classified information.
- **Digital Transformation:** MoU for sharing large-scale **digital public infrastructure (DPI)** solutions.
- **Renewables & Agriculture:** Collaboration in clean energy, agricultural research, and IPR.
- **Institutional Cooperation:** Ministerial-level mechanism for **trade, commerce & investment monitoring**.

◆ Priority Pillars for the Next Decade

1. **Defence & Security**
2. **Food & Nutritional Security**
3. **Energy Transition & Climate Action**
4. **Digital Transformation**
5. **Industrial & Technology Partnerships**

◆ Strategic Importance of Brazil for India

- **Geopolitical Partner:** G4 ally in UNSC reforms; BRICS & IBSA partner.
- **Economic Linkages:** Bilateral trade at **USD 12.2 bn (2024–25)**; cooperation in pharma, agri, mining.
- **Energy & Biofuels:** Co-founders of **Global Biofuels Alliance**.
- **Space Cooperation:** India launched Brazil's **Amazonia-1 satellite (2021)**.

Part II – BRICS Rio Declaration 2025

◆ Key Highlights

- **Expanded Membership:** First summit with **11 full members** (welcoming Indonesia) + **10 partner countries**.
- **Global Health:** Partnership to eliminate **Socially Determined Diseases (SDDs)** linked to poverty and inequality.
- **Climate Finance:**
 - Developed nations urged to mobilise **USD 300 bn annually by 2035**.
 - Support for **blended finance, guarantees, thematic bonds**.
 - Recognition of **Tropical Forest Forever Fund (TFFF)** to generate **USD 4 bn annually** for conservation.
- **AI & Digital Governance:** BRICS Declaration on **responsible, ethical, and sovereign use of AI** anchored in UN multilateralism.

◆ Global South & Multipolarity

- **UN Reforms:** Call for **comprehensive reform of UNSC**, with explicit support for **India & Brazil**.
- **Reform of BWIs:** Push for **inclusive, merit-based governance** in IMF/World Bank.
- **Trade:** Concern over protectionism, reaffirmation of **WTO-centric multilateralism**.
- **Economic Cooperation:** Agreement to finalise **BRICS Economic Partnership 2030**; discussions on **BRICS Multilateral Guarantees (BMG)** within NDB.

Significance

For India–Brazil

- **Strategic Convergence:** Shared priorities in food security, biofuels, AI governance, UNSC reform.
- **Economic Synergy:** Critical minerals (Brazil), pharma & IT (India) = complementary strengths.

- **South-South Solidarity:** Both project themselves as **Global South leaders**.

For BRICS & Global South

- **Alternative Governance Model:** Challenging Western-dominated order with **multipolar institutions**.
- **Climate Leadership:** TFFF and climate finance declaration signal BRICS' seriousness on sustainability.
- **Technology & AI:** Norm-setting role on **ethical AI and digital sovereignty**.

Challenges

- **Divergent Foreign Policy Stances** (e.g., Russia-Ukraine, trade policies).
- **Economic Asymmetry:** China's dominance in BRICS overshadows other members.
- **Implementation Gaps:** Past BRICS declarations often faced weak follow-through.
- **India-Brazil Trade Barriers:** Non-tariff barriers (sanitary, phytosanitary) still hinder agricultural trade.

Way Forward

1. **Institutionalise BRICS+ Framework** → engage new members systematically.
2. **India-Brazil:** Expand cooperation in **biofuels, lithium, EVs, AI, DPI export**.
3. **Strengthen BRICS Financial Architecture** → operationalise BMG, reform NDB lending.
4. **Strategic Diplomacy:** Joint India-Brazil push for **UNSC reform**.
5. **People-to-People Connect:** More scholarships, cultural exchanges, tourism cooperation.

Conclusion

The India-Brazil partnership, rooted in shared democratic values and Global South solidarity, is gaining strategic weight under the **Vision 2035 roadmap**. The **BRICS Rio Declaration** complements this by presenting a blueprint for **multipolar governance, sustainable finance, and AI norms**. Together, these initiatives position India and Brazil not only as bilateral partners but as **co-architects of a more inclusive global order**.

MAINS PRACTICE QUESTION



Q. "India-Brazil relations and BRICS are emerging as twin pillars of South-South cooperation. Discuss their significance in shaping a multipolar global order."

17th BRICS Summit: Strengthening Global South

❖ Syllabus Mapping

- ✓ **GS Paper II – International Relations:** BRICS, Multilateralism, Global South, India's foreign policy
- ✓ **GS Paper III – Economy:** Global trade, climate finance, carbon markets, digital economy
- ✓ **Essay Paper:** "The Global South is no longer a passive recipient but an active architect of global governance."

Context

- **India's PM participated** in the **17th BRICS Summit** (Rio de Janeiro, Brazil, 2025).
- Theme: *"Strengthening Global South Cooperation for More Inclusive and Sustainable Governance."*
- **Indonesia joined BRICS**, while **10 nations** (Belarus, Bolivia, Kazakhstan, Cuba, Nigeria, Malaysia, Thailand, Vietnam, Uganda, Uzbekistan) became *partner countries*.
- India will assume **BRICS Chairship in 2026**.

Key Outcomes of the 17th BRICS Summit

◆ 1. Global Governance Reform

- Backed **UNSC expansion** to include Asia, Africa, Latin America.
- Called for **IMF & World Bank reform** to reflect EMDCs (Emerging Markets & Developing Countries).
- Stressed **rules-based WTO**.

◆ 2. Sustainable Development

- **Leaders' Framework Declaration on Climate Finance:** Mobilize **USD 300 bn annually by 2035** for developing nations.
- **BRICS Carbon Markets Partnership** → cooperation in carbon pricing & emissions trading.
- **Condemnation of EU's CBAM:** Called it protectionist & discriminatory, hurting exports of steel & cement.

◆ 3. Peace and Security

- Supported “African solutions to African problems”.
- Called for **Gaza ceasefire** and a **two-state solution**.
- Condemned **Pahalgam terror attack**; India reiterated **terrorism cannot be justified selectively**.

◆ 4. Financial Cooperation

- Advanced **Cross-Border Payments Initiative** → reduce dollar reliance.
- Strengthened **New Development Bank (NDB)**.
- Launched **BRICS Multilateral Guarantees (BMG)** pilot to de-risk investments.

◆ 5. Technology & Digital Economy

- Leaders' Statement on Global AI Governance**: Principles of sovereignty, equity, ethical AI.
- Adopted **Data Economy Governance Understanding**.
- Announced **BRICS Space Council** for joint exploration.

◆ 6. Health & Social Development

- Launched **Partnership for Elimination of Socially Determined Diseases (Tuberculosis)**.

How BRICS is Reshaping Global Governance

BRICS

A SNAPSHOT



- Coined by Jim O'Neill (2001); became BRICS in 2010 (South Africa joined)
- Expanded in 2024 → Iran, UAE, Egypt, Ethiopia
- Significance: 45% of global population, 37,3% of world GDP (surpassing G7's 29,3 %)

Key BRICS Initiatives

- New Development Bank (2014)
- Contingent Reserve Arrangement (CRA)
- BRICS Grain Exchange
- STI Framework Programme (2015)

Dimension

Dimension	Contribution
Energy Security	BRICS+ (Iran, Saudi Arabia, UAE) = 44% of global crude oil production .
Neutral Dialogue Platform	Allows India–China engagement despite bilateral tensions.
Instrument for Multilateral Reform	Collective voice for UNSC, IMF, WTO reforms.
Inclusivity	Expansion engages diverse Global South members.
Counterbalance to G7	Emerging as a pole of multipolarity.

Challenges Hindering BRICS

- Institutional Weakness**: No permanent secretariat or seat → slow decision-making.
- Geopolitical Contradictions**: UAE–US ties vs Iran; India–China border tensions.
- Economic Slowdowns**: China's growth decline, Russia under sanctions.
- Low Intra-BRICS Trade**: Despite 18% of global trade, intra-BRICS = just **2.2% (2022)**.
- Weak Financial Muscle**: NDB funds < IMF/World Bank.
- Slow Dedollarization**: Limited progress; BRICS currency idea stalled.

India's Stakes in BRICS

- Global South leadership**: Platform to amplify concerns of EMDCs.
- Strategic Leverage**: Counters Western dominance, balances China within BRICS.
- Economic Interests**: Access to critical minerals, trade, carbon markets, energy cooperation.
- Technology & AI**: Pushes for inclusive digital governance.
- Climate Justice**: Advocates climate finance for developing world.

Conclusion

The **17th BRICS Summit** marked a turning point in shaping a **multipolar, inclusive order**, with strong emphasis on **climate finance, digital governance, and Global South solidarity**. Yet, contradictions in expansion, slow economic reforms, and institutional weaknesses pose risks of dilution. For India, BRICS remains both a **strategic opportunity** and a **diplomatic balancing act**—to project leadership while safeguarding autonomy amidst shifting global power dynamics.

MAINS PRACTICE QUESTION



Q. "BRICS is emerging as a counterbalance to G7 but faces internal contradictions. Critically examine its role in shaping a multipolar world order."

BIMSTEC Ports Conclave: Maritime Connectivity & Blue Economy

📌 Syllabus Mapping

- ✓ **GS Paper II – International Relations:** Regional groupings (BIMSTEC), India's Neighbourhood First & Act East Policy
- ✓ **GS Paper III – Economy & Infrastructure:** Blue Economy, Maritime transport, Port-led development
- ✓ **GS Paper I (Geography):** Connectivity corridors, Regional integration in Bay of Bengal

Context

- India hosted the **2nd BIMSTEC Ports Conclave in Visakhapatnam (2025)**.
- Theme: *"Navigating the Future: Blue Economy, Innovation and Sustainable Partnerships."*
- Objective: Strengthen maritime connectivity, promote sustainable development, and enhance India's role in the **Bay of Bengal and Indo-Pacific**.

Key Outcomes of the 2nd BIMSTEC Ports Conclave

◆ 1. Implementation of AMTC

- Urged member nations to **ratify and operationalise the BIMSTEC Agreement on Maritime Transport Cooperation (AMTC)**, signed at the 6th BIMSTEC Summit (2025, Bangkok).
- Goals:
 - Port-led growth
 - Boost maritime trade & tourism
 - Skill development & harmonised regulations

◆ 2. Kaladan Multi-Modal Transit Transport Project (KMTTP)

- Recognised as a **strategic corridor** linking India's Northeast to the Bay of Bengal.
- Key features:
 - Sittwe Port (Myanmar)** → Kaladan River → Paletwa → Road link to Zorinpui (Mizoram, India).
 - Reduces dependence on the **Siliguri Corridor ("Chicken's Neck")**.
 - Enhances efficiency in cargo movement, boosts Northeast integration.

◆ 3. BIMSTEC Sustainable Maritime Transport Centre (Mumbai)

- To be launched under the **Indian Ocean Centre of Excellence for Sustainable Maritime Transport (IOCE-SMarT)**.
- Focus areas:
 - Green shipping transition
 - Policy harmonisation
 - Digital innovation in port management

◆ 4. Cruise Tourism Potential

- Promotion of **eco-sensitive cruise routes** in Bay of Bengal.
- PPP-based cruise terminals** → aim to develop Bay of Bengal as a **premier sustainable cruise tourism corridor**.

What is BIMSTEC?

- Founded:** 6 June 1997 (Bangkok Declaration).
- Members:** Bangladesh, India, Myanmar, Sri Lanka, Thailand, Nepal, Bhutan.
- Evolution:**
 - Started as **BIST-EC** (1997), became **BIMST-EC** with Myanmar, renamed **BIMSTEC (2004)** after inclusion of Nepal & Bhutan.
- Secretariat:** Dhaka, Bangladesh (est. 2014).
- Sectors of Cooperation:**
 - Initially 6 (trade, technology, energy, transport, tourism, fisheries).
 - Expanded to 14 sectors in 2008 → reorganised into 7 pillars in 2021.
 - India leads Security pillar** (counter-terrorism, transnational crime, disaster management, energy).

Strategic Significance for India

- Maritime Connectivity:** Aligns with **Sagarmala & Maritime India Vision 2030**.
- Act East & Neighbourhood First Policy:** Enhances engagement with Bay of Bengal littorals.
- Blue Economy:** Taps into fisheries, ports, tourism, and renewable energy.
- Indo-Pacific Role:** Strengthens India's position as a **net security provider** in Indian Ocean Region.

- **Countering China:** Enhances India's strategic weight in Bay of Bengal against Chinese port influence (e.g., Kyaukpyu in Myanmar, Hambantota in Sri Lanka).

Challenges Ahead

- **Slow ratification of agreements** (AMTC not yet implemented).
- **China's deepening maritime presence** in Bay of Bengal.
- **Political instability in Myanmar** affecting Kaladan project.
- **Limited BIMSTEC institutional capacity** – Secretariat in Dhaka under-resourced.
- **Maritime environmental concerns** – cruise tourism vs ecological balance.

MAINS PRACTICE QUESTION

Q. "BIMSTEC is emerging as a bridge between South Asia and Southeast Asia with the Bay of Bengal as its fulcrum. Critically analyse the role of BIMSTEC Ports Conclave in advancing India's strategic and economic interests."

Conclusion

The 2nd BIMSTEC Ports Conclave (2025) is a critical step in advancing regional connectivity, Blue Economy cooperation, and Indo-Pacific strategy. For India, BIMSTEC is not just about trade but about strategic security, alternative connectivity to the Northeast, and maritime diplomacy. Realising its full potential requires **speedy ratification of agreements**, stronger institutional capacity, and balancing development with ecological safeguards.

ICJ Advisory on Climate Action: Towards Climate Justice

📌 Syllabus Mapping

- ✓ **GS Paper II – International Relations & International Institutions:** ICJ, international treaties, multilateralism
- ✓ **GS Paper III – Environment & Climate Change:** Climate obligations, Paris Agreement, loss & damage, climate justice
- ✓ **GS Paper II – Governance:** Human rights, intergenerational equity

Context

- The International Court of Justice (ICJ) has delivered a **landmark advisory opinion (2025)** affirming that **states can be held legally responsible for driving climate change**.
- Triggered by a 2021 request from **Vanuatu** (a climate-vulnerable Pacific island nation), later endorsed by the **UN General Assembly (2023)**, the opinion is seen as a **major milestone in climate law and justice**.

ICJ's Stance on State Obligations for Climate Action

◆ 1. Climate Action as a Legal Duty

- States must **reduce greenhouse gas (GHG) emissions** and adopt climate adaptation measures.
- Obligations arise not just from the **UNFCCC & Paris Agreement (2015)** but also from broader treaties:
 - **Montreal Protocol** (ozone protection)
 - **Convention on Biological Diversity**
 - **UN Convention to Combat Desertification**
 - **UN Convention on the Law of the Sea (UNCLOS)**
- Obligations extend to **protecting future generations**, reinforcing the idea of **intergenerational equity**.

◆ 2. Failure Constitutes a Wrongful Act

- Non-compliance = "**internationally wrongful act**".
- May lead to liability in forms such as:
 - Halting harmful actions,
 - Preventing recurrence,
 - **Compensating affected nations** ("Loss and Damage" principle).

◆ 3. Role of Developed Countries

- Developed nations (Annex I countries under UNFCCC) must **lead in emissions reduction** and provide **finance & technology transfer** to developing nations.
- ICJ tied climate obligations to **human rights**, especially right to life, health, food, and safe environment.

Broader Implications

For Global South



Empowers climate-vulnerable nations (e.g., Pacific Islands, African states) to demand stronger accountability

For India



Opportunity to push for climate justice & equity under Common But Differentiated Responsibilities (CBDR)
Strengthens India's position in Loss & Damage Fund negotiations

For Global Governance



Reinforces climate change as not only an environmental issue but also a legal and human rights issue

Significance of the Advisory Opinion

- Not legally binding but highly persuasive in shaping:
 - COP30 negotiations (Brazil, 2025)
 - Global climate litigation (strengthening climate-related lawsuits in domestic courts).
- Strengthens arguments for:
 - Climate reparations and funding for loss & damage.
 - Accountability of historically high-emitting countries.
- Marks a shift towards climate justice, where failure to act is not just political negligence but legal liability.

About the International Court of Justice (ICJ)

- Established: 1945 (active since 1946) as UN's principal judicial organ.
- Functions:
 - Settles disputes between states.
 - Gives advisory opinions on legal questions.
- Location: The Hague, Netherlands.
- Composition: 15 judges elected for 9 years by UNGA & UNSC.
- Nature of Decisions:
 - Judgments → binding, no appeal (Article 94, UN Charter).
 - Advisory Opinions → non-binding, but carry strong moral & legal weight.
- India's Engagements:
 - Right of Passage case (1960) – Portugal vs India (sovereignty upheld).
 - Kulbhushan Jadhav case (2019) – Pakistan violated Vienna Convention.

Challenges Ahead

- Non-binding nature: States may ignore the advisory opinion.
- Geopolitical divide: Developed vs developing nations on climate responsibility.
- Enforcement gaps: No clear mechanism to penalize non-compliance.
- Risk of politicisation: Climate litigation may turn into a tool for diplomatic contestation.

Conclusion

The ICJ's advisory opinion is a **historic step in global climate governance**, shifting climate responsibility from voluntary pledges to **legal duties under international law**. For India and other Global South nations, it strengthens calls for **equity, finance, and technology transfer**. While enforcement challenges remain, the opinion injects strong moral and legal momentum into the **global climate justice movement**.

MAINS PRACTICE QUESTION



Q. "The ICJ's advisory opinion on climate change marks a paradigm shift in global climate governance from moral responsibility to legal accountability." Critically analyse its significance for India and the Global South.

India–Trinidad & Tobago: Diaspora & Diplomacy

❖ Syllabus Mapping

- ✓ GS Paper II – International Relations: Bilateral relations, diaspora diplomacy, CARICOM ties
- ✓ GS Paper I – Indian Society: Role of diaspora in nation-building and cultural linkages
- ✓ GS Paper III – Economy & Security: Energy, trade, counterterrorism cooperation

Why in the News?

- Prime Minister Narendra Modi paid the first Indian Prime Ministerial visit to **Trinidad & Tobago (T&T) since 1999**.
- He was conferred the **Order of the Republic of Trinidad and Tobago**, the country's highest civilian honour, in recognition of his **global leadership, diaspora engagement, and humanitarian role during the Covid-19 pandemic**.

Geography & Location of T&T

- Located in the **southeastern Caribbean (West Indies)**.
- Comprises two main islands – **Trinidad and Tobago** – plus smaller islands.
- **Borders:** Northeast of Venezuela, northwest of Guyana, separated from Venezuela by **Gulf of Paria**.
- **Capital:** Port of Spain.
- **Economy:** Oil & gas (LNG exports), asphalt reserves, sugarcane agriculture, and tourism.
- **Environment:** Rainforests, swamps (Caroni, Nariva), mangroves; **Pitch Lake** (world's largest natural asphalt reservoir).

- **Biodiversity:** Scarlet Ibis (national bird), manatees, ocelots, caimans.

Key Outcomes of PM's Visit

1. Strategic Cooperation

- T&T joined **Coalition for Disaster Resilient Infrastructure (CDRI)** and **Global Biofuel Alliance (GBA)**.
- Both sides pledged **counterterrorism cooperation** and deepened engagement under **India-CARICOM framework**.

2. Developmental & Economic Cooperation

- **Quick Impact Projects (QIPs):** India to fund 5 grassroots projects annually (\leq USD 50,000 each).
- **Agri-Cooperation:** India gifted agro-machinery worth USD 1 million to NAMDEVCO, and extended support for **millets, natural farming, and seaweed-based fertilizers**.
- **Pharma & Healthcare:** MoU signed for affordable Indian generics; arrangement for T&T citizens' medical treatment in India.

3. Digital Diplomacy

- Adoption of **UPI** – Trinidad & Tobago becomes the **first Caribbean nation** to adopt it.
- Collaboration on **India Stack tools:** DigiLocker, e-Sign.

4. Diaspora Engagement

- **OCI Card facility extended to the 6th generation** of Indian diaspora (previously 4th gen).
- Symbolic gestures: PM Modi gifted **holy water from Sarayu & Mahakumbh** and a **replica of Ram Mandir** to T&T PM Kamla Persad-Bissessar (of Bihar origin).

5. Education & Cultural Diplomacy

- Two **ICCR Chairs in Hindi & Indian Studies** re-established at University of West Indies.
- Training programs for Hindu priests (Pandits) of T&T & Caribbean.
- Strengthens India's **soft power footprint** in the Caribbean.

Evolution of India–Trinidad & Tobago Relations

- **Historical Ties (Girmityas Legacy):**
 - 1st Indian indentured workers arrived in 1845 on the *Fatel Razack*.
 - Their descendants form **40–45% of T&T's population**, shaping its politics, economy, and culture.
- **Formal Diplomatic Ties:** Established in 1962 after T&T's independence.
- **Economic Relations:**
 - **MFN Trade Agreement (1997)** facilitated trade.
 - India's exports (2024–25): USD 120.65 million (pharma, vehicles, iron).
 - Imports from T&T: USD 220.96 million (oil, gas, petrochemicals).
- **Development Partnership:**
 - USD 1 mn "HALT Project" (2024) for healthcare robots, telemedicine, hygiene stations under India-UNDP Fund.

The Indentured Labour System & Bhojpuri Girmityas

- **Indentured System:** Post-slavery, Indians signed 5-year contracts for work in colonies, often under **exploitative conditions** (low wages, abuse, gender discrimination).
- **Abolition:** Mahatma Gandhi campaigned against it; abolished in **1920**.
- **Bhojpuri Girmityas:**
 - Originated mostly from **UP & Bihar districts** (Chhapra, Ballia, Banaras, Siwan, etc.).
 - Carried **Bhojpuri & Awadhi culture** (language, folk music, religion).
 - Today, they form the **largest diaspora group** in T&T and have integrated into politics, business, and academia.

India–CARICOM Relations

- **About CARICOM:** Established 1973 (Treaty of Chaguaramas, T&T).
 - 15 Members + 6 Associates. HQ: Georgetown, Guyana.
- **India–CARICOM Partnership:**
 - **Capacity Building:** USD 14 mn for community projects; USD 150 mn LoC for renewable energy & climate resilience.
 - **Education:** ITEC scholarships and training programs for Caribbean students.
 - **CARICOM Summit 2024:** Seven focus areas → capacity building, agriculture, renewable energy, trade, ocean economy, culture, health.

Strategic Importance of T&T for India

- **Energy Security:** T&T is a major LNG exporter.
- **Diaspora Diplomacy:** 4–5 lakh Indian-origin population is a bridge for bilateral ties.
- **Geopolitical Outreach:** Gateway to **CARICOM** and wider **Caribbean diplomacy**.
- **Soft Power:** Shared heritage of Girmityas strengthens people-to-people ties.

Challenges in India–T&T & Wider CARICOM Relations

- **China's Growing Footprint:** Expanding trade, infrastructure investments.
- **Geographical Distance & Connectivity:** High transport costs, lack of direct shipping/air links.
- **Limited Trade Volume:** Bilateral trade remains modest compared to potential.
- **Diaspora Challenges:** Identity issues & generational disconnect among Girmityas.

Conclusion

India–Trinidad & Tobago relations are rooted in **historical ties of the Girmitya diaspora** and are expanding through **energy, digital cooperation, development partnership, and cultural diplomacy**. As India deepens ties with **CARICOM** under the framework of Global South solidarity, T&T emerges as a **strategic gateway to the Caribbean**.

India's "diaspora-first" diplomacy combined with digital and developmental initiatives makes T&T an important partner in building a sustainable and mutually beneficial South–South partnership.

MAINS PRACTICE QUESTION

Q. Discuss the significance of the Indian diaspora in shaping India's relations with Trinidad & Tobago and the wider Caribbean. How can India leverage its soft power and digital diplomacy to strengthen these ties further?

US Exit from UNESCO: Multilateralism at Risk

📌 Syllabus Mapping

- ✓ **GS Paper II – International Relations:** Multilateral institutions, India & global organizations
- ✓ **GS Paper I – Culture:** UNESCO & World Heritage Sites
- ✓ **GS Paper III – Environment:** UNESCO's role in climate, education, and sustainable development

Why in the News?

- The United States announced its withdrawal from UNESCO, effective December 2026, only two years after rejoining in 2023.
- Reason cited: alleged bias against Israel.

UNESCO: Key Facts

- **Full form:** United Nations Educational, Scientific and Cultural Organization.
- **Founded:** 16 November 1945; HQ – Paris.
- **Membership:** 194 Member States, 12 Associate Members.
- **India:** Founding member.
- **Mandate:**
 - Promote peace through education, science, culture.
 - **SDG 4 (Education for All).**
 - Protect tangible & intangible heritage (World Heritage List).
 - Promote science for sustainable development.
 - Advance mutual understanding & tolerance.

Timeline of US Exits from UNESCO

Year	President	Reason for Exit	Remarks
1984	Ronald Reagan	Mismanagement, corruption, Cold War alignment with Soviets	Rejoined in 2003
2017	Donald Trump (1st Term)	Anti-Israel bias after Palestine admitted as member (2011)	Rejoined in 2023 under Biden
2025	Donald Trump (2nd Term)	Re-alleged anti-Israel bias	Exit effective Dec 2026

Potential Global Impact

Global Level

- **Financial Crunch:** US was historically among top contributors → exit worsens budget deficit.
- **Geopolitical Power Shift:** China likely to fill vacuum, shape narratives on heritage, digital governance, AI ethics.
- **Setback to Science & Education:** Weakening of UNESCO programs on girls' education, AI ethics, STEM clinics, climate action.
- **Erosion of Multilateralism:** Frequent US withdrawals weaken faith in global institutions → Global South countries face unpredictability.

Impact on India

- **Opportunities:**
 - Greater diplomatic space to influence agendas (AI ethics, South-South cooperation, cultural heritage).
 - Push for more **Indian sites in UNESCO World Heritage List** (e.g., Nalanda, Sundarbans).
- **Challenges:**
 - Funding cuts may affect India's projects under UNESCO (education, climate, cultural preservation).
 - Rising Chinese dominance → reduces India's influence.
 - Possibility of increased financial contribution burden on India.

Contemporary Context

- US withdrawal comes amid a **fragmentation of global governance** – similar withdrawals from WHO (2020, reversed later), Paris Agreement (2017, rejoined 2021).
- Highlights **tensions in Middle East geopolitics** and the politicization of multilateral organizations.
- Raises concerns about the **Global South's voice** being overshadowed by great-power rivalry.

Way Forward

- **For India:**
 - Leverage its **cultural soft power** (Yoga, Ayurveda, heritage diplomacy).
 - Position itself as a **bridge between Global South & developed nations** in UNESCO debates.
 - Strengthen collaboration with like-minded nations to balance China's dominance.
- **For Multilateralism:**
 - Need for reforms to depoliticize UNESCO and strengthen credibility.
 - Diversification of funding sources (private, philanthropic, CSR).
 - Enhance focus on **inclusive global governance** → protecting smaller nations' interests.

MAINS PRACTICE QUESTION

Q. Discuss the implications of repeated US withdrawals from UNESCO on global governance and multilateralism. How can India leverage this opportunity to enhance its cultural diplomacy and strategic influence?

India–Ghana Relations: Gateway to West Africa

Syllabus Mapping

- ✓ **GS Paper II – International Relations:** India and its neighborhood; India and Africa relations; Bilateral, regional, global groupings and agreements
- ✓ **GS Paper III – Economy & Resources:** Trade, investment, infrastructure projects, energy and minerals
- ✓ **GS Paper I – Society & Culture:** Indian diaspora, cultural linkages

Why in News?

- PM Narendra Modi's **state visit to Ghana** (first by an Indian PM in over 30 years) marked **60+ years of diplomatic ties**.
- He was conferred with Ghana's **highest civilian honour – Officer of the Order of the Star of Ghana**.

Ghana: Strategic Context

- **Location:** West Africa; capital – Accra. Borders Côte d'Ivoire, Burkina Faso, Togo, Gulf of Guinea.
- **Significance:**
 - **First Black African nation south of Sahara to gain independence (1957).**
 - Rich in **gold, cocoa, and cashews** – historically called the "Gold Coast".
 - Cited as a **model of democracy and stability** in Africa.
- **Geography:** Volta River & Lake Volta (largest artificial lake); Mount Afadjato & Togo-Atakora ranges.

Key Outcomes of PM's 2025 Visit

- **Upgraded Partnership:** Relations elevated to a **Comprehensive Partnership**.
- **Digital Cooperation:** Offer to share **UPI & India Stack** for fintech solutions.
- **MoUs Signed:**
 - **Cultural Exchange Programme (CEP)** – arts, music, heritage promotion.
 - **Standards Cooperation** – BIS (India) with GSA (Ghana).
 - **Traditional Medicine Collaboration** – Ayurveda & African traditional medicine.
 - **Joint Commission Meeting** – institutionalised high-level dialogue.

Evolution of India–Ghana Relations

- **Historical Ties:** Indian presence since 1953; full diplomatic relations in 1957 (same year Ghana's independence).
- **Shared Platforms:** Founding members of **NAM**; advocates of **South-South Cooperation**.
- **Institutional Mechanisms:**
 - Joint Commission (1995),
 - Joint Trade Committee,
 - Foreign Office Consultations.

Economic & Developmental Engagement

- **Bilateral Trade:** Crossed **USD 3 billion (2024-25)**.
 - Ghana → India: **Gold (70%), cocoa, cashew nuts**.
 - India → Ghana: **Pharmaceuticals, textiles, machinery**.
- **Investments:** Indian companies have invested **USD 2 billion in ~900 projects**.
- **Lines of Credit:** Over **USD 450 million** extended for electrification, sugar processing, fish processing.
- **Key Infrastructure:** **Tema-Mpakanan railway project** & 300-metre bridge across Volta River → connects to Burkina Faso corridor.
- **Digital Engagement:**
 - Ghana–India **Kofi Annan Centre of Excellence in ICT (2003)**.
 - **Pan-African e-Network & e-VBAB** for tele-education and telemedicine.
 - Over **1,100 Ghanaians trained under ITEC**.

Cultural & Diaspora Linkages

- Indian diaspora ~15,000 strong.
- Presence of **Hindu temple, Gurudwara, ISKCON centres**.
- PM welcomed with chants of "**Hare Rama Hare Krishna**" – symbolising soft power & cultural diplomacy.

India–Africa Wider Context

- **Trade:** India is Africa's **4th largest trading partner** (USD 100 bn, 2025).
- **Investments:** USD 75 bn → target to double by 2030.
- **Energy & Minerals:** Africa key supplier of **oil (Nigeria, Angola)** & critical minerals (**cobalt, manganese**).
- **Maritime Security:** Africa central to India's **Indian Ocean strategy**; India opened **first overseas naval base in Mauritius (2024)**.
- **Diplomacy:** India advocated AU's **permanent membership in G20 (2023)**.
- **Cultural Ties:** Gandhi–Mandela legacy, diaspora bridges.

Challenges in India–Ghana/Africa Relations

- **Project delays** in Indian LoC-funded initiatives.
- **Chinese competition** in infrastructure & mining.
- **Security instability** in parts of West Africa (terrorism, coups).
- **Trade imbalance** tilted towards resource imports.

Conclusion

India–Ghana ties represent a **microcosm of India–Africa engagement**: rooted in shared history, reinforced by people-to-people bonds, and diversified through trade, digital cooperation, energy, and culture. Ghana's **stability and democratic credentials** make it a **gateway to West Africa** for India's broader outreach.

Strengthening this partnership will help India advance its role as a **dependable development partner**, balancing Chinese influence, and enhancing the **Global South's collective voice**.

MAINS PRACTICE QUESTION



Q. Discuss the significance of India–Ghana relations in the context of India's Africa policy. How can India leverage Ghana's strategic position in West Africa to advance its economic and geopolitical interests?

India & Western Sanctions on Russian Oil: Concerns

📌 Syllabus Mapping

- ✓ **GS Paper II – International Relations:** Bilateral & multilateral issues, impact of sanctions, India's foreign policy
- ✓ **GS Paper III – Economy:** Energy security, trade & current account deficit, inflation management
- ✓ **Essay Paper:** Energy geopolitics & Global South's response to sanctions

Why in News?

- India **criticised the proposed US Russian Sanctions Act, 2025**, which plans **500% tariffs** on countries importing Russian oil & energy products.
- NATO warned India, China, and Brazil to stop buying Russian oil or face **100% secondary sanctions**.
- India accused the West of "**double standards**", as Europe continues to import Russian energy while pressuring others to stop.

What are Secondary Sanctions?

- **Definition:** Economic penalties imposed on *third parties* (countries, firms, individuals) doing business with a sanctioned state, even if they don't violate international law.
- **Objective:** To completely isolate the sanctioned country by discouraging indirect trade/support.
- **Key Features:**
 - 100% tariffs, trade restrictions, blocking financial access.
 - Extends reach of one country's domestic laws to others → often seen as **economic coercion**.
 - Strains diplomatic ties with allies.

Significance of Russian Oil for India

1. **Strategic Cushioning Amid Turbulence**
 - Russian crude, sold at a **discount post-Ukraine war (2022)**, helped India manage **inflation, CAD, and subsidies**.
 - Estimated savings: **USD 13 billion (2022–2024)**.
2. **Rising Dependence**
 - FY22: Russia = **2.1% of India's oil imports**.
 - FY25: Russia = **35.1%**, India's top supplier (ahead of Qatar, UAE).
 - 2024: India imported **1.9 mb/d** vs only **0.1 mb/d** in 2021.

Why is India Opposing the Russian Sanctions Act & NATO Tariff Threats?

1. **Energy Security Imperative**
 - India imports **85% of its crude oil needs**.
 - Excluding Russia (10% of global oil supply) → risk of prices spiking to **USD 130/barrel**, harming consumers.
2. **Double Standards by the West**
 - EU still imported **18% of natural gas** from Russia in 2024, often via third parties.
 - India questions legitimacy of sanctions when Western states continue business with Russia.
3. **Threat to Trade Sovereignty**
 - 100–500% tariffs would jeopardise India's **USD 41 bn trade surplus with US (2024–25)**, esp. in **IT, textiles, pharma**.
 - Historical precedent: In 2019, India halted **Iranian oil imports** due to US secondary sanctions, undermining strategic autonomy.
4. **Negotiation Strategy**
 - India sees tariff threats as **pressure tactics**.
 - Engaging diplomatically with US to seek **waivers/exemptions**.
 - Positioning itself as a **responsible Global South leader** resisting coercion.

Wider Implications

🌐 Global Energy Geopolitics

- Sanctions could fragment oil markets → emergence of "**shadow trade routes**".
- May accelerate push towards **dedollarisation** in energy trade (rupee-ruble, yuan, dirham).

🇮🇳 India's Strategic Autonomy

- Non-alignment in sanctions regime underscores India's **multi-vector foreign policy**.

- India balances **strategic partnership with US** (technology, defence) with **energy ties to Russia**.

Domestic Economy

- Tariffs would hit **exports, rupee stability, and growth prospects**.
- Oil price volatility could strain **inflation targets and fiscal deficit management**.

Conclusion

India's firm opposition to Western secondary sanctions reflects its pursuit of **energy security, trade sovereignty, and strategic autonomy**. While balancing ties with the US and Europe, India must also deepen **alternative energy routes** (Middle East, Africa, **renewables, domestic exploration**) and strengthen **South-South solidarity** against unilateral coercive measures.

This episode highlights the emerging **multipolar energy order**, where India's choices will significantly shape both domestic stability and global oil politics.

MAINS PRACTICE QUESTION

Q. Western sanctions on Russian oil pose challenges to India's energy security and strategic autonomy. Critically examine India's options in balancing its energy dependence on Russia with its growing strategic partnership with the US and Europe.

Kaladan Multimodal Transit Project (KMTTP): Connectivity Push

Syllabus Mapping

- GS Paper II – International Relations:** India–Myanmar relations, Act East Policy, regional connectivity
- GS Paper III – Infrastructure & Economy:** Transport corridors, logistics, North-East development
- Essay Paper:** Connectivity as a driver of regional growth & strategic autonomy

Why in News?

- Union Minister announced that **KMTTP will be operational by 2027**.
- Jointly developed by **India and Myanmar**, the project creates a **multi-modal corridor** connecting India's eastern ports to **Myanmar and India's North-Eastern Region (NER)**.

About KMTTP

- Framework Agreement:** Signed in 2008.
- Nodal Ministry:** Ministry of External Affairs (MEA).
- Project Development Consultant (PDC):** Inland Waterways Authority of India (IWAI).

Transit Components

- Waterway:** Sittwe Port (Rakhine, Myanmar) → Paletwa (Myanmar) via Kaladan River.
- Road:** Paletwa → Zorinpui (Mizoram, India–Myanmar border).

Significance of KMTTP for India

- Ending Geographic Isolation of NER**
 - Currently connected only through the **Siliguri Corridor (Chicken's Neck, 21 km wide)**.
 - Provides an **alternate route** to integrate NER with mainland India.
- Boost to Act East Policy (AEP)**
 - Strengthens India's outreach to Southeast Asia by improving cross-border trade routes.
- Reduced Cost and Time**
 - Transportation of goods from **Kolkata to Aizawl** to fall by **>50% in cost & time**.
- Economic Growth of NER**
 - Potential to establish NER as a **trade & manufacturing hub**.
 - Boosts agro-processing, textiles, and export-oriented industries.
- Strategic Leverage**
 - Strengthens India's **regional influence vis-à-vis China's projects in Myanmar** (e.g., Kyaukpyu Port under BRI).
 - Enhances India's maritime footprint in the Bay of Bengal.

Other Connectivity Projects for NER

- India–Myanmar–Thailand Trilateral Highway:** Moreh (India) – Mae Sot (Thailand) via Myanmar.
- Protocol on Inland Water Transit & Trade (PIWT&T):** India–Bangladesh riverine cooperation.
- BBIN Motor Vehicle Agreement:** Facilitates movement of goods and passengers across Bangladesh, Bhutan, India, Nepal.

- **Use of Chattogram & Mongla Ports (Bangladesh):** Reduces pressure on Siliguri Corridor.

Challenges Ahead

- **Insurgency & Security Issues** in Rakhine and Chin states of Myanmar.
- **Political Instability** in Myanmar since 2021 coup delays execution.
- **Geological & Terrain Challenges** in Mizoram border region.
- **China's Influence** in Myanmar's infrastructure (e.g., China-Myanmar Economic Corridor).

Conclusion

KMTTP is a **strategic game-changer** for India's Northeast, reducing dependence on the Siliguri Corridor and boosting trade, connectivity, and security. Timely completion by 2027 will not only **strengthen Act East Policy** but also counterbalance China's influence in Myanmar and the Bay of Bengal.

MAINS PRACTICE QUESTION

Q. Critically analyse the significance of the Kaladan Multimodal Transit Transport Project (KMTTP) in strengthening India's connectivity and strategic influence in the neighbourhood. How does it complement India's Act East Policy?

INTERNAL SECURITY & DEFENCE

Geelong Treaty under AUKUS: Strategic Implications

📌 Syllabus Mapping

- ✓ **GS Paper II – International Relations:** India's foreign policy, alliances, Indo-Pacific geopolitics
- ✓ **GS Paper III – Internal Security & Defence:** Nuclear submarines, strategic partnerships, security challenges
- ✓ **GS Paper II – International Institutions:** Non-proliferation treaties, global security structures

Context

- Recently, **Australia and the United Kingdom (UK)** signed the **Geelong Treaty** (Nuclear-Powered Submarine Partnership & Collaboration Treaty) under **AUKUS Pillar I** for the next **50 years**.
- The treaty marks a **major milestone** in strengthening **AUKUS cooperation** and reflects the **long-term Indo-Pacific security strategy** against emerging challenges.

What is the Geelong Treaty?

- **Objective:**
 - Cooperation on **design, build, operation, sustainment, and disposal** of SSN-AUKUS (nuclear-powered attack submarines).
 - Development of **resilient trilateral supply chains**.
- **Compliance:** Aligns with global nuclear non-proliferation norms and the **AUKUS Naval Nuclear Propulsion Agreement (ANNPA)**.
- **Duration:** 50 years – reflecting a **multi-generational security commitment**.
- **Strategic Scope:** Not just Indo-Pacific, but also Euro-Atlantic security.

About AUKUS

- **Established:** 2021 – security partnership between **Australia, UK, and USA**.
- **Pillars:**
 - **Pillar I** → Shipbuilding capacity, nuclear submarines for Australia (SSNs).
 - **Pillar II** → Joint development in **AI, quantum, cyber, electromagnetic warfare, autonomy, simulation**.
- **Implementation:**
 - US to sell nuclear submarines to Australia (from 2030s).
 - UK-Australia co-production of SSNs (from 2040s).

Strategic Significance of AUKUS

1. **Countering China's Influence:**
 - Strengthens US-led alliances in the Indo-Pacific.
 - Expands US access and footprint in Southeast Asia.
2. **Boost to Defence Industry:**
 - Arms sales, technology transfer, and joint production enhance defence economies of AUKUS nations.

3. Rapid Deployment:

- o Nuclear submarines (20 knots) have **greater range, endurance, and speed** than conventional ones (6.5 knots).

4. Synergy with QUAD:

- o AUKUS complements QUAD's diplomatic & economic initiatives with a **hard-power dimension**.

Opportunities and Challenges of AUKUS

◆ Opportunities

- **High Trust Factor:** Existing intelligence-sharing frameworks (e.g., **Five Eyes Alliance**).
- **Quick Military Response:** Nuclear submarines enhance deterrence and security presence.
- **Aligned Strategies:** Fits into Australia's **National Defence Strategy** and UK's **Strategic Defence Review**.
- **Regional Stability:** Seen as a counterbalance to China's assertiveness in South China Sea & Indian Ocean.

◆ Challenges

- **US Burden-Sharing Demands:** Push for Australia to raise defence spending to **3.5% of GDP**.
- **Quad vs AUKUS Dilemma:** Risk of **QUAD's marginalisation**, as AUKUS prioritises military capabilities.
- **Lack of Asian Participation:** Seen as a **Western-centric grouping**.
- **Production Constraints:** US shipyards produce only **1.13 Virginia-class submarines annually**, below AUKUS needs.
- **Nuclear Proliferation Risks:** Possibility of setting precedent for nuclear-powered submarine acquisition, triggering an **arms race**.

Implications for India

- **Strategic Opportunity:**
 - o India is not part of AUKUS but can **develop unique arrangements** with the US, UK, Australia, and France.
 - o Expanding defence & tech cooperation with Quad partners.
- **Regional Role:**
 - o Enhances India's **Comprehensive National Power (CNP)**.
 - o Reinforces its role as a **net security provider in IOR** (Indian Ocean Region).
- **Diplomatic Balance:**
 - o India needs to balance ties between **QUAD (inclusive Indo-Pacific grouping)** and **AUKUS (exclusive, military-centric bloc)**.

Conclusion

The **Geelong Treaty under AUKUS** marks a historic step in consolidating Western hard-power presence in the Indo-Pacific. While it enhances deterrence against China, it also risks nuclear proliferation and creates challenges for multilateral groupings like QUAD. For India, this presents both opportunities (security partnerships, defence technology access) and challenges (balancing strategic autonomy with deeper defence cooperation).

India must leverage AUKUS indirectly to strengthen its **maritime dominance, technological capabilities, and Indo-Pacific leadership** while safeguarding its **non-aligned yet strategic autonomy-based foreign policy**.

MAINS PRACTICE QUESTION



Q. "AUKUS signifies a shift in US regional security strategy from self-reliance to allied burden-sharing. Critically analyse its implications for India's role in the Indo-Pacific."

Rising Cyber Frauds in India

📌 Syllabus Mapping

- ✓ GS Paper II – Governance (Cyber Security, Internal Security Challenges)
- ✓ GS Paper III – Internal Security, Science & Tech (Cybercrimes, Digital Security, Data Protection)
- ✓ GS Paper III – Economy (Digital Banking, Financial Frauds, Regulation of Fintech)

Why in News?

- The **Indian Cyber Crime Coordination Centre (I4C)**, under the Ministry of Home Affairs, reported a **sharp rise in financial cyber frauds** in 2025.
- Fraud losses average **₹1,000 crore per month** in H1 2025, with an **annual projection of ₹1.2 lakh crore (~0.7% of GDP)**.
- Many of these scams originate from **Southeast Asia** (Cambodia, Myanmar, Laos, Vietnam, Thailand) allegedly run from Chinese-controlled scam compounds.

State of Financial Cyber Frauds in India

- Rising Losses:**
 - ₹7,000 crore lost in just 6 months of 2025.
 - Expected to cross **₹1.2 lakh crore annually.**
- Origin & Nature of Scams:**
 - 50% originated from Southeast Asia.
 - Major scams:
 - Stock/Investment scams*
 - Digital Arrest scams* (impersonating police/income tax officials)
 - Task-based job scams*
 - Indian intel identified **45 scam centres in Cambodia**, 5 in Laos, 1 in Myanmar.
- Modus Operandi:**
 - Fake job offers lure Indians abroad, trafficked to scam centres.
 - Ghost SIMs and weak KYC used for anonymity.
 - Recruitment agents active across Indian states (Maharashtra, Tamil Nadu, J&K, UP, Delhi).

What are Cyber Frauds?

- Definition:** Use of digital tech (internet, apps, devices) to **deceive individuals or organizations** for financial gain.
- Methods:** Exploiting weak cyber systems, loopholes in digital banking, human behaviour.

Types of Cyber Frauds

Type	Description	Example
Digital Arrests	Fake officials extorting money	“Police” or “IT officer” calls
Online Job/Task Scams	Fake work-from-home jobs with upfront fees	Data entry scams
Phishing	Fake emails/websites to steal bank details	Credit card OTP theft
Ransomware	Locks user data, demands ransom	<i>WannaCry (2016)</i>
Malware Attacks	Spyware/keyloggers stealing credentials	Pegasus spyware
BEC (Business Email Compromise)	Hacking emails to impersonate suppliers	Global \$43 bn fraud problem
ATM/PoS Frauds	Skimming, cloning debit/credit cards	Canara Bank ATM skimming (2018)
Dating Hoodwinks	Online dating frauds to extract money	Romance scams on apps
Cyberbullying & Spying	Harassment or espionage for data theft	Pegasus & State-sponsored attacks

Consequences of Cyber Frauds

- Individuals:** Loss of savings, identity theft, harassment, blackmail.
- Businesses:** Data breaches → reputational loss, legal penalties, fines.
- Governments:** Threat to **critical infrastructure, defence networks, national security.**

Systemic Gaps in India

- Weak **digital banking safeguards**.
- Ghost SIM cards from PoS agents (telecom loopholes).
- Lax immigration verification → anonymous cross-border crime.
- Poor digital literacy, esp. rural & senior citizens.
- Under-reporting due to stigma & lack of awareness.

Key Initiatives Against Cyber Frauds

Indian Framework

- Legislation:**
 - IT Act 2000* – cybercrime provisions.
 - Digital Personal Data Protection Act 2023* – strengthens privacy.
- Institutions:**
 - CERT-In** – cyber emergency response.
 - I4C (Indian Cyber Crime Coordination Centre)** – national cybercrime control.
 - NCIIPC** – protects critical information infra.
 - Cyber Swachhta Kendra** – malware cleanup.
 - Citizen Financial Cyber Fraud Reporting Portal** – immediate complaint system.
- Sector-specific:**
 - SEBI's cybersecurity norms for stock markets.
 - DoT's **Chakshu app & Digital Intelligence Platform** for telecom fraud alerts.

Notable Incidents

Aadhaar Breach (2018)



1.1 billion records exposed

Canara Bank ATM Skimming (2018)



₹20 lakh theft

Pegasus Spyware (2019–21)

surveillance of 300+ Indian phone numbers



Global Measures

- **Budapest Convention on Cybercrime (2004):** Harmonizes cybercrime laws (India not a signatory).
- **UN Internet Governance Forum (IGF):** Multi-stakeholder cyber policy.
- **UNGA Cybersecurity Norms:**
 - *OEWG (Russia-led)* – inclusive dialogue.
 - *GGE (US-led)* – norms of state behaviour in cyberspace.

Way Forward

1. **Regulatory Strengthening:**
 - Sign Budapest Convention (with safeguards).
 - Update IT Act 2000 with stricter provisions for **AI-driven frauds**.
2. **International Cooperation:**
 - Bilateral cybercrime treaties (esp. with Southeast Asia).
 - Global frameworks for extradition & data-sharing.
3. **Financial & Telecom Vigilance:**
 - Mandatory **SIM-KYC audit**.
 - Stronger **AI-based fraud detection** for digital banking.
4. **Awareness & Literacy:**
 - Mass campaigns on cyber hygiene.
 - Community cyber police volunteers.
5. **Technology Solutions:**
 - AI/ML for fraud detection.
 - Blockchain for secure digital identity & payments.

Conclusion

Cyber fraud has emerged as a **national security and economic risk**, costing India 0.7% of GDP annually. With **digital payments surging (UPI, DBT, fintech apps)**, the threat will expand further. India needs a **comprehensive cyber resilience strategy** combining laws, technology, international cooperation, and citizen awareness.

MAINS PRACTICE QUESTION

1. "Financial cyber frauds have become a systemic risk to India's economy." Critically analyse with reference to recent trends and policy responses.
2. Discuss the role of institutions like I4C and CERT-In in strengthening India's cybersecurity architecture. What more is needed?

Defence & Security Updates 2025: Operations, Missiles & Exercises

📌 Syllabus Mapping

- ✓ GS Paper II – International Relations (Bilateral & Multilateral Military Exercises)
- ✓ GS Paper III – Internal Security (Terrorism, Cybersecurity, Defence Preparedness)
- ✓ GS Paper III – Science & Technology (Indigenous Defence Technologies, Missiles, DRDO Initiatives)

1. Counter-Terror and Security Operations

Operation Mahadev

- Joint mission by **Indian Army, CRPF, and J&K Police**.
- **Objective:** Neutralize **foreign terrorists** infiltrating Kashmir Valley with support from **Pakistan-based groups (LeT)**.
- **Significance:** Part of India's counter-terror doctrine to combine military, paramilitary, and local police intelligence.

Operation Med Max

- Conducted by **Narcotics Control Bureau (NCB)**.
- **Objective:** Crack down on the **illegal pharmaceutical drug trade**.
- **Key Outcomes:**
 - Dismantled a **transnational syndicate** spanning **4 continents**.
 - Use of **encrypted digital platforms, drop-shipping models, cryptocurrency** for smuggling.
- **Significance:** Shows growing nexus between **cyber platforms and illicit trade networks**.

2. Indigenous Naval & Missile Developments

Project 17A – INS Udaygiri

- Follow-on of **Project 17 (Shivalik-class stealth frigates)**.
- **Features:**
 - Enhanced stealth, multi-mission capabilities.
 - Equipped with **state-of-the-art weapons and sensors**.
 - Capable of operating in **Blue Water environment** (global seas).

- **Significance:** Strengthens India's **maritime dominance** under *SAGAR* vision.

Extended Range Anti-Submarine Rocket (ERASR)

- Indigenous **anti-submarine rocket system**.
- Designed by DRDO's ARDE, Pune.
- **Features:**
 - Twin-rocket motor configuration – wide range spectrum.
 - Equipped with **Electronic Time Fuze** (indigenously developed).
- **Significance:** Enhances **anti-submarine warfare** capabilities of Indian Navy.

Astra Missile

- Indigenous **Beyond Visual Range Air-to-Air Missile (BVRAAM)** by DRDO.
- Tested from **Su-30 MKI** platform.
- **Features:**
 - Range **>100 km**.
 - All-weather, day-night capability.
 - Equipped with **indigenous RF seeker, guidance & navigation systems**.
- **Significance:** Boosts IAF's **air superiority** and **indigenous weapons program**.

Pralay Missile

- **Surface-to-surface quasi-ballistic missile**.
- Developed by DRDO Research Centre Imarat (Hyderabad).
- **Features:**
 - **Hypersonic speed (>Mach 5)**.
 - Strike Range: **150–500 km**.
 - Quasi-ballistic: low trajectory + maneuvering capability during flight.
- **Significance:** Provides **conventional deterrence** against China and Pakistan.

3. Military Exercises in News

Exercise Bold Kurukshetra 2025

- **14th India-Singapore joint mechanized warfare exercise**.
- Focus: **Tabletop exercise & computer-based wargame** validating operational procedures.

Bharat NCX 2025 (National Cybersecurity Exercise)

- Conducted by NSCS & Rashtriya Raksha University.
- **Objective:** Build national cyber resilience, simulate real-world cyberattacks.
- Features: **Live-fire simulations, AI-based cyber defence**.

SIMBEX 2025

- **India-Singapore Maritime Bilateral Exercise** (since 1994, initially called *Lion King*).
- **Significance:** One of India's longest uninterrupted maritime drills.
- Supports **Act East Policy** and **Vision SAGAR**.

Exercise Talisman Sabre 2025 (Australia)

- Australia's **largest multilateral exercise**.
- Participants: **19 nations, 35,000+ personnel**.
- Includes **air, land, sea, space & cyber operations**.
- India among key participants; Malaysia & Vietnam as observers.

Jaa Mata 2025 (India-Japan Coast Guard)

- Joint exercise held in **Chennai**.
- Aim: Enhance **interoperability, operational capability, and maritime security**.
- Part of India-Japan maritime cooperation in Indo-Pacific.

4. Significance of These Developments

- **Internal Security:** Strengthens India's anti-terror and anti-narcotics grid.
- **Defence Modernisation:** Enhances **indigenous missile systems** and **blue water naval capabilities**.
- **Maritime Security:** Reinforces India's role as a **net security provider** in Indo-Pacific.

MAINS PRACTICE QUESTION

1. Discuss the significance of India's indigenous missile and naval development projects like Project 17A, Astra, and Pralay in strengthening national security and strategic autonomy.
2. Critically analyse India's role in regional and global military exercises (Bold Kurukshetra, SIMBEX, Talisman Sabre) in the context of Indo-Pacific security architecture.

- **Cybersecurity Preparedness:** Exercises like Bharat NCX ensure readiness against future **cyber warfare threats**.
- **Strategic Diplomacy:** Multilateral drills (e.g., Talisman Sabre) boost **India's global defence partnerships**.

ECONOMY

Public Debt in India: Trends, Challenges & Way Forward

📌 Syllabus Mapping

- ✓ **GS Paper III – Indian Economy:** Issues relating to planning, mobilization of resources, growth, development & employment
- ✓ **GS Paper II – Governance:** Fiscal policy, accountability, and institutional reforms
- ✓ **Essay Paper:** Fiscal prudence vs. welfare state in India

Why in News?

- RBI's Biannual Financial Stability Report (FSR) 2025 highlighted rising **public debt** in India.
- India's **public debt-to-GDP ratio remains above 80%**, significantly higher than peer Emerging Market Economies (EMEs).

Key Highlights of the Report

1. Resilience of Indian Economy

- GDP growth projected at **6.5% in 2025–26**, led by domestic demand & investments.
- Banking sector strong: **GNPA ratio** of SCBs at **2.3%** and NNPA at **0.5%** (multi-decadal lows).
- Large borrowers' GNPA ratio fell from **3.8% (Sept 2023)** to **1.9% (Mar 2025)**.

2. Inflation Trends

- CPI inflation at **2.8% (May 2025)** – a 6-year low.
- Imported inflation risks remain due to **Middle East tensions**.

3. Rising Public Debt

- Public debt > **80% of GDP** (India) vs. EMEs average ~60%.
- **Global comparison:** IMF projects world public debt > **95% (2025)** and **100% (2030)**.

Understanding Public Debt in India

- **Definition:** Accumulated borrowings of Union & State Governments (excluding inter-government liabilities).
- **Composition:**
 - **Internal Debt:** 96.59% of total (raised domestically).
 - **External Debt:** 3.41% of total (raised from foreign creditors).
 - Total public debt: **₹18.17 lakh crore (2025–26 Union Budget)**.

Why is Public Debt High in India?

1. **Persistent Fiscal Deficits**
 - FY 2024-25: Gross fiscal deficit = **₹15.77 lakh crore** (slightly above estimates).
2. **High Revenue Expenditure**
 - Total expenditure = **₹46.56 lakh crore**, with **₹36.04 lakh crore revenue expenditure**.
 - Subsidies (food, fertilizer, fuel), salaries, pensions weigh heavily.
3. **Rising External Debt**
 - Grew 10% YoY, from **\$668.8 bn (2024)** to **\$736.3 bn (2025)**.
4. **Pandemic-era Borrowing**
 - Huge Covid welfare & health spending increased debt stock.

Impacts of High Public Debt

- **Increased Interest Burden:** Higher debt servicing costs = fiscal stress.

- **Crowding Out Effect:** Private sector investments squeezed.
- **Limited Fiscal Space:** Welfare & capital expenditure constrained.
- **Inflationary Pressures:** Monetization of deficits risks demand-pull inflation.
- **Intergenerational Inequity:** Future taxpayers bear today's debt burden.

Legal & Institutional Framework

- **FRBM Act, 2003:** Debt targets – 40% (Centre), 60% (General Government) by FY25.
- **RBI Act, 1934 (Sec. 20):** RBI manages Central Govt debt.
- **Government Securities Act, 2006:** Modernized govt securities management.

Way Forward

1. **Adopt Debt-GDP Ratio as Fiscal Anchor**
 - Govt targets **50±1% debt-GDP ratio by FY 2031.**
2. **Active Debt Management**
 - **Bond switching** to extend maturities: Average maturity of govt bonds rose from **10.4 yrs (2018-19) to 13.2 yrs (2024-25).**
3. **Subsidy Rationalisation & Tax Reforms**
 - Remove duplicates: **4 crore LPG connections deactivated under PAHAL.**
 - Strengthen **GST compliance (AI-based analytics, e-invoicing).**
4. **Boost Revenue Mobilisation**
 - Widen direct tax base.
 - Leverage disinvestment and asset monetisation.
5. **Public Debt Management Authority (PDMA)**
 - Separate debt management from RBI's monetary functions.
6. **Strengthen Capex & Productive Borrowing**
 - Ensure borrowing is directed towards **infrastructure & growth-enhancing investments**, not consumption subsidies.

MAINS PRACTICE QUESTION

Q. India's rising public debt is a double-edged sword – while it has supported welfare and growth, it now threatens fiscal space and sustainability. Discuss the challenges and suggest a roadmap for sustainable debt management in India.

Conclusion

India's high public debt has so far **supported growth and welfare**, but it risks long-term **fiscal sustainability** and **intergenerational equity**.

Moving forward, a **gradual fiscal consolidation**, **efficient spending**, and **revenue reforms** are vital to ensure that debt acts as a **growth enabler, not a fiscal constraint**.

Household Savings Decline & Rising Liabilities

Syllabus Mapping

- ✓ **GS Paper III – Indian Economy:** Resource mobilization, growth, development & employment
- ✓ **GS Paper II – Governance:** Policy measures for financial inclusion & macroeconomic stability
- ✓ **Essay Paper:** Balancing consumption-led growth with sustainable investment

Why in News?

- RBI's **Financial Stability Report 2025** flagged concerns over the **sharp decline in household savings** and a **rise in household debt**, which may threaten **capital formation and long-term growth**.

Current Trends in Household Savings

1. **Falling Savings Rate**
 - Gross domestic savings: **34.6% (2011-12) → 29.7% (2022-23)** (4-decade low).
 - Household net savings (traditionally 60% of total savings) also declining.
2. **Rising Household Debt**
 - Household liabilities peaked at **6.4% of GDP (FY24)**, close to **2007 high (6.6%)**.
 - Borrowing mainly for **consumption, housing, and education**.
3. **Shift in Saving Pattern**
 - **Physical savings** rose: 59.7% (2019-20) → 71.5% (2023-24).
 - **Financial savings** fell: 40.3% → 28.5%.
 - Within financial savings:
 - Bank deposits fell from **58% (FY12) → 37% (FY23)**.
 - Investments in **equities & mutual funds** nearly doubled (**₹1.02 lakh cr in FY21 → ₹2.02 lakh cr in FY23**).
4. **Urban vs. Rural Divide**
 - Urban: more into equities, MFs (better access).

- Rural: prefer cash & gold (low financial literacy, limited access).
- 5. **Post-Pandemic Reversal**
 - Covid boosted savings temporarily (due to low spending).
 - Inflation + low interest rates eroded savings post-2021.
- 6. **Policy Initiatives**
 - **Sukanya Samriddhi, Kisan Vikas Patra, NPS, Mahila Samman Savings Certificate** → encourage financial savings.

Household Savings & Liabilities – Concepts

- **Household Savings:** Portion of disposable income not consumed → stored as **financial savings (deposits, insurance, MFs)** or **physical savings (gold, real estate, machinery)**.
- **Household Debt:** Borrowings by households & non-profits, repayable with principal + interest.

Implications of Low Savings & High Debt

1. **Reduced Domestic Capital Formation**
 - Lower household savings → reduced pool for investments → reliance on foreign capital → higher **external vulnerabilities**.
2. **Short-term Growth, Long-term Risk**
 - Higher consumption = demand push.
 - But risk of **debt-fueled bubbles** (like 2008 US subprime crisis).
3. **Fiscal & Monetary Policy Dilemma**
 - Govt may need higher taxation to compensate.
 - RBI trade-off: low interest rates = less savings; high rates = costlier borrowing.
4. **Debt Stress & NPAs**
 - Rise in unsecured loans, credit cards → higher default risk → **banking sector NPAs** may rise.
5. **Social Inequality & Insecurity**
 - Weak resilience during emergencies.
 - Retirement insecurity as provident fund/pension savings decline.

Paradox of Savings – Theoretical Angle

- **Keynes' Paradox of Thrift (1936, General Theory):**
 - If all households save more simultaneously → consumption falls → demand drops → production contracts → income & jobs fall → **aggregate savings decline instead of rising**.
- Relevance for India: Too much saving hurts short-term growth, too little saving hurts long-term capital formation → **policy balance is crucial**.

Way Forward

1. **Encourage Financial Savings**
 - Higher real deposit rates, inflation-indexed bonds.
 - Expand reach of **post office schemes, microfinance, digital banking**.
2. **Strengthen Financial Literacy & Inclusion**
 - Rural focus → increase awareness of MFs, SIPs, pension schemes.
3. **Promote Long-term Savings Instruments**
 - Tax incentives for retirement savings, pension funds, insurance.
4. **Debt Management Measures**
 - Regulate unsecured loans/credit cards to prevent **household debt traps**.
 - Encourage affordable housing & education loans with safeguards.
5. **Macro Reforms**
 - Improve job creation & income growth to boost saving capacity.
 - Rationalise subsidies to reduce govt borrowing → prevent crowding out.

Conclusion

India's **household savings are declining while liabilities are rising**, a worrying sign for **domestic capital formation, financial stability, and intergenerational equity**. Balancing **consumption-driven growth** with **sustainable savings mobilisation** is essential for long-term economic resilience.

MAINS PRACTICE QUESTION

Q. Discuss the reasons for declining household savings and rising liabilities in India. What are its implications for capital formation and economic growth? Suggest policy measures to address these challenges.



Future of Work in India: Opportunities & Challenges

📌 Syllabus Mapping

- ✓ **GS Paper III – Indian Economy:** Employment, inclusive growth, effects of liberalisation, globalisation
- ✓ **GS Paper II – Governance & Social Justice:** Welfare schemes, vulnerable sections, policies for development
- ✓ **GS Paper IV – Ethics:** Corporate ethics, worker rights, psychological well-being

Why in News?

- **TCS announced 12,000 layoffs**, raising concerns over job displacement due to automation and AI.
- 1.05 lakh positions lost globally in 2025 (Layoffs Landscape study).
- India's workforce faces **reskilling challenges and employability risks** amid technological shifts.

🌐 What is the “Future of Work”?

The **transformation of how work is performed, organised, and experienced**, driven by:

- **Technological change** (AI, robotics, automation).
- **Economic shifts** (gig economy, green jobs).
- **Demographic trends** (youth bulge, ageing workforce).

💡 Key Dimensions of the Future of Work

1. Economic Impacts

- **Job Creation:** 170 million new jobs expected globally (Big Data, FinTech, Cybersecurity).
- **Vulnerable Jobs:** Writing, research, translation may be replaced by AI (Microsoft study).
- **Productivity Boost:** Generative AI could add **\$2.6–4.4 trillion annually** (McKinsey).
- **Green Jobs:** ILO estimates **54 million green jobs (2021–2030)**.

2. Workforce & Skills

- **Reskilling & Upskilling** essential for AI, cloud, and automation.
- **Skill Instability:** WEF → 39% of workers' core skills will change by 2030.

3. Social Impacts

- **Inequality:** Wage & opportunity gap between skilled vs unskilled workers.
- **Gender Gap:** India's gender pay gap **34% vs global avg. 20% (ILO)**.
- **Marginalised Groups:** ST literacy 13% lower → hinders inclusion in future workforce.

4. Ethical Concerns

- **Social Responsibility:** IT firms must balance efficiency with humane practices.
- **Worker Rights:** Protection against “hire & fire” culture.
- **Mental Health:** Anxiety, stress, and work-life imbalance risks rising.

🏛️ Government Initiatives

1. Skilling, Upskilling & Reskilling

- *PM Kaushal Vikas Yojana (PMKVY)* – short-term training + RPL.
- *FutureSkills Prime* – NASSCOM + MeitY for digital skills.
- *National Apprenticeship Promotion Scheme (NAPS)*.

2. Technology Adoption

- *AI for India 2030*.
- *National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)*.



Legal Provisions Related to Layoffs in India

- ➔ **Industrial Disputes Act, 1947** – governs layoffs; Karnataka HC extended “workmen” definition to software engineers.

Four Labour Codes:

- ➔ **Code on Industrial Relations** Notice period, govt. approval, dispute redressal
- ➔ **Code on Wages** Ensures wages & compensation
- ➔ **Code on OSHWC** Mandates safety & welfare during layoffs
- ➔ **Code on Social Security** Provides gratuity, PF, unemployment allowances

3. Health & Well-being: *National Tele Mental Health Programme* – online mental health support.

Way Forward

- **Balanced Approach:** Competitiveness vs workforce security.
- **Massive Reskilling Drive:** Align universities & industry needs.
- **Strengthen Social Safety Nets:** Universal social security & unemployment insurance.
- **Promote Ethical Corporate Practices:** Responsible automation & fair labour transitions.
- **Inclusive Workforce Strategy:** Gender-sensitive & tribal-friendly policies.

Conclusion

The **Future of Work in India** stands at a critical juncture. While **automation and AI** bring immense opportunities for productivity and innovation, they also risk **job displacement, inequality, and worker distress**. By **investing in skills, ensuring ethical corporate conduct, and building strong social safety nets**, India can transform the disruption into a chance to build an **inclusive, resilient, and future-ready workforce**.

MAINS PRACTICE QUESTION

Q. "The future of work in India is a double-edged sword—bringing opportunities but also deep social and ethical challenges." Discuss in the context of AI, automation, and labour reforms.

India's Gig Economy: Bridging the Gaps

Syllabus Mapping

- ✓ **GS Paper III – Economy:** Employment, Growth, and Development
- ✓ **GS Paper II – Governance:** Labour Reforms, Welfare Schemes, Social Security
- ✓ **GS Paper I – Society:** Changing nature of work, Gender empowerment

Why in the News?

- The **Union Budget 2025–26** formally recognised **gig and platform workers**, extending **social protection schemes** to them.
- However, the **Periodic Labour Force Survey (PLFS)** still lacks a **separate classification** for gig workers, creating a gap between **policy intent and ground-level data clarity**.

What is the Gig Economy?

- A **labour market** driven by **short-term, flexible, task-based work**, often facilitated through **digital platforms**.
- Defined under **Code on Social Security, 2020 (Sec. 2(35))** as a worker outside the traditional employer–employee relationship.
- **Examples:** Food delivery (Zomato, Swiggy), ride-hailing (Ola, Uber), online freelancing, home services (UrbanClap).

Current Status & Classification Gap

- **Size:** 7.7 million (2020–21) → Projected **23.5 million by 2029–30** (NITI Aayog).
- **PLFS Issue:** Gig workers are grouped as "self-employed" or "casual labour," failing to capture:
 - Algorithmic control & irregular hours.
 - Absence of contracts & job security.
 - Multi-platform engagement.

👉 This leads to **misrepresentation, exclusion from schemes, and policy blind spots**.

Key Factors Driving India's Gig Economy

1. **Digital Expansion** → 936M internet, 650M smartphones enable platform penetration.
2. **E-commerce & Startups** → Demand for delivery, logistics, and marketing support.
3. **Consumer Demand** → Urban preference for quick, convenient services.
4. **Low-cost Labour Supply** → Semi-skilled, unemployed youth shift to gig jobs.
5. **Changing Preferences** → Young workforce values flexibility & autonomy over traditional jobs.

Significance of Gig Economy in India

- **Absorbing Informal Labour:** Provides structured income to workers moving out of agriculture.
- **Women & Inclusion:** ~28% of gig workforce are women, esp. in Tier-II/III cities (home-based services).
- **Entrepreneurship Mindset:** 80% self-employed → fosters innovation & risk-taking.
- **Boost to Digital Economy:** Propels digital payments, e-commerce, and fintech adoption.
- **Formalisation of Economy:** Digital wage flows expand tax base, support transparency.
- **Trade & Consumption Growth:** Festival surges (40–50% extra earnings in 2023) showcase demand-pull effect.

Key Government Initiatives



Code on Social Security, 2020
Legally recognizes gig workers



e-Shram Portal
National database & accident insurance coverage



Pradhan Mantri Shram Yogi Maandhan Yojana
Pension scheme for informal workers



Rajasthan Gig Workers (Registration & Welfare) Act, 2023
World's first gig workers' welfare law

Challenges Confronting Gig Workers

1. Lack of Social Security

- No universal coverage of pensions, sick leave, or income protection.
- Fragmented schemes (PM-JAY, e-Shram) cover health/accidents but not income security.

2. Income Instability

- Average earning: ₹15k-20k/month, often below minimum wage.
- 70% complain of high platform commissions; over 78% work >10 hrs daily ("Prisoners on Wheels" report).

3. Arbitrary Deactivations & Customer Harassment

- 83% cab drivers & 87% delivery workers face sudden account suspension.
- 70%+ face harassment without effective grievance mechanisms.

4. Policy Blind Spot

- PLFS & official data misclassification undermines policy targeting & reforms.

5. Future Risks

- Over-reliance on low-wage gig jobs may worsen inequality & trap youth in precarious employment.



Way Forward

- **Dedicated PLFS Classification** → Better capture of employment data.
- **Universal Social Security** → Expand Ayushman Bharat, pension & insurance to cover gig workforce.
- **Minimum Wage Floor** → Establish fair pay standards for gig workers.
- **Dispute Resolution Mechanisms** → Platforms must ensure grievance redressal, transparency in deactivation.
- **Platform Accountability** → Algorithm audits to prevent exploitative practices.
- **Skill Development** → Reskilling schemes (AI, digital skills) for mobility into higher-paying jobs.
- **Tripartite Dialogue** → Govt-Platform-Worker negotiations on labour codes & contracts.



Conclusion

The gig economy offers India an **inclusive growth opportunity**, blending **digital innovation with employment creation**. However, unless gaps in **classification, social protection, and worker rights** are addressed, it risks becoming a **low-wage, high-precarity sector**. The focus must shift from merely recognising gig workers to **empowering them through sustainable wages, social security, and legal protections**, ensuring the gig economy becomes a pillar of India's **demographic dividend and digital economy**.

NITI Aayog Report: Chemical Industry & Credit Reforms

Syllabus Mapping

- ✓ **GS Paper III – Indian Economy:** Industries, Infrastructure, Investment
- ✓ **GS Paper II – Governance & International Institutions:** Global Institutions, MDBs, Sovereign Ratings
- ✓ **GS Paper III – Science & Technology:** R&D, Innovation, Industrial Policy

Why in News?

- NITI Aayog released report: "Chemical Industry: Powering India's Participation in Global Value Chains" → roadmap for India to reach **USD 1 trillion chemical output & 12% share in global value chains by 2040**.
- At the **4th International Conference on Financing for Development (FFD4), Seville (Spain)** → India pushed for reforms in **sovereign credit rating systems & multilateral development banks (MDBs)** to address **biases against Global South**.

Status of Chemical Industry in India

- **Global Standing:** 6th largest producer; contributes **7% to manufacturing GDP**.
- **Feedstock Utilisation Issue:** Overconcentration in **bulk chemicals** (e.g., 87% of benzene used in limited derivatives vs global avg. 25%).
- **Low GVC Share:** Only **3.5% global value chain share**; trade deficit of **USD 31 bn (2023)**.
- **Skill Gap:** 30% shortage in green chemistry, nanotech, safety experts.
- **R&D Weakness:** Only **0.7% of revenue spent on R&D** (global avg: 2.3%).

MAINS PRACTICE QUESTION

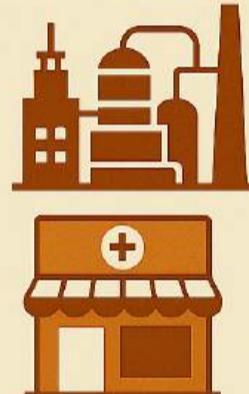


Q. Discuss the significance of the gig economy in India's growth story. What structural challenges must be addressed to ensure gig and platform workers are part of India's inclusive development strategy?

- **Import Dependence:** >60% of APIs from China; feedstock from Gulf.
- **Regulatory Delays:** 12–18 months for clearances → increases costs.

◆ Existing Govt Initiatives

- **PLI Scheme**
→ Critical APIs, Drug intermediates
- **PCPIR (Petroleum, Chemical & Petrochemicals Investment Region)**
→ Paradip hub attracted USD 8.8 bn investment
- **Jan Aushadhi Kendras**
→ Affordable medicines (25,000 target)



★ Opportunities in India's Chemical Sector

- **Domestic Demand:** Agrochemicals (4th largest producer), Pharma (3rd largest), construction & auto (polymers, adhesives).
- **Job Creation:** 7 lakh skilled jobs by 2030.
- **China+1 Shift:** Dyes, pigments, surfactants, electronic chemicals → India can capture shifting supply chains.
- **Green Chemicals:** Bio-plastics, bio-lubricants leveraging sugar & biomass.
- **Petrochemical boost:** Refinery expansions (Reliance, BPCL, Nayara).

🏛️ NITI Aayog's Policy Interventions

1. **World-Class Chemicals Hubs:** Empowered committee + Chemical Fund + VGF.
2. **Port-led Clusters:** 8 chemical hubs near ports for exports.
3. **OPEX Subsidy Scheme:** Incentivise production to cut imports, diversify exports.
4. **Tech & R&D Push:** Academia–industry collaboration; disbursal of R&D funds.
5. **Fast-track Clearances:** DPIIT audit mechanism.
6. **Trade Strategy:** FTAs with tariff quotas, duty exemptions.
7. **Skill Development:** ITIs + courses in polymer science, petrochemicals, safety.

🌐 Global Context – Reforming Sovereign Credit Ratings & MDBs

📌 Sovereign Credit Rating System

- **Definition:** Independent evaluation of a country's **creditworthiness**.
- **Global Big 3:** S&P, Moody's, Fitch (US-based).
- **Parameters:** GDP growth, fiscal deficit, inflation, BoP, reserves, governance.
- **Impact:** Higher rating → cheaper borrowing; downgrade → higher costs & capital outflows.

India's Rating: Baa3 (Moody's), BBB- (S&P/Fitch) → **lowest investment grade** despite strong fundamentals.

🔍 Problems with Global Rating Agencies

1. **Bias against Global South** – India's reforms (GST, IBC) & forex reserves underweighted.
2. **Pro-cyclicality** – Downgrades during crises (Covid-19, 2020 downgrade).
3. **Conflict of Interest** – Agencies paid by rated entities.
4. **Lack of Transparency** – Methodologies opaque, survey-based.
5. **Crisis Failure** – Couldn't predict 2008 meltdown; still influence global capital.

◆ Multilateral Development Banks (MDBs) – India's Concerns

- MDBs (World Bank, ADB, AfDB, etc.) are **under-capitalised** and **dominated by developed countries**.
- **India's Demand:**
 - Equity & inclusivity in governance.
 - Fairer credit assessments for emerging economies.
 - Stronger capital base to fund SDGs & climate finance.

MAINS PRACTICE QUESTION

Q. Discuss the opportunities and challenges in India's chemical industry as highlighted by NITI Aayog. How do biased sovereign credit ratings and limited MDB capacities constrain India's global competitiveness?

✍ Conclusion

- **Chemical Industry** → India has potential to become a **global hub**, but must overcome **import dependence, skill shortages, and regulatory hurdles** through targeted reforms.
- **Sovereign Credit Rating Reform** → Essential to ensure **fair access to capital** for Global South nations; India can lead the demand for a **balanced, transparent, and inclusive global financial architecture**.

Financial Inclusion: Progress & Challenges

📌 Syllabus Mapping

- ✓ **GS Paper II – Governance:** Welfare schemes, Inclusive governance
- ✓ **GS Paper III – Economy:** Mobilisation of resources, Financial inclusion, Banking reforms
- ✓ **Essay Paper:** Inclusive growth, Social justice

₹ Why in News?

- RBI's **Financial Inclusion Index (FI-Index) 2025** rose to **67**, showing a **24.3% increase since 2021**.
- Reflects progress in **access, usage, and quality of financial services**, aided by **digitalisation & literacy initiatives**.

🔍 Understanding the FI-Index

- Introduced by **RBI (2021)** → Composite measure (0–100 scale).
- **No base year** → reflects cumulative progress.
- **Sub-indices:**
 1. **Access** – availability of banking outlets, ATMs, branches.
 2. **Usage** – credit, savings, insurance penetration.
 3. **Quality** – financial literacy, consumer protection, grievance redressal.

⭐ Key Drivers of Financial Inclusion in India

1. Government Initiatives

- **PM Jan Dhan Yojana (2014)** → 56 crore bank accounts opened.
- **National Strategy for Financial Inclusion (2019–2024)** → roadmap for universal access.
- **Aadhaar-enabled KYC** → streamlined DBT transfers.
- **Digital India Mission** → improved connectivity, e-payments.

2. Technology Enablers

- **UPI Revolution** → 38% rural/semi-urban adoption, esp. youth (18–35 years).
- **JAM Trinity (Jan Dhan-Aadhaar-Mobile)** → backbone of DBT ecosystem.
- **AI/ML in Finance** → inclusive credit scoring, fraud detection, digital advisory.

3. Financial Institutions

- **Microfinance Institutions (MFIs)** → 2nd largest outreach globally (140 mn clients).
- **Self-Help Groups (SHGs)** → 13.4 mn SHGs, 84% women-led; 160 mn households covered.
- **Commercial Banks & PSL** → mandated lending to agriculture/MSMEs.
- **Bank Sakhis** → women correspondents ensuring last-mile service delivery.

⚠ Challenges in Financial Inclusion

- **Account Inactivity** → 35% Jan Dhan accounts inactive (trust gap, lack of usage).
- **Gender Divide** → 45% men vs 32% women in digital payments.
- **Rural-Urban Gap** → Smartphone penetration rural 28% vs urban 91%.
- **Financial Illiteracy** → especially among women & small farmers.
- **Digital Divide** → connectivity issues, cyber fraud, lack of digital confidence.
- **Credit Barriers** → small farmers/MSMEs face difficulty accessing affordable loans.

Global Lessons for India



China



Kenya



Brazil

Central Bank Digital Currency (e-CNY)

- boosts inclusion

M-Pesa mobile money

- low-cost banking for rural poor

Open Banking framework

- seamless interoperability

- **Quality Concerns** → high transaction costs, weak grievance redressal.

Way Forward

1. Deepening Access

- Target **under-banked/unbanked segments** → simpler account opening, lower costs.
- Expand **rural digital infrastructure**.

2. Tech-Driven Ecosystem

- Leverage **AI, blockchain, fintech** for secure & inclusive credit access.
- Scale up **ONDC & OCEN** for open banking & credit networks.

3. Gender-Inclusive Finance

- Tailored credit for **women entrepreneurs & SHGs**.
- Promote **financial literacy drives** in rural areas (esp. for women).

4. Strengthening Consumer Protection

- Robust **cybersecurity & privacy safeguards**.
- Faster **grievance redressal mechanisms**.

5. Public-Private Partnerships

- Banks + Fintech + Telecom collaboration for **last-mile service delivery**.
- Scale up **microinsurance, pensions & savings products** for low-income groups.

Conclusion

India's FI-Index progress shows that **digital public goods (JAM, UPI)** combined with **policy push (PMJDY, SHGs, MFIs)** are reshaping financial access. Yet, **gender gaps, rural disparities, and digital divides** must be bridged.

👉 A **tech-driven, inclusive, and gender-sensitive financial ecosystem** is key to achieving **universal financial inclusion** and sustaining **equitable economic growth**.

MAINS PRACTICE QUESTION

Q. "Financial inclusion is not just about opening bank accounts but ensuring meaningful usage." Critically analyse in the context of India's FI-Index 2025 progress.

RBI's State of the Economy Report 2025: Outlook

Syllabus Mapping

- ✓ GS Paper III – Indian Economy and Issues
- ✓ GS Paper III – Growth, Development, Employment, External Sector
- ✓ GS Paper II – Governance (Fiscal & Trade Policy)

Why in News?

- The **Reserve Bank of India (RBI)** released its article titled "**State of the Economy**", offering a **cautiously optimistic view** of India's growth prospects.
- The analysis comes at a time of **global trade uncertainties, geopolitical tensions, and mixed domestic signals**.

Present State of the Indian Economy

1. Growth & Fiscal Position

- India projected to remain a **major driver of global growth** with GDP growth **6.5% (2025-26)**.
- **Fiscal Deficit**: Gross Fiscal Deficit (GFD) at **0.8% of BE 2025-26**, compared to **3.1% in FY 2024-25** → sign of fiscal consolidation.
- **Receipts & Expenditure (Till May 2025)**:
 - Receipts: **21% of BE collected**.
 - Expenditure: **14.7% of BE spent**, focus on **capital expenditure**.

2. Inflation Trends

- **Retail Inflation (CPI)**: Fell to **2.1% (June 2025)**, lowest since Jan 2019.

- **Rural CPI:** 1.7% | **Urban CPI:** 2.6%.
- **Core Inflation:** Rose to 4.4% (driven by education, recreation, personal care).

3. External Sector

- **Trade Performance:**
 - Trade deficit narrowed **30% (May 2025)** due to **falling oil prices & strong services exports**.
 - Exports ↑ 2.8% | Imports ↓ 1%.
 - Key export sectors: Coffee, tobacco, electronics, rice, pharma, garments, plastics, engineering goods.
 - Major export partners: **US, UK, Japan, UAE, France**.
 - Major import sources: **UAE, China, Thailand, US, Russia**.
- **Balance of Payments:**
 - Current Account Surplus: **1.3% of GDP (Q4 FY25)**.
 - FY24 Current Account Deficit narrowed to **0.7% of GDP**.
- **Foreign Capital:**
 - FDI ↑ 14% YoY (FY25) → Services sector (19%), IT (16%), trading (8%).
 - FPI inflows: **USD 44.1 billion (FY24)**.
 - FX Reserves: **USD 696 billion (July 2025)** → covers **11 months imports, 95% of external debt**.
 - External Debt: ↑ 10% in 2025; Debt-GDP ratio ↑ from **18.5% to 19.1%**.

Factors Affecting the Economy

1. Global Headwinds

- **Geopolitical Tensions:** Iran-Israel conflict, US tariff policies may trigger trade disruptions.
- **Weak Global Confidence:** Low consumer/business sentiment dampening demand for Indian exports.
- **Sticky Global Inflation:** Advanced economies tightening monetary policy → may restrict FDI/FPI inflows.

2. Domestic Challenges

- **Industrial Slowdown:** IIP growth fell to **1.2% (May 2025)** – lowest since Aug 2024.
- **Credit Stress:**
 - NBFC loan disbursal ↓ 13% (Sep 2024).
 - Urban loans ↓ 23%, long-term loans ↓ 50%.
 - Education loans, loans against securities declining.
- **GST Revenues:** Grew only **6% (June 2025)** → weakest in 4 years.
- **Labour Market Strain:**
 - Unemployment stable at 5.6% but rural participation ↓ due to **agriculture lean season & extreme heat**.
- **State Finances:** Populist subsidies (loan waivers, free power/water) strain fiscal capacity → crowding out infra spending.

Key Takeaways

- India remains a **bright spot with low inflation, strong forex reserves, and rising capital inflows**.
- However, **industrial slowdown, weak credit growth, and fiscal pressures** pose medium-term risks.
- External risks like **oil price volatility, trade wars, and global monetary tightening** could hurt growth momentum.

Conclusion

India's economy shows **resilience with cautious optimism**. The strong external sector, capital inflows, and fiscal consolidation offer comfort. Yet, **domestic demand revival, rural employment generation, and industrial growth** need urgent focus. A calibrated strategy balancing **growth and macro-stability** is essential.

MAINS PRACTICE QUESTION



Q. "The Indian economy is showing resilience amid global uncertainty, but structural domestic challenges persist." Discuss in light of RBI's 'State of the Economy' report (2025).

Software Technology Parks of India (STPI)

📌 Syllabus Mapping

- ✓ GS Paper II – Government Policies & Interventions
- ✓ GS Paper III – Indian Economy: Infrastructure, Growth & Development, Science & Technology

Introduction

The **Software Technology Parks of India (STPI)**, set up in **1991**, has been a cornerstone of India's **IT and software export-led growth model**. Initially concentrated in metros like Bengaluru, Hyderabad, Pune, and Delhi, STPI is now **expanding to Tier-2 and Tier-3 cities** to ensure **inclusive IT growth**, create jobs, and foster a **robust startup ecosystem** under the **National Policy on Software Products (NPSP), 2019**.

About STPI

- **Established:** 1991, as an autonomous society under **Societies Registration Act, 1860**.
- **Parent Ministry:** Ministry of Electronics & Information Technology (MeitY).
- **Schemes Implemented:**
 - **Software Technology Park (STP) Scheme**
 - **Electronics Hardware Technology Park (EHTP) Scheme**
- **Objectives:**
 - Promote **software exports**.
 - Provide **world-class infrastructure** (high-speed data links, incubation facilities).
 - Encourage **entrepreneurship & innovation** through startups, MSMEs, and Centres of Entrepreneurship (CoEs).

Key Achievements of STPI

1. **Geographic Expansion**
 - 67 centres operational; 59 in **non-metro cities**.
 - 17 lakh sq. ft. **incubation space** for startups/MSMEs.
2. **Contribution to Exports**
 - STPI-registered units contributed **USD 110 billion** out of India's **USD 200+ billion software exports (FY 2024-25)**.
 - **USD 90 billion** came from SEZ-based companies under STPI's monitoring.
3. **Innovation & Startups**
 - 24 **Centres of Entrepreneurship (CoEs)** created in niche tech areas (AI, blockchain, IoT, AR/VR, fintech, agritech).
 - Since 2023: 1,500 startups supported, 800 IPRs filed, 2,000+ product innovations developed.
 - **Next Generation Incubation Scheme (NGIS)**: nurturing startups beyond metros.
4. **Decentralising IT Growth**
 - IT ecosystem nurtured in **smaller towns** like Bhubaneswar, Lucknow, Guwahati, Coimbatore, and Mohali.
 - Boosts **regional employment** and reduces metro-centric migration pressures.

Significance of STPI Expansion

- **Balanced Regional Development:** Addresses regional disparities by spreading IT growth beyond metros.
- **Employment Generation:** Creates opportunities for youth in Tier-2/3 cities, preventing brain drain.
- **Startup Culture:** Supports India's vision of becoming the **largest tech startup ecosystem**.
- **Export Growth:** Enhances India's competitiveness in **global IT exports**.
- **Digital India Push:** Aligns with **Digital India, Atmanirbhar Bharat**, and **Make in India** initiatives.

Challenges

- **Infrastructure Gaps:** Power supply, internet connectivity in smaller towns often inadequate.
- **Skill Shortage:** Need for **upskilling & reskilling** in AI, cloud, quantum, and emerging tech.
- **Global Competition:** Other IT hubs (Vietnam, Philippines, Eastern Europe) attracting outsourcing contracts.
- **Regulatory Overlaps:** With SEZs, IT Parks, and state-level tech initiatives.
- **IPR Ecosystem Weakness:** Despite growth, India lags behind advanced economies in **patents & original product development**.

Way Forward

- **Skill Development:** Integrate STPI with **Skill India & FutureSkills Prime** for next-gen technologies.

MAINS PRACTICE QUESTION



1. **GS Paper III:** Discuss the role of Software Technology Parks of India (STPI) in promoting inclusive IT growth and startup innovation in India.
2. **GS Paper II:** Evaluate the significance of the National Policy on Software Products (2019) in transforming India from an IT services hub to a global software product leader.

- **Infra Investment:** Focus on Tier-2/3 **digital infra, data centres, cloud services**.
- **Policy Reforms:** Streamline STPI-SEZ overlaps; incentivize R&D and product-based startups.
- **Global Branding:** Position India as a **software product nation** (beyond IT services outsourcing).
- **Public-Private Collaboration:** Encourage industry partnerships in CoEs for domain-specific innovation.

Conclusion

The **Software Technology Parks of India (STPI)** has been a **backbone of India's IT export success** since 1991. Its **expansion to non-metro cities** is a transformative step toward **inclusive, innovation-driven growth**, positioning India not just as an **IT services hub**, but also as a **global leader in software products and digital entrepreneurship**. With the right policies, STPI can catalyse **balanced development, job creation, and global competitiveness** in India's digital economy.

AGRICULTURE

Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY)

📌 Syllabus Mapping

- ✓ **GS Paper II – Governance:** Welfare schemes, role of NITI Aayog, cooperative federalism
- ✓ **GS Paper III – Agriculture:** Cropping patterns, irrigation, credit, storage, technology adoption
- ✓ **Essay Paper:** Agricultural transformation for inclusive growth

Why in News?

- As per Union Budget 2025–26 announcement, **PMDDKY has been approved for six years (FY 2025–26 to 2030–31)**.
- It targets **100 low-performing agricultural districts** with poor yields, water scarcity, and resource limitations.

Salient Features of PMDDKY

1. **Budgetary Outlay**
 - o ₹24,000 crore annually for 6 years (~₹1.44 lakh crore total).
2. **Implementation Mechanism**
 - o Ministry of Agriculture & Farmers' Welfare as nodal ministry.
 - o **Three-tier Monitoring:**
 - National-level oversight.
 - State-level nodal committees.
 - **District Dhan-Dhaanya Samitis** (chaired by District Collector).
 - o **District Plans** prepared through stakeholder consultations; reviewed by **NITI Aayog** & monitored by **Central Nodal Officers**.
3. **Saturation-based Convergence**
 - o Consolidates **36 agricultural schemes** (PM-KISAN, PMFBY, etc.) across 11 ministries.
 - o Involves **state govt + private sector partnerships**.
4. **Selection of Districts (100)**
 - o Criteria:
 - **Low crop productivity** (< national avg).
 - **Moderate cropping intensity** (<155%).
 - **Low credit access** (weak KCC penetration).
 - **Geographical representation** (≥1 district per state/UT).
5. **Monitoring & Transparency**
 - o **117 Key Performance Indicators (KPIs)** to measure outcomes.
 - o Digital dashboard + farmer app + district ranking system for accountability.

Addressing Agricultural Issues under PMDDKY

Issue in Agriculture	Factors Responsible	PMDDKY Provisions
Low Productivity	Degraded soil, outdated methods, small holdings (86% <2 ha).	High-yield seeds, bio-fertilizers, mechanization (seed drills, drones).
Water Scarcity	52% farms depend on monsoons; drought-prone regions (e.g. Bundelkhand).	Micro-irrigation (drip/sprinkler), year-round farming infra.
Financial Constraints	High costs, limited credit access.	Subsidies, low-interest loans via KCC, NABARD.
Post-harvest Losses	20% crop wastage (ICAR, 2023).	Village/block warehouses, cold storage facilities.
Low Farmer Income	Market inefficiency, middlemen.	Crop diversification, e-NAM, PMDDKY farmer app for direct sales.

Unsustainable Farming	Chemical overuse, mono-cropping.	Organic inputs, climate-resilient varieties, water-efficient practices.
Skill Gaps	Illiteracy, low awareness, women's exclusion.	Free KVK workshops, global training (Israel, Japan, Netherlands), women producer groups (10,000).

Significance of PMDDKY

- Agricultural Transformation:** Covers 100 districts, benefiting **1.7 crore farmers**.
- Holistic Approach:** Combines irrigation, mechanization, credit, markets, and training.
- Women Empowerment:** Focus on women producer groups & self-help collectives.
- Global Exposure:** Overseas farmer training for modern agriculture.
- Sustainability:** Push for organic, climate-resilient, water-saving practices.
- Tech-driven Monitoring:** KPIs + dashboards = greater accountability & efficiency.

Challenges Ahead

- Implementation capacity** at district-level may vary.
- Political federalism** – state-centre coordination challenges.
- Farmer awareness & adoption gap** for new technology.
- Climate unpredictability** may offset scheme benefits.
- Private sector partnerships** may favour developed regions more.

Conclusion

PMDDKY marks a **paradigm shift in Indian agriculture policy**, focusing on **district-level transformation** with convergence of schemes, technology, and community participation. By empowering small farmers, women, and youth, it aims to create **self-reliant, climate-resilient, and globally competitive agriculture**. Its success will depend on effective **last-mile delivery, stakeholder ownership, and accountability mechanisms**.

MAINS PRACTICE QUESTION

Q. The recently launched Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY) is being called the "Aspirational District Programme for Agriculture." Critically analyse how this scheme can address structural challenges in Indian agriculture while fostering sustainability and inclusivity.

Initiatives Driving Agricultural Growth in India

Syllabus Mapping

- GS Paper III – Agriculture:** Major crops, cropping patterns, irrigation, marketing, e-technology, farm subsidies, food processing
- GS Paper II – Governance & Social Justice:** Welfare schemes, DBT, FPOs
- Essay / Ethics:** Sustainable agriculture, technology & rural empowerment

Why in News?

- At the **16th Agriculture Leadership Conclave**, the Union Minister of Commerce and Industry highlighted **key initiatives** that are reshaping India's agricultural growth, focusing on **soil health, credit, digital innovation, and global trade**.

Major Initiatives Driving Agricultural Growth

1. Price & Income Support

- Minimum Support Price (MSP):**
 - Pulses & oilseeds MSP ↑ up to **98%** in last decade.
 - Protects farmers from price volatility, ensures remunerative income.
- PM-KISAN Samman Nidhi:**
 - ₹6,000 annual income support, directly transferred via **DBT**.
 - 11.8 crore farmers** benefited → world's largest farm DBT scheme.

2. Soil, Water & Inputs

- Soil Health Cards (SHC):** **25 crore+ SHCs** issued → guidance on fertiliser use, reduced chemical dependency.
- Fertiliser Subsidy:** ₹1.67 lakh crore allocated for FY 2025-26 (~40% of India's total subsidy bill).
- Per Drop More Crop (PDMC):** Micro-irrigation expanded to **96.97 lakh ha (2015-25)**.

3. Credit & Financial Access

- Kisan Credit Card (KCC):**
 - 7.75 crore active accounts**, ₹9.81 lakh crore outstanding loans.
 - Now covers **fisheries & animal husbandry** too.

- **Agricultural Infrastructure Fund (AIF):**
 - Promotes **warehousing, cold chains, renewable energy, and value-added farming projects.**

4. Digital Agriculture

- **e-NAM (National Agriculture Market):** 1,400 mandis integrated → transparent, real-time price discovery.
- **Digital Agriculture Mission (2024):**
 - **AgriStack:** Digital farmer database (land, crops, credit).

- Enables **AI-based advisories, crop insurance, and credit access.**
- **UPI & India Stack Solutions:** Expanding digital payments in rural mandis.

5. Farmer Collectives & Rural Entrepreneurship

- **10,000 FPO Scheme (2020):**
 - **30 lakh farmers (40% women)** enrolled.
 - Provides market access, lower input costs, credit support.
 - Dedicated **Credit Guarantee Fund** ensures financial viability.

6. Exports & Global Trade

- **Agri-exports:** Reached **USD 46.44 billion (FY24)** → ~12% of total exports.
- **Processed food share:** 14.9% (FY18) → 23.4% (FY24).
- **FTAs:** Australia, UAE, EFTA, UK → widened market for agri-products.
- Target: **₹20 lakh crore in agri & fisheries exports** in coming years.

7. Technology & Innovation

- **Digital Tools:** AI, geospatial tech, weather forecasting, drones, vertical farming.
- **Organic & Natural Farming:** Growing adoption of **zero-budget farming & bio-fertilisers.**
- **GM Crops Debate:** Potential for productivity growth but faces **ethical, ecological, and safety challenges.**

Opportunities & Challenges

✓ Opportunities

- Harnessing **FTAs & global demand** (pulses, millets, processed food).
- **Digital revolution** in farm credit, insurance, marketing.
- **Climate-smart farming** (organic, renewable energy, GM crops).

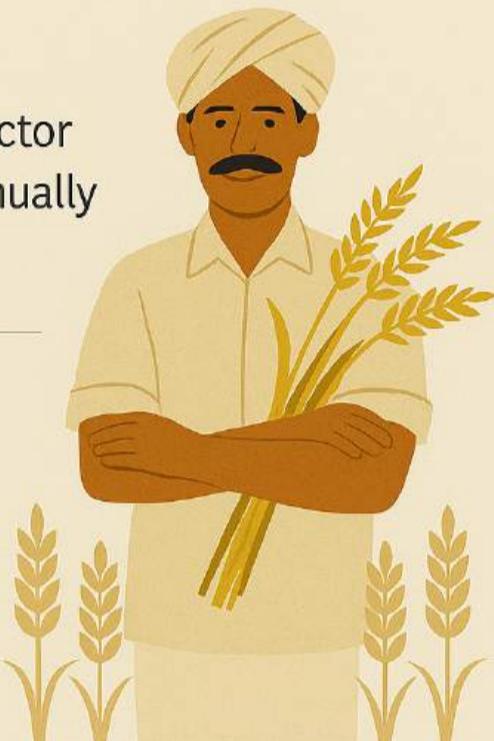
MAINS PRACTICE QUESTION

Q. Examine the role of recent government initiatives such as PM-KISAN, e-NAM, and FPO promotion in transforming Indian agriculture. How can India balance growth with sustainability in the farm sector?

India's Agricultural Growth (Trends)

Growth Rate:

↑ Agri & allied sector grew at 5% annually (FY17-FY23)



GVA Share:

↑ ↑ from 24.3% (2014-15) to 30.2% (2022-23)

Farm Incomes:

↑ Rose at 5.2% annually in last decade

- **Women in FPOs:** Greater inclusion & empowerment.

✗ Challenges

- Fertiliser subsidy burden → fiscal stress.
- Climate risks: droughts, floods, erratic monsoons.
- Land fragmentation (86% small/marginal farmers).
- GM crops: biosafety & public acceptance issues.
- Rural infra gaps in **cold chains, storage, logistics.**

Conclusion

India's agricultural transformation is being powered by **MSP, credit reforms, digitalisation, FPO collectivisation, and global trade integration.** Yet, **climate risks, land fragmentation, and subsidy dependence** threaten long-term sustainability. Going forward, a **balanced strategy of technology adoption, inclusive skilling, value addition, and climate-smart farming** is vital to make Indian agriculture **profitable, resilient, and globally competitive.**

GM Crops in India: Opportunities & Challenges

📌 Syllabus Mapping

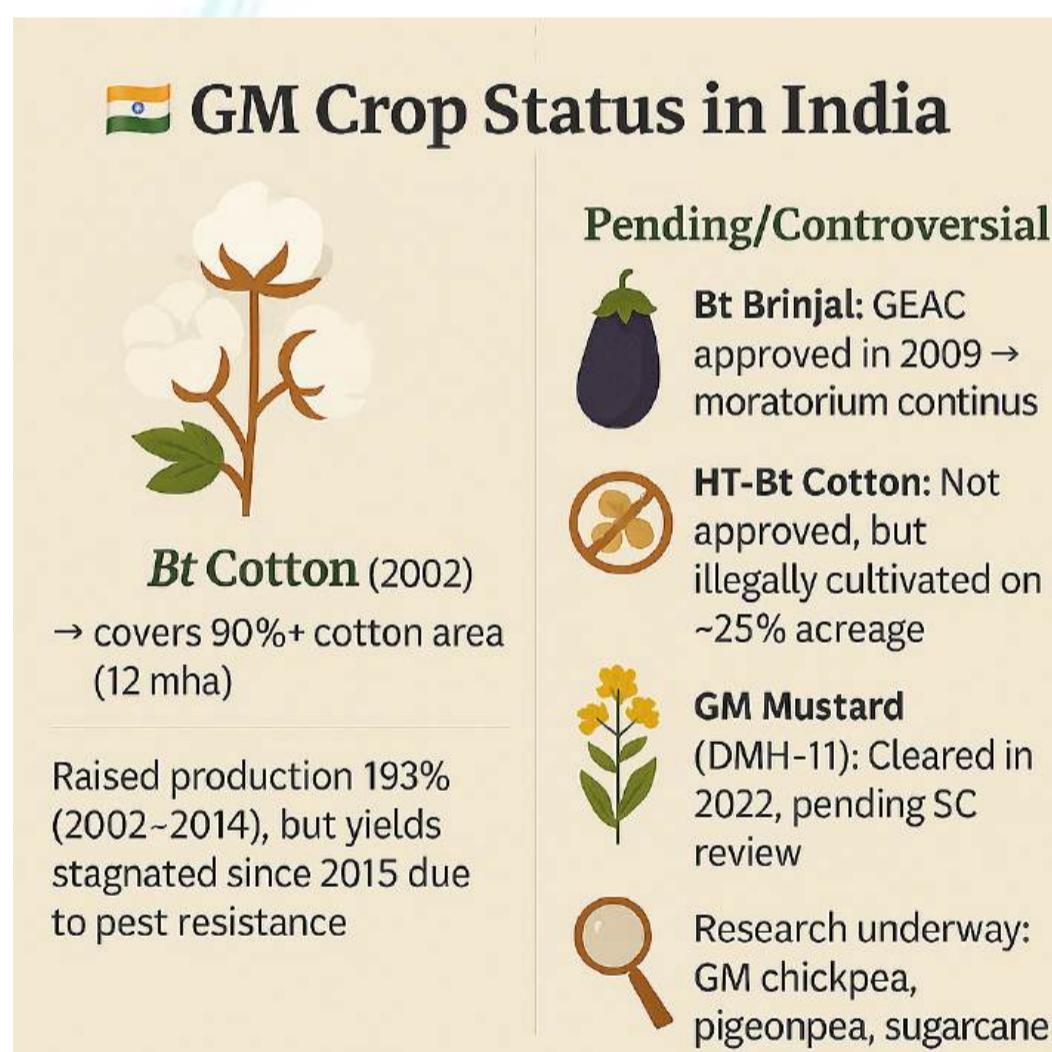
- ✓ **GS Paper III – Agriculture:** Cropping patterns, e-technology, food security, biotechnology
- ✓ **GS Paper II – Governance & Policy:** Regulation of new technology, ethical issues
- ✓ **GS Paper IV – Ethics:** Bioethics, environmental concerns, equity in technology adoption

Why in News?

- Amid trade negotiations, the **US has pressured India to open its agriculture market for GM crops.**
- India firmly rejected, calling **agriculture & dairy “sacrosanct red lines”**, citing risks to farmer livelihoods, food security, and biosafety.

🌿 What are GM Crops?

- **Definition:** Plants whose DNA is modified using genetic engineering to introduce traits like **pest resistance, drought tolerance, nutritional fortification.**
- **Global Adoption:**
 - First: *Flavr Savr tomato* (US, 1994).
 - By 2019: 17 million farmers across **29 countries, 190 million hectares** under GM cultivation (ISAAA).
- **Regulation in India:**
 - Governed by **EPA, 1986 (Rules, 1989)** → covers manufacture, use, import/export, storage of GMOs.
 - Supervised by **Genetic Engineering Appraisal Committee (GEAC)**.



✓ Opportunities from GM Crops

1. Enhanced Productivity & Pest Resistance

- Bt cotton success initially reduced pesticide use, increased farmer incomes.
- Reduces bollworm damage, improves yields.

2. Climate Resilience & Resource Efficiency

- GM maize in Kenya (drought-resistant) improved dry-season yields.
- Traits for heat, salinity, nitrogen-use efficiency → sustainable farming under climate stress.

3. Nutritional Security (Biofortification)

- *Golden Rice*: Vitamin A enrichment.
- Iron-rich rice, zinc-enhanced wheat → combat hidden hunger in India.

4. Reduced Post-Harvest Losses

- *Flavr Savr tomato*: extended shelf life.
- Herbicide-tolerant crops enable **no-till farming** → lower emissions, soil health protection.

5. Medical & Environmental Innovation

- **Biopharming**: bananas/potatoes producing vaccines.
- **Phytoremediation**: GM plants (e.g., poplars) absorb toxins/heavy metals.

✖ Challenges in India

1. Environmental & Health Concerns

- **Superweeds** via gene transfer, reduced biodiversity (monoculture).
- Safety doubts: allergens, nutritional shifts (StarLink Corn case, US 2000).

2. Regulatory & Policy Bottlenecks

- **Regulatory opacity** & political hesitancy delay approvals.
- *Cotton Seed Price Control Order (2015)* + mandatory tech transfer → discouraged R&D.

3. Socio-Economic & Ethical Issues

- High seed costs → burden on small farmers.
- **Seed sovereignty** disputes: Monsanto's IPR battles.
- Ethical debate: "Playing God", food sovereignty, community rights.

4. Illegal Cultivation & Contamination Risks

- HT-Bt cotton grown illegally → black market, biosafety risks.
- Cross-pollination threatens **organic certification & export access**.

5. Resistance & Global Competitiveness

- Bollworms showing resistance to Bt cotton.
- India's **cotton yield lagging China & Brazil**.
- In 2024–25, India turned **net cotton importer** → global competitiveness decline.

India vs Global GM Crop Adoption

Aspect			
Approved GM crops	Bt Cotton (only)	Corn, Soy, Canola, Cotton, Alfalfa	Soy, Maize, Cotton
Area under GM crops	~12 mha (cotton only)	~70 mha	Brazil ~52 mha
Regulatory stance	Highly restrictive	Liberal	Supportive
Public perception	Cautious, high opposition	Largely supportive	Balanced

💡 Way Forward for India

- **Balanced Policy:** Encourage research in climate-resilient, biofortified GM crops while ensuring biosafety.
- **Strengthen Regulation:** Independent, transparent biosafety framework.
- **Farmer Protection:** Safeguard against seed monopolies, ensure affordable pricing.
- **Public Awareness:** Educate citizens to counter misinformation.
- **Selective Adoption:** Begin with **non-food crops (cotton, biofuel crops)** before food staples.

Conclusion

GM crops represent a **double-edged sword**—they offer solutions for **food security, climate resilience, and malnutrition**, but raise **ethical, ecological, and socio-economic concerns**. For India, the challenge lies in **balancing innovation with precaution**. A calibrated approach—focusing on **research, biosafety, and farmer-centric adoption**—can ensure that GM technology supports sustainable agricultural growth without jeopardising livelihoods or sovereignty.

MAINS PRACTICE QUESTION

Q. "GM crops offer both promise and peril for Indian agriculture." Discuss the opportunities and challenges of GM crop adoption in India in light of food security, farmer welfare, and environmental sustainability.

Rules for Promotion of Agroforestry in India

📌 Syllabus Mapping

- ✓ GS Paper II – Governance & Policy (Environment Regulation)
- ✓ GS Paper III – Environment, Agriculture, Climate Change
- ✓ GS Paper III – Economy (Sustainable Livelihoods, Resource Use)

Why in News?

- The Ministry of Environment, Forest and Climate Change (MoEFCC) has issued **Model Rules for Felling of Trees on Agricultural Lands**.
- Aim: **Streamline permissions, promote agroforestry, boost farmer incomes, and reduce pressure on natural forests**.
- The rules are aligned with India's commitments under **UNFCCC, CBD**, and support **SDGs 2 (Zero Hunger), 13 (Climate Action), and 15 (Life on Land)**.

⚖️ Key Highlights of the Model Rules

- **Simplified Regulations:**
 - Uniform procedures for **tree registration, felling, and timber transit** on agricultural lands.
 - Overrides conflicting state rules → ensures **legal clarity and uniformity**.
- **National Timber Management System (NTMS) Portal:**

- Centralized digital portal for farmers to **register plantations, apply for permits, and track applications**.
- Uses **geo-tagged data, KML files, remote sensing & photos** for monitoring.
- **Tree-Based Categorization:**
 - **>10 trees felled** → Physical verification by empanelled agencies.
 - **≤10 trees felled** → Self-declaration by farmers on NTMS portal → auto-approval NOC.
- **Institutional Mechanism:**
 - **State Level Committee (SLC)**: to promote agroforestry.
 - **Divisional Forest Officers (DFOs)**: supervise compliance of empanelled agencies.
- **Technology-Driven Monitoring:**
 - Remote sensing, image recognition, and AI tools for **real-time transparency**.
- **Market Linkages:**
 - Encourages **locally sourced timber**, reducing costly imports.
 - Promotes **high-value species** like teak, eucalyptus, poplar → farmer income boost.

What is Agroforestry?

- **Definition:** A land-use system where **trees are integrated with crops and/or livestock** on the same land to improve **farm productivity, livelihoods, and sustainability**.
- **Formally Promoted:** Through the **National Agroforestry Policy, 2014**.
- **Extent in India:** Covers **28.4 million hectares (8.65% of India's total land area)**.

Difference Between Social Forestry & Agroforestry

Aspect	Social Forestry	Agroforestry
Definition	Forestry outside conventional forests for community needs	Integration of trees with crops/livestock on the same farm land
Objective	Fuel, fodder, timber for rural poor	Improve productivity, sustainability, farmer income
Target Group	Collectives, marginalized groups	Individual farmers
Examples	Village commons, roadside plantations	Fruit/fodder trees with crops
Policy Backing	Community afforestation, JFM	National Agroforestry Policy, 2014

Types of Agroforestry

1. **Farm Forestry:** Trees on private farms for commercial purposes.
2. **Extension Forestry:** Trees in non-forested/degraded lands.
 - *Mixed forestry, shelterbelts, linear plantations*.
3. **Tree-Crop Combinations:** Coffee, cocoa, oil palm, rubber.
4. **Agro-silvi-pastoral Systems:** Integration of crops, trees, and livestock.

Benefits of Agroforestry

- **Economic:**
 - Meets ~50% of India's **fuelwood needs**, 66% **small timber demand**, and 60% of **pulpwood**.
 - Supports **diversified farm income & food security**.
- **Environmental:**
 - **Carbon sink potential:** Can sequester **2.5 billion tonnes CO₂ by 2030**.
 - Improves **soil fertility (50-100 Kg N/ha/year via nitrogen-fixing trees)**.
 - Enhances **biodiversity, water retention, and climate resilience**.
- **Global Commitments:**
 - Helps achieve **Net Zero (2070) & Land Degradation Neutrality (26 M ha)**.
 - Contributes to **9/17 SDGs**.
- **Energy Transition:**
 - Provides **biomass for renewable energy**.

Challenges

- **Low Awareness:** Farmers lack technical knowledge & awareness of policy benefits.
- **Financial Risks:** High initial investment, long gestation, lack of agroforestry-specific credit/insurance.
- **Weak Market Linkages:** Poor wood-industry integration, absence of MSP-like mechanisms.
- **Digital Divide:** Low farmer digital literacy affects NTMS use.
- **R&D Gaps:** Lack of region-specific tree-crop models; poor extension services.

Government Initiatives

- **National Agroforestry Policy, 2014:** First in the world, laid foundation for policy convergence.
- **Sub-Mission on Agroforestry (SMAF), 2016:** Incentivizes tree plantation on farms, integrated with **MNREGA, RKVY, NABARD**.

- **State Agroforestry Missions:** Some states (Haryana, UP, Karnataka) have adapted the model.
- **Research & Extension Support:** CAFRI (Jhansi), ICAR institutes.

Conclusion

The MoEFCC's Model Rules, 2025 mark a paradigm shift in promoting **farmer-friendly agroforestry** by simplifying tree-felling permissions and digitizing monitoring. Agroforestry has the potential to **boost rural incomes, enhance carbon sequestration, strengthen climate resilience, and reduce dependence on natural forests.**

Way Forward:

- Scale up **farmer awareness**, ensure **credit & insurance support**, and strengthen **market linkages**.
- Promote **region-specific tree-crop models**, backed by **digital monitoring & policy convergence**.

OECD-FAO Agricultural Outlook 2025–2034

Syllabus Mapping

- ✓ GS Paper III – Indian Economy (Agriculture, Food Security, Growth and Development)
- ✓ GS Paper II – International Relations (Global Reports, International Organisations: OECD, FAO, UN)
- ✓ GS Paper III – Environment (Climate Change, Sustainable Agriculture, Biofuels)

Why in News?

- OECD and FAO released the *Agricultural Outlook 2025–2034* report.
- It provides a **10-year outlook on global agriculture and fisheries markets** and guides **evidence-based policymaking**.

Global Market Trends

1. Cereal Production & Biofuels

- Growth: **1.1% annually** (mostly yield-driven, 0.9%).
- Land expansion slows to **0.14% annually** till 2034.
- By 2034:
 - 40% → Human consumption
 - 33% → Animal feed
 - 27% → Biofuels & industrial use
- **Regional shifts:**
 - India + SE Asia → 39% of global cereal consumption growth
 - China's share → falls from 32% to 13%
- **Biofuel demand:** 0.9% annual rise, driven by Brazil, India, Indonesia.

2. Agriculture & Fish Commodity Growth

- Global output to rise **14% by 2034**, mainly due to productivity gains in middle-income nations.
- However, **agri GHG emissions to rise by 6%**.

3. Animal Products Consumption

- Per capita calorie intake from livestock & fish → **+6% globally**.
- Lower-middle-income countries → **+24% increase**, nearly 4× global avg.
- Daily intake:
 - Lower-middle income: 364 kcal (by 2034)
 - Low-income: 143 kcal (well below healthy diet target of 300 kcal/day).

Impact of Rising Biofuel Demand on Food Security

- **Land Use:** Biofuel crops reduce land for food.
 - India's **E20 target requires 7.1M ha (3% of cropped area)** → risks food security.
- **Water & Resources:** Ethanol production uses **8–12L water per litre** → pressure on water & fertilizers.
- **Food Inflation:** Feedstock diversion raises prices.
 - India: Rice prices rose **14.5% (2023)** due to ethanol policy.

MAINS PRACTICE QUESTION



Q. "Agroforestry is a bridge between sustainable agriculture and forestry." Examine the significance of the new Model Rules, 2025, in realizing India's environmental and economic goals.

- **Environmental Trade-offs:** Expansion → deforestation, biodiversity loss.

Ensuring Sustainable Biofuel & Food Policies

1. **Feedstock Diversification**
 - Promote **3G ethanol** (microalgae, wastewater).
 - R&D into **GM crops for biofuel** → higher yields, less pressure on food crops.
2. **Zoning & Land Use**
 - **Biofuel zoning policy** to avoid fertile land diversion.
 - Use **marginal/wastelands** with ecological safeguards.
3. **Crop Diversification Incentives**
 - MSP & procurement for diverse foodgrains.
 - Align ethanol procurement with **food surplus seasons**.
4. **Improving Productivity & Sustainability**
 - 15% productivity gains → eradicate undernourishment & cut emissions by 7%.
 - Invest in **precision farming, low-emission livestock feed, crop rotation**.

Organisations Behind the Report

Organisation for Economic Co-operation and Development (OECD)

- Est. **1961**, HQ: **Paris**.
- 38 members (mostly high-income).
- India: **Not a member, but partner country**.
- Publishes: *Government at a Glance, Better Life Index*.

Food and Agriculture Organization (FAO)

- Est. **1945**, HQ: **Rome**.
- 194 members + EU.
- Mandate: Fight hunger, improve nutrition, promote sustainable agriculture.
- Covers: Agriculture, forestry, fisheries. (Food relief = WFP).

Significance for India

- India central to **global cereal demand growth** (esp. rice & maize).
- E20 biofuel policy must balance **energy needs vs food security**.
- Agro-climatic challenges (monsoon dependence, land fragmentation) make **sustainability critical**.
- India's role in global forums (WTO agri-negotiations, COP climate talks) becomes stronger.

Conclusion

The **OECD-FAO Outlook 2025–34** warns that while agricultural productivity will grow, the **biofuel-food trade-off** may worsen inequalities and food insecurity in low-income countries. For India, balancing **biofuel policy, food security, and sustainability** will be critical to ensure inclusive growth while meeting climate commitments.

MAINS PRACTICE QUESTION



1. "Discuss the implications of rising global biofuel demand on food security with special reference to India."
2. "The OECD-FAO Agricultural Outlook 2025–34 underscores the challenge of balancing agricultural productivity, food security, and sustainability." Examine.

State of Food Security and Nutrition in the World (SOFI) Report 2025

📌 Syllabus Mapping

- ✓ GS Paper II – Governance, Welfare Schemes, Issues Relating to Poverty and Hunger
- ✓ GS Paper III – Agriculture, Food Security, Inclusive Growth
- ✓ GS Paper I – Society (Issues of Malnutrition and Public Health)

Why in News?

- The SOFI Report 2025, released jointly by FAO, IFAD, UNICEF, WFP, and WHO, shows global hunger declined slightly, but India continues to face major nutrition challenges despite improvements.

Key Global Findings

- **Decline in Hunger:** Global hunger fell to **8.2% of the world population in 2024**, from 8.5% in 2022.
 - However, hunger continues to **rise in Africa and Western Asia**.
- **Food Insecurity:** Moderate/severe food insecurity has been declining since 2021.
- **Food Prices:** Prices continued to rise in **2023–24**, worsening affordability of healthy diets.
 - Pandemic & Ukraine War aggravated food price inflation.
- **Cost of Healthy Diet:** Despite rising costs, those **unable to afford a healthy diet** fell from **2.76 billion (2019)** to **2.60 billion (2024)**.
- **Global Nutrition Concerns:**
 - **Anaemia in women (15–49 yrs)** remains widespread.
 - **Adult obesity** rose from **12.1% (2012)** to **15.8% (2022)**, showing a “double burden” of malnutrition.

India-Specific Highlights

- **Nutrition Paradox:**
 - While many lower-middle-income countries face worsening diet affordability, **India shows slight improvement**, though challenges persist.
- **Case Study (Kerala):**
 - **Mobile adoption by fishermen & wholesalers** helped reduce **price dispersion and wastage**, making food more affordable.
- **Persistent Issues:**
 - High rates of **child wasting and stunting** (as per earlier SOFI & NFHS-5 data).
 - Rising **food prices in PPP terms** make balanced diets difficult for a large section of Indians.

Broader Analysis

- India has made progress in food security through **PDS, PMGKAY, POSHAN Abhiyaan**, but **nutrition outcomes lag behind**.
- The “**double burden of malnutrition**” (undernutrition + obesity) is emerging globally, including in India.
- **Food system transformation** is essential – from production to consumption, ensuring affordability, diversity, and resilience against shocks (pandemic, climate, conflict).

Conclusion

SOFI 2025 highlights **progress but persistent inequalities**. While global hunger is declining, **Africa, Western Asia, and South Asia (including India) remain vulnerable**. For India, the focus must be on **nutrition-sensitive agriculture, better safety nets, women's health, and affordability of diverse diets** to achieve SDG-2 by 2030.

Key Recommendations of SOFI 2025

1. Time-Bound Fiscal Measures: <ul style="list-style-type: none"> • Temporary tax relief on essentials. • Targeted social protection schemes for the poor. 	2. Align Fiscal & Monetary Policies: <p>To stabilize agricultural markets and prevent food inflation.</p>
3. Strengthen Agricultural Market Systems: <p>Better information systems to curb price volatility and speculation.</p>	4. Target SDG 2 (Zero Hunger): <p>Requires stronger political commitment, food system reforms, and climate-resilient agriculture.</p>

MAINS PRACTICE QUESTION

Q. “The State of Food Security and Nutrition in the World (SOFI) 2025 highlights progress in reducing hunger but also exposes the growing paradox of malnutrition. Discuss with special reference to India.”

SOCIETY & SOCIAL ISSUES

Employability & Skilling: Challenges & Initiatives

❖ Syllabus Mapping

- ✓ **GS Paper II – Governance, Polity & Social Justice:** Welfare schemes, social sector development, human resources
- ✓ **GS Paper III – Economy:** Employment, skilling, growth and development, demographic dividend
- ✓ **Essay Paper:** Human capital, future of work, technology & society

Why in News?

- The Union Cabinet approved the **Employment Linked Incentive (ELI) Scheme**, designed to enhance youth employability, nurture skills, and support job creation in the private sector.

Employability and Skilling in India – Current Scenario

- **India Skills Report 2025:**
 - Employability of graduates at ~50% (53.47% male, 46.53% female).
 - Significant rise from 33% a decade ago.
 - Growth driven by **AI, cloud computing, automation, and new tech sectors.**
- **Labour Market Trends:**
 - India to add **10 million workers annually** in the next decade.
 - But only **4.67 crore jobs created** in FY 2023–24, showing a mismatch between workforce growth and job opportunities.

Challenges in India's Employability & Skilling Landscape

1. **Mismatch Between Education & Industry Needs**
 - Universities stress **theory over practice**.
 - Lack of **hands-on training, internships, and industry integration**.
 - Technical graduates often unemployable despite demand.
2. **Threat from Automation**
 - **World Bank:** ~69% of jobs in India at risk from automation.
 - Workforce lacks readiness for **AI, data science, robotics, cloud tech.**
3. **Limited Soft Skills Development**
 - Communication, teamwork, and critical thinking undervalued in education.
 - Creates technically qualified but **workplace-unready graduates**.
4. **Unequal Access**
 - Rural-urban divide in digital literacy and access to training.
 - Gender disparity in skilling opportunities.
5. **Underemployment**
 - Many workers in **informal, low-paying jobs**, without social security.

Key Initiatives Taken

1. **Skill India Mission (2015)**
 - Umbrella mission for skilling & employability.
2. **PMKVY 4.0 (Pradhan Mantri Kaushal Vikas Yojana)**
 - Focus on **career-oriented skilling**, entrepreneurship, and varied career choices.
3. **NAPS (National Apprenticeship Promotion Scheme)**
 - Provides **financial support for apprentice stipends**.
 - Training through industries, blending classroom + practical learning.
4. **Jan Shikshan Sansthan (JSS)**
 - Skilling for **illiterates, school dropouts, disadvantaged groups**.
 - Trained **26+ lakh people since 2018–19**.
5. **Skill India Digital Hub (SIDH)**
 - Digital integration of skilling, education, and employment ecosystems.
6. **India Skills Accelerator (with WEF)**
 - Public-private collaboration for **future-ready workforce**.

About Employment Linked Incentive (ELI) Scheme



- **Background:** Announced in Union Budget 2024–25, as part of PM's package of five employment & skilling schemes
- **Nodal Ministry:** Ministry of Labour & Employment
- **Purpose:** Promote job creation, employability, and social security, especially in manufacturing
- **Target:** Generate 3.5 crore jobs, including first-time employees

7. Skill Impact Bond (NSDC)

- India's first development impact bond for skilling & job placement.

Broader Analysis

- Demographic Dividend Opportunity:** India's working-age population will peak by 2040 → critical window to **equip workforce with right skills**.
- Changing Nature of Work:** Shift towards **gig economy, automation, AI, and remote work** requires continuous skilling.
- Global Dimension:** India can emerge as a **talent hub for the world** (IT, healthcare, manufacturing, green jobs).
- Social Inclusion:** Skilling must include **women, rural youth, disadvantaged groups** to ensure **equitable growth**.

Way Forward

1. Education-Industry Linkages

- Compulsory internships, apprenticeships, and curriculum alignment with **NEP 2020**.

2. Technology-Driven Skilling

- Expand digital platforms (e.g., SIDH, e-Shram portal).
- Focus on **future skills: AI, robotics, green jobs, cybersecurity**.

3. Boost Soft Skills & Entrepreneurship

- Communication, leadership, problem-solving integrated into courses.
- Encourage startups, MSME-linked skilling.

4. Incentivise Private Sector

- Tax benefits for companies providing large-scale skilling & apprenticeships.

5. Strengthen Regional Skilling Ecosystems

- Local demand-based skill development (e.g., fisheries in coastal areas, textiles in Tamil Nadu, IT in Bengaluru).

6. Inclusive Skilling

- Women-centric skilling programs.
- Greater outreach in rural & tribal areas.

MAINS PRACTICE QUESTION



Q. India's demographic dividend will remain unrealized without adequate skilling and employability reforms. Critically examine the challenges in India's skilling ecosystem and suggest measures to strengthen it.

Conclusion

India's **demographic dividend** offers a once-in-a-lifetime opportunity. But without **quality skilling, soft skills, and industry alignment**, it risks becoming a **demographic burden**. The new ELI scheme, combined with **Skill India Mission, SIDH, and apprenticeship models**, must focus on **future-ready jobs** while ensuring inclusivity. Strong coordination between **government, industry, and academia** will be key to building a **resilient workforce** for the 21st century.

India as 4th Most Equal Country

Syllabus Mapping

- ✓ GS Paper II – Governance & Social Justice (Poverty, Welfare Schemes, Inclusive Growth)
- ✓ GS Paper III – Economy (Growth, Inequality, Employment, Poverty Alleviation)
- ✓ GS Paper I – Society (Social Empowerment, Equity, Welfare of Vulnerable Sections)

Why in News?

- The **World Bank's 2025 data** shows India's **Gini Index has fallen to 25.5**, making it the **4th most equal country globally**.
- India now ranks **more equal than all G7 and G20 nations**, surpassing countries like the US (41.8) and China (35.7).

What is the Gini Index?

- Definition:** Developed by **Corrado Gini (1912)**, it measures **income inequality**.
- Scale:**
 - 0 = *Perfect equality* (everyone has same income)
 - 1 = *Maximum inequality* (one person has all income).
- India's Gini trend:**
 - 2011: **28.8**
 - 2022: **25.5** → "Moderately Low Inequality" category.

Key Drivers of India's Equity Progress

1. Poverty Reduction

- Extreme poverty fell from **27.1% (2011-12) → 5.3% (2022-23)** at the \$3/day threshold.
- 171 million people lifted out of poverty in the past decade.

2. Welfare Schemes & Digital Delivery

- **Jan Dhan Yojana** – 55.69 crore accounts, enabling direct transfers.
- **Aadhaar-linked DBT** – ₹3.48 lakh crore savings by eliminating leakages.
- **Ayushman Bharat** – 41.34 crore cards, ₹5 lakh health coverage per family.
- **PMGKAY** – Free grains for 80+ crore citizens, extended till 2029.
- **Stand-Up India & PM Vishwakarma Yojana** – Credit, training, and market linkages for disadvantaged communities and artisans.

3. Broad-Based Growth

- Rising rural consumption, wage growth, and expansion of safety nets reduced **consumption inequality**.

Challenges & Structural Concerns

1. Persistent Poverty Despite Equity Claims

- At **\$3.65/day threshold** → 28.1% still poor (~300 million).
- Indicates equality in **relative consumption**, not absolute welfare.

2. Widening Wealth & Income Gaps

- Top 10% earn **13 times** more than bottom 10%.
- Richest 1% hold **40% of national wealth**, bottom 50% own just **3%**.
- Income-based Gini (0.410 in 2023) much higher than consumption-based Gini (25.5).

3. Outdated Poverty Line

- Rangarajan Committee (2014) benchmark no longer reflects present cost of living.
- Leads to underestimation of poor & mis-targeting of welfare.

4. Unequal Access to Opportunities

- Regional, caste, gender, and digital divides persist.
- Rural women, SC/STs, and informal workers face disproportionate barriers.

Significance

- **Global Standing**: Improves India's image as an inclusive growth economy.
- **Policy Validation**: Reflects success of **JAM Trinity (Jan Dhan, Aadhaar, Mobile)**, DBT, and welfare-driven inclusion.
- **Political Economy**: Strengthens case for further investment in social protection.
- **Global South Leadership**: Sets a model for reducing inequality without slowing growth.

Way Forward

- **Update Poverty Line** – adopt realistic poverty benchmarks for effective policy.
- **Focus on Wealth Inequality** – progressive taxation, inheritance tax debates, and redistribution.
- **Education & Healthcare Equity** – address structural gaps in human capital.
- **Strengthen Rural Employment** – diversify beyond agriculture, boost MGNREGA 2.0.
- **Gender Inclusion** – expand women's workforce participation (currently ~24%).

Conclusion

India's fall in the Gini Index highlights **reduced consumption inequality** but masks **deep wealth and income disparities**. Achieving true equity requires going **beyond welfare delivery** to structural reforms in **jobs, education, and health**, ensuring growth translates into **sustainable and inclusive development**.

MAINS PRACTICE QUESTION

1. India has emerged as one of the "most equal" societies globally based on consumption inequality, yet income and wealth gaps persist. Critically analyse.
2. Discuss the role of welfare schemes and digital governance in reducing inequality in India. How can these gains be sustained?

NEP 2020 @5 Years: Achievements & Challenges

📌 Syllabus Mapping

- ✓ GS Paper II – Governance, Constitution, Polity, Social Justice (Education Policy, Welfare Schemes)
- ✓ GS Paper I – Indian Society (Social Empowerment, Inclusion, Literacy)
- ✓ GS Paper III – Economy & Development (Human Capital, Skill Development, Innovation)

Why in News?

- NEP 2020 completes 5 years since its launch in July 2020.
- It is India's third education policy after 1968 and 1986 (modified in 1992), based on the Kasturirangan Committee's recommendations, aiming to make education inclusive, equitable, and future-ready.

Key Features of NEP 2020

	Conceptual over rote learning – promotes critical thinking and creativity
	Integration of technology – SWAYAM, DIKSHA, AI-enabled tools for learning
	Multilingualism – promotion of Indian languages, arts, and culture; exams like NEET/JEE in 12 languages
	Vocational & Lifelong Learning – NCIVE for vocational education; adult literacy programmes

Regulatory Transformation – creation of the Higher Education Commission of India (HECI) with four verticals like Deakin & Wollongong (Australia) and Southampton (UK) opened campuses in India.

5. Teacher Development

- 12.97 lakh teachers trained under NISHTHA.
- National Mission for Mentoring provided expert mentoring sessions.

Hurdles in Implementation

1. **Low Funding:**
 - Education spending remains around **3% of GDP** vs NEP's **6% target**.
 - Input-driven financing (infrastructure) instead of outcome-focused.
2. **Centre-State Divergence:**
 - Kerala, Tamil Nadu, West Bengal opposed certain provisions (e.g., three-language formula, PM-SHRI schools).
3. **Institutional Delays:**
 - HECI and National Curriculum Framework for Teacher Education still pending.
4. **Over-regulation:**
 - Higher education regulated by over **50 UGC/AICTE norms**, leading to red-tapism.
5. **Retention & Quality:**
 - Dropout at higher secondary remains high at **45.6%**.
 - Effective learning time in early childhood: just **35 minutes per day**.
6. **Technology Barriers:**

Achievements in 5 Years

1. School Education

- **GER (Gross Enrolment Ratio):** Near-universal at **93% primary level**.
- **Dropout rates:** Reduced to **1.9% (primary), 5.2% (upper primary), 14.1% (secondary)**.
- **Digitalisation:** Schools with computers rose from **38.5% → 57.2%**; internet access from **22.3% → 53.9%** (2019–24).
- **FLN progress:** 80% of rural schools reported receiving directives.

2. Higher Education

- GER increased from **23.7% (2014-15) → 28.4% (2021-22)**.
- Total **Higher Education Institutions (HEIs)** grew by **13.8% (2014-2023)**.
- HEIs filed **25% of India's 92,168 patents (2023-24)** – a boost for innovation.

3. Inclusivity & Access

- 7.58 lakh girls enrolled in inclusive residential schools.
- **Ladakh** became the **first fully literate administrative unit**, followed by Mizoram, Goa, and Tripura.

4. Internationalisation

- Foreign universities

Key Initiatives under NEP 2020



PM SHRI Schools

revamping 14,500 schools



NIPUN Bharat

foundational literacy & numeracy (FLN) by Grade 3 (2026-27)



ULLAS

(New India Literacy Programme)



adult education for those above 15 years



Vidyanjali

school volunteer program



PRERNA

experiential residential learning for classes IX-XII



PM e-Vidya & PRASHAST

support for Children with Special Needs (CwSN)



Vidyanjali

school volunteer program



Rashtriya Vidya Samiksha Kendra (RVSK)

real-time education performance monitoring

- Teachers face difficulties using smart boards, digital classrooms.

7. Infrastructural Constraints:

- Four-year UG degree rollout faces faculty and infrastructure shortages.

Way Forward

1. **Raise Public Spending:** Move toward 6% of GDP, with **outcome-based financing (OBF)**.
2. **Strengthen Federal Consensus:** Bridge **Centre-State divides** for uniform adoption.
3. **Teacher Empowerment:** Capacity-building in **AI, EdTech, digital pedagogy**.
4. **Localised Implementation:** Decentralisation to ULBs & local communities.
5. **Technology Integration:** AI-driven personalized tutors, smart classrooms, and real-time monitoring.
6. **Peer Learning Models:** Expand **Mission Ankur (Madhya Pradesh, Gujarat)** nationwide.
7. **Equity Focus:** Ensure digital infrastructure for rural, SC/ST, tribal, and girl students.

Conclusion

Five years on, the **NEP 2020 has laid a solid foundation** for transforming India into a **knowledge society** by prioritising **quality, equity, technology integration, and inclusivity**. However, challenges like **funding gaps, governance issues, and uneven state adoption** must be addressed to unlock the policy's full potential and align with India's vision of becoming a **global knowledge hub by 2047**.

MAINS PRACTICE QUESTION

1. Five years after its launch, to what extent has the NEP 2020 succeeded in transforming India's education landscape? Critically analyse.
2. Discuss the role of NEP 2020 in achieving inclusivity and equity in Indian education. What challenges remain in its implementation?

UN Women & Global Gender Agenda @30 Years

📌 Syllabus Mapping

- ✓ GS Paper I – Indian Society (Women, Gender Issues, Social Empowerment)
- ✓ GS Paper II – Governance, International Relations (Global Institutions, UN, Rights Issues)
- ✓ GS Paper III – Inclusive Growth & Development, SDGs

Why in News?

- On the **30th anniversary of the Beijing Declaration (1995)**, the **25th year of UNSC Resolution 1325 (2000)**, and the **15th anniversary of UN Women (2010)**, the UN has warned that **women's rights are at a "historic and precarious moment"** due to:
 - Rising violence against women,
 - Deepening poverty,
 - Political and digital exclusion.

Key Issues Faced by Women (UN Women 2025 Review)

1. Political Backlash & Representation Deficit

- Women hold **only 64% of men's legal rights**.
- **75% of lawmakers are men**, only **4% of development aid** focused on gender equality.
- **51% countries** restrict women from equal work opportunities.

2. Violence & Exclusion in Peace Processes

- **85,000 women killed in 2023** (one every 10 minutes by intimate partner/relative).
- **8 in 10 peace talks** exclude women.

3. Economic Inequality

- Women earn **20% less than men** for equal work.
- Perform **2.5 times more unpaid care work**.
- In India: **29.4% lower urban wages, 51.3% lower rural wages**.

4. Food & Education Insecurity

- **47.8 million more women than men** face food insecurity.

- **119 million girls remain out of school.**
- 39% of young women fail to complete secondary education.

5. Climate & Health Vulnerability

- Climate change could push 158 million women into extreme poverty by 2050.
- Women only hold **28% of environment minister positions.**
- **800 preventable maternal deaths daily.**

6. Digital Divide

- Globally, **54% women own phones vs 82% men.**
- In India (NFHS-5): **33% women use internet vs 57% men.**

India's Challenges

- **Low FLPFR:** Despite rising to **41.7% (2023-24)**, still below global average (50%).
- **High Gender-Based Violence:** 4.4 lakh cases in 2022; **29.3% of married women faced spousal violence.**
- **Care Burden:** Women spend **236 minutes/day on unpaid domestic work vs 24 minutes for men.**
- **Intersectional Inequality:** SC/ST women, rural poor, and tribal women face triple disadvantage.

UN Women (2010)

- Formed by merging 4 UN bodies (DAW, INSTRAW, OSAGI, UNIFEM).
- **Mandate:** Gender equality & empowerment of women.
- **Core missions:**
 - Governance & leadership,
 - Economic empowerment,
 - Ending violence,
 - Peace & humanitarian action.

UNSC Resolution 1325 on Women, Peace & Security (2000)

- Recognised **disproportionate conflict impact on women.**
- Called for women's protection from violence, equal participation in peace processes, and gender-sensitive conflict prevention.

Solutions Proposed by UN Women

1. **Political & Legal Commitment**
 - Repeal discriminatory laws, enforce gender-responsive policies, and ensure women's leadership in climate & peace negotiations.
2. **Economic Empowerment**
 - Equal pay laws, investment in care economy → **could create 300 million jobs by 2035.**
3. **Social Protection & Food Security**
 - Maternity benefits, pensions, direct cash transfers.
 - Gender-responsive agriculture policies.
4. **Education & Digital Inclusion**
 - Subsidised education, safe schools, scholarships.
 - Access to **digital finance, AI-based learning, cyber safety tools.**
5. **Peacebuilding & Security**
 - Women's participation in **peace talks, mediation, conflict zones.**
 - Better reproductive health facilities in humanitarian crises.

Conclusion

The **Global Gender Agenda remains unfinished.** Despite progress since Beijing 1995, women still face **systemic exclusion, violence, and unequal opportunities.** With **SDG 5 (Gender Equality)** central to all Sustainable Development Goals, ensuring **women's agency in economy, governance, climate, and digital domains** is critical to achieving inclusive global development.

As Simone de Beauvoir noted: "Never forget that it will only take a political, economic or religious crisis for women's rights to be called into question again."

Beijing Declaration & Platform for Action (BPfA) – 1995



- Landmark global framework for women's empowerment
- 12 Critical Areas of Concern: poverty, education, health, violence, armed conflict, economy, power & decision-making, institutional mechanisms, human rights, media, environment, and girl child.
- India is a signatory.

Beijing+30 Agenda (2025)

- Six focus areas:
 - Gender-inclusive peace
 - Climate action
 - Economic empowerment
 - Education & digital access
 - Leadership
 - Elimination of discriminatory laws



MAINS PRACTICE QUESTION

1. Critically analyse the progress and challenges of the Beijing Declaration (1995) in advancing the global gender agenda, with special reference to India.
2. Discuss the role of UN Women in addressing systemic gender inequalities in the 21st century. How can India leverage this platform for domestic empowerment?

Rising Student Suicides: Mental Health Crisis

📌 Syllabus Mapping

- ✓ GS Paper I – Indian Society (Issues of Youth, Social Empowerment)
- ✓ GS Paper II – Governance, Polity & Social Justice (Health, Education, Judiciary Interventions, Rights of Vulnerable Groups)
- ✓ GS Paper II – Welfare Schemes, Mental Health Policies

Why in News?

- In *Sukdeb Saha v. State of Andhra Pradesh (2025)*, the **Supreme Court issued guidelines** to protect the **mental health of students in colleges and coaching centres**, in response to the alarming surge of student suicides in India.
- The Court noted that suicides are not only a law-and-order issue but also a **public health emergency** linked to education, social pressure, and systemic failures.

The Scale of the Crisis

- **NCRB Report (2022)**: Students accounted for **7.6% of total suicides in India**.
- **Gendered Rise**: Male student suicides surged **99%**, female **92%** between 2012–2022.
- **India's Coaching Epidemic**: Kota (Rajasthan) alone reported **26 student suicides in 2023**, the highest ever in a single year.
- Suicide is now the **leading cause of death among youth aged 15–29** in India.

Factors Contributing to the Mental Health Crisis

1. Academic & Institutional Pressures

- Narrow definitions of success linked to **competitive exams (IIT-JEE, NEET, UPSC)**.
 - Segregation of “bright” vs “weak” batches in coaching centres.
 - Lack of **counsellors and safe spaces** in schools and colleges.

Supreme Court Guidelines (2025)

-  Uniform Mental Health Policy in all educational institutions, updated annually.
-  Mandatory Counsellors/Psychologists/Social Workers in every institution with 100+ students.
-  Training for Teaching & Non-teaching Staff – twice a year on identifying warning signs & psychological first aid.
-  Confidential Grievance Redressal Mechanisms
-  Parental Sensitisation – reducing academic pressure & recognising mental distress
-  Promotion of Extracurricular Activities – arts, sports, and personality development
-  Coaching Centres – structured career counselling & mental health safeguards
-  Residential Institutions – proactive measures against harassment, bullying, drugs, and abuse
 - Target: Reduce suicide mortality by **10% by 2030**.

- **Tele MANAS Programme**

2. Systemic Issues

- Ragging, bullying, caste-based discrimination (e.g., Rohith Vemula case, Hyderabad University).
- Harassment and toxic environments eroding sense of belonging.

3. Culture of Silence & Stigma

- Mental illness still seen as weakness, leading to underreporting.
- Families often impose “silence” on psychological issues.

4. Legislative & Regulatory Vacuum

- **No national law or enforceable framework** on student mental health in education.
- Guidelines exist but lack implementation.

5. Family & Societal Pressures

- Parental neglect, domestic conflicts, financial burdens.
- **Adverse childhood experiences** (abuse, neglect).
- Overuse of social media leading to comparison and isolation.

6. Other Socio-Economic Barriers

- Socio-economic discrimination: caste, gender, rural–urban divides.
- Lack of access to affordable mental health care.

Existing Initiatives in India

- **Mental Healthcare Act, 2017**
 - Decriminalised suicide (Section 115).
 - Recognised mental health as a right (Section 18).
- **National Suicide Prevention Strategy, 2022**

- Nationwide toll-free helpline for mental health counselling.
- **Manodarpan (MoE)**
 - Monitoring and counselling for students and teachers.
- **Malaviya Mission (2023)**
 - Teacher training to handle student mental health, linked to NEP 2020.
- **Coaching Centre Guidelines (2023)**
 - No batch segregation, mandatory counsellors, grievance redressal.

Way Forward

1. Policy & Governance Reforms

- Implement a **National Student Mental Health Act**.
- Enforce **Right to Mental Health in Education Institutions** under **Article 21 (Right to Life with Dignity)**.

2. Institutional Mechanisms

- Mandatory **mental health audits** in schools, colleges, and coaching centres.
- UGC & AICTE should link **institutional accreditation** with mental health policies.

3. Academic & Curriculum Reforms

- Move away from rote learning → **holistic education models (NEP 2020)**.
- Introduce **mental health literacy** as part of curriculum.

4. Social & Cultural Shifts

- Media campaigns to de-stigmatise mental illness.
- Peer-support systems in schools and colleges.

5. Digital Regulation & Responsible Media

- Guidelines on responsible reporting of suicides to avoid copycat behaviour.
- Counselling services integrated into digital education platforms.

Conclusion

The **student suicide crisis in India** is both a **human rights challenge** and a **developmental concern**. While **Supreme Court guidelines** provide a strong framework, real change lies in **breaking stigma, improving institutional accountability, training teachers, and empowering students with coping mechanisms**.

As Dr. B.R. Ambedkar rightly said:

"Cultivation of mind should be the ultimate aim of human existence."
— This must include the **mental wellbeing of India's future generations**.

Ending Manual Scavenging: Persistent Challenges

📌 Syllabus Mapping

- ✓ GS Paper I – Indian Society (Social Issues, Caste-based Inequality, Poverty & Vulnerable Groups)
- ✓ GS Paper II – Polity & Governance (Fundamental Rights, Government Policies, Judicial Interventions)
- ✓ GS Paper II – Social Justice (Health, Education, Welfare of Marginalised Communities)
- ✓ GS Paper III – Science & Tech (Robotics in Sanitation, Innovation for Public Welfare)

Why in News?

A **Ministry of Social Justice study (2022–23)** analysed **54 hazardous cleaning deaths** linked to manual scavenging across **8 States/UTs**, highlighting serious lapses in safety, mechanisation, and accountability.

Though India claims to have abolished manual scavenging under the **PEMSR Act, 2013**, the persistence of **sewer and septic tank deaths** shows a grim reality where technology, law, and society are failing sanitation workers.

Key Findings of the Study

- **Lack of Safety Gear:** In **90% cases**, no protective equipment was given.

MAINS PRACTICE QUESTION

?

1. "Student suicides reflect the systemic failure of India's education and mental health system." Critically analyse in light of recent Supreme Court guidelines.
2. Discuss the role of law, policy, and social change in addressing India's rising student mental health crisis.

- **Institutional Negligence:** Agencies lacked proper equipment, and awareness campaigns were superficial.
- **No Informed Consent:** Workers entered toxic sewers without being informed of risks.
- **Exploitative Hiring:** Most were **contractual or informal hires**, with limited access to benefits or compensation.

Understanding Manual Scavenging

- **Definition:** The manual cleaning, carrying, disposing, or handling of human excreta from dry latrines, sewers, drains, or railway tracks.
- **Current Status:**
 - Govt. claims “zero manual scavengers,” yet **NAMASTE Scheme (2022)** identified **84,902 sewer/septic tank workers** in 36 States/UTs.
- **Violation of Rights:**
 - **Article 17:** Abolition of untouchability.
 - **Article 21:** Right to life with dignity.

Legal & Judicial Framework

- **Prohibition of Employment as Manual Scavengers & Their Rehabilitation Act (2013):** Bans manual scavenging and mandates rehabilitation.
- **SC/ST (Prevention of Atrocities) Act, 1989:** Criminalises forcing Dalits into manual scavenging.
- **Supreme Court Guidelines (Dr. Balram Singh v. Union of India, 2023):**
 - ₹30 lakh compensation for deaths.
 - Rehabilitation, jobs, and education for dependents.
 - Contract cancellations for negligence.
 - **NALSA** to oversee disbursal and tracking via online portal.

Key Challenges Faced by Manual Scavengers

1. **Health Risks** – Toxic gases cause asphyxiation, Hepatitis, Cholera, Tetanus.
2. **Social Stigma** – Deeply tied to caste hierarchies; reinforces untouchability.
3. **Economic Exploitation** – Paid below minimum wage, no job security.
4. **Gendered Exploitation** – Women face **double discrimination**: caste + gender.
5. **Psychological Trauma** – Leads to depression, low self-esteem, substance abuse.
6. **Technological Gap** – Mechanisation is slow; Bandicoot robots, Endobot remain underutilised.

Government Initiatives

- **NAMASTE Scheme (2022):** Focus on mechanisation, training, and rehabilitation.
- **Safaimitra Suraksha Challenge:** Promotes safe cleaning practices in cities.
- **Swachhta Abhiyan App:** Enables citizens to report insanitary latrines and manual scavenging.
- **National Commission for Safai Karamcharis (NCSK):** Monitors implementation of laws and worker welfare.
- **Technological Interventions:**
 - **Bandicoot Robot:** Robotic sewer cleaner.
 - **Endobot & Swasth AI:** Pipeline detection systems.
 - **Vacuum Trucks:** For non-manual sewage removal.

The Way Forward

1. **Strict Enforcement of Law**
 - Stronger implementation of **PEMSR Act 2013**.
 - Strict criminal liability on contractors and officials.
2. **Full Mechanisation**
 - Scale-up robotic cleaning across ULBs under **Smart Cities Mission**.
 - Public-private partnerships for tech adoption.
3. **Rehabilitation & Social Security**
 - Mandatory **skill training + alternative employment**.
 - Inclusion under **Ayushman Bharat, PM Jan Dhan Yojana**, and pension schemes.
4. **Caste & Stigma Eradication**
 - Social campaigns to break association between caste and sanitation work.
 - Community rehabilitation, not individual compensation alone.
5. **Transparency & Data Monitoring**
 - National **real-time database** on sewer deaths and rehabilitation progress.
 - Involvement of civil society & judiciary in independent audits.

MAINS PRACTICE QUESTION

1. **“Manual scavenging is less a technological failure and more a social failure.” Discuss in the context of caste and dignity of labour in India.**
2. **Critically examine the role of law, technology, and judiciary in addressing the persistence of hazardous cleaning practices despite the PEMS Act, 2013.**

Conclusion

Despite constitutional guarantees and multiple laws, **manual scavenging continues as India's most visible form of caste-based occupational injustice.**

Ending this practice requires **strict accountability, rapid mechanisation, and dignified rehabilitation**, transforming sanitation work from a symbol of **exclusion and indignity** into one of **technological progress and social justice**.

As Gandhi once said: *"The true measure of any society can be found in how it treats its most vulnerable members."*

Social Isolation & Loneliness: Public Health Challenge

📌 Syllabus Mapping

- ✓ GS Paper I – Society (Social Issues, Urbanisation, Community Relationships)
- ✓ GS Paper II – Governance & Social Justice (Health, Vulnerable Sections, Welfare Measures)
- ✓ GS Paper III – Human Development, Health & Well-being

Why in News?

The **WHO Report 2025** titled *"From Loneliness to Social Connection: Charting a Path to Healthier Societies"* has highlighted the **growing global crisis of loneliness and social isolation**. The report warns of severe implications on health, productivity, and social cohesion if disconnection remains unaddressed.

What is Social Connection & Disconnection?

- **Social Connection:** The ability to form, sustain, and engage in meaningful relationships with family, friends, peers, co-workers, and communities.
- **Social Disconnection:** Lack of adequate or meaningful social interactions.
 - **Loneliness:** Gap between *desired* and *actual* relationships.
 - **Social Isolation:** Limited number of social ties or infrequent contact with others.

Key Highlights of the WHO Report

1. **Global Prevalence**
 - About **1 in 6 people** report loneliness (2014–2023).
 - **Youth (13–29 years)** feel loneliest; **1 in 4 teenagers** socially isolated.
 - **1 in 3 older adults** reported isolation (1990–2022).
2. **Disparities Across Regions**
 - **Low-income countries:** ~24% people feel lonely.
 - **High-income countries:** ~11% feel lonely.
3. **Health Impacts**
 - **Physical Health:** ~871,000 global deaths (2014–19) linked to loneliness, comparable to risk factors like obesity and smoking.
 - **Mental Health:** Higher risk of **depression, anxiety, dementia, and suicide**.
 - **Socio-economic:** Poor academic performance, productivity loss, absenteeism in workplaces.

Roadmap for Enhancing Social Connection

1. **Policy Frameworks**
 - National strategies for social connection (as seen in **Denmark, Finland, Germany**).
 - Integrating *social connection* into **health and welfare policies**.
2. **Research & Data**
 - Launching **Grand Challenges in Social Connection**.
 - Developing a **Global Social Connection Index** for monitoring.
3. **Interventions**
 - **Community Infrastructure:** Parks, libraries, community halls.
 - **Social Prescribing:** Doctors recommending group activities, yoga clubs, reading circles.
 - **Educational Integration:** Peer-support systems in schools & universities.
4. **Public Engagement**
 - Mass campaigns, awareness drives, festivals to promote inclusivity.
 - Digital platforms for *positive engagement*.
5. **India-Specific Strategies**

Why is Social Disconnection Rising?

	Digital Age & Social Media Paradox of hyperconnectivity but reduced face-to-face bonds
	Urbanisation Nuclear families, migration, and shrinking community networks
	Work Stress Competitive environments reduce leisure and bonding time
	Ageing Populations Rising elderly population without adequate caregiving
	Pandemic Aftermath COVID-19 lockdowns accelerated loneliness trends

- **Linking with National Mental Health Policy (2014) and Tele-MANAS programme.**
- **Community-level health workers (ASHA, Anganwadi)** as social connectors.
- Reviving traditional community festivals, Panchayat Sabhas, and Self-Help Groups to strengthen bonds.

Broader Significance

- **SDG Linkages:**
 - **SDG 3 (Good Health & Well-being)**
 - **SDG 10 (Reduced Inequalities)**
 - **SDG 11 (Sustainable Cities & Communities)**
- **Philosophical Insight:** Emile Durkheim, in his study on *Suicide* (1897), warned that “anomie” (**social disintegration**) leads to rising self-harm and depression. The WHO findings echo this century-old sociological concern.

Conclusion

Social isolation is not just a *personal* problem but a **public health, economic, and societal challenge**. With nearly a billion people at risk of disconnection, building **inclusive, empathetic, and community-oriented societies** is essential.

India, with its rich tradition of collective living, must harness both **cultural strengths and modern innovations** to ensure that the paradox of “connected but lonely” does not undermine its demographic dividend.

MAINS PRACTICE QUESTION

1. “**Loneliness is the new pandemic of the 21st century.**” Examine its health and societal consequences with reference to the recent WHO report.
2. Discuss the role of policy interventions and community engagement in tackling rising social isolation in India.

Role of Social Organisations in Nation Building

Syllabus Mapping

- ✓ GS Paper I – Indian Society (Social Empowerment, Communalism, Regionalism)
- ✓ GS Paper II – Governance & Social Justice (NGOs, SHGs, Civil Society)
- ✓ GS Paper IV – Ethics (Values, Role of Family, Society, and Institutions in Inculcating Values)

What are Social Organisations?

- **Definition:** Social organisations are structures through which individuals and groups interact, coordinate, and pursue collective goals in society.
- They may be:
 - **Formal:** NGOs, trade unions, educational institutions, religious organisations.
 - **Informal:** Family, kinship, peer groups, neighbourhood associations.

Role of Social Organisations in Nation Building

Social Organisation	Role in Nation Building	Examples
Family	<ul style="list-style-type: none"> - Primary agent of socialisation, transmitting cultural values, ethics, and moral discipline. - Instills empathy, cooperation, and respect for social norms. - Builds social capital by nurturing responsible citizens. 	Joint family system fostering care for elders & community values.
Religious Institutions	<ul style="list-style-type: none"> - Provide a moral and ethical framework (values of compassion, forgiveness, service). - Act as centres of charity, welfare, and disaster relief. - Promote community cohesion and solidarity. 	Sikh <i>Langar</i> system; role of church missions in healthcare/education.
Educational Institutions	<ul style="list-style-type: none"> - Ensure knowledge transmission, skill development, and civic education. - Promote values like discipline, teamwork, and scientific temper (as per Article 51A(h)). - Act as incubators of leadership and innovation. 	IITs, IIMs producing technocrats; Navodaya schools improving rural education.
Non-Government Organisations (NGOs)	<ul style="list-style-type: none"> - Policy Advocacy: Shaping laws and rights movements. - Capacity Building: Awareness campaigns, empowerment of marginalised groups. - Service Delivery: Filling governance gaps in health, education, livelihoods. - Strengthening Democracy: Promoting transparency, accountability, and citizen participation. 	<ul style="list-style-type: none"> - <i>Mazdoor Kisan Shakti Sangathan</i> (Right to Information). - <i>Self-Employed Women's Association (SEWA)</i> (women empowerment). - <i>Pratham</i> (education outcomes). - <i>Association for Democratic Reforms (ADR)</i> (electoral reforms).

Broader Significance

- Social Cohesion** – Promotes trust, solidarity, and harmony across communities.
- Democratic Deepening** – Encourages citizen participation and checks on state power.
- Inclusive Development** – Empowers marginalised groups (Dalits, women, tribals).
- Value Transmission** – Builds moral fabric essential for sustainable development.
- Nation's Resilience** – Strengthens society's ability to cope with disasters, conflicts, and social divisions.

Challenges Faced

- Over-politicisation of NGOs** (foreign funding misuse under FCRA scrutiny).
- Religious polarisation** leading to communal tension.
- Weak capacity of educational and family institutions** due to urbanisation, migration, and digital distractions.
- Regulatory hurdles** affecting grassroots organisations.

Way Forward

- Capacity Building:** Strengthen NGOs and civil society with financial and institutional support.
- Balanced Regulation:** Transparency without stifling independence (review of FCRA norms).
- Community-Centric Models:** Strengthen local self-governance, SHGs, and voluntary organisations.
- Technology Use:** Digital platforms for civic participation and service delivery.
- Ethical Reorientation:** Promote value-based education and interfaith harmony.

MAINS PRACTICE QUESTION

"Social organisations act as both mirrors and makers of society." Discuss their role in India's nation-building process with suitable examples.

Conclusion

Social organisations are the **bedrock of nation-building**, shaping not just governance outcomes but also the **moral, cultural, and social fabric** of the country. Recognising and strengthening their role ensures that development is **inclusive, participatory, and sustainable**, in line with constitutional values and democratic ideals.

Kashi Declaration: Youth & Drug-Free Path

Syllabus Mapping

- ✓ GS Paper I – Society (Social Issues: Substance Abuse, Youth & Social Change)**
- ✓ GS Paper II – Governance, Policies & Interventions (Health, Social Justice, Role of NGOs & Civil Society)**
- ✓ GS Paper III – Internal Security (Organized Crime, Narcotics, Challenges to Social Stability)**

Why in News?

- The **Youth Spiritual Summit** in Kashi adopted the **Kashi Declaration**, under the framework of **Mera Yuva (MY) Bharat**, to spearhead a **youth-driven anti-drug campaign**.
- It lays down a **5-year roadmap for a nationwide de-addiction movement**, integrating governance, society, and spiritual initiatives.

About Mera Yuva (MY) Bharat

- An **autonomous body** established by the Government of India.
- Provides an **institutional mechanism** powered by **digital technology** for **youth-led development**.
- Acts as a platform for **engaging youth in nation-building activities**, including anti-drug campaigns.

Kashi Declaration: Key Features

- Five-Year Roadmap:** Structured strategy to eliminate drug addiction through multi-stakeholder collaboration.
- Holistic Recognition:** Treats **substance abuse** not just as a criminal issue, but as a **public health and social challenge**.
- Multi-Ministerial Coordination:**
 - Formation of a **Joint National Committee**.
 - Annual progress reporting** and monitoring.
 - National platform to link individuals with **rehabilitation and counselling services**.
- Integration of Multiple Approaches:**
 - Spiritual & Cultural:** Leverage India's civilisational ethos and spiritual institutions for behavioural change.
 - Educational:** Awareness campaigns in schools and colleges.
 - Technological:** Use of apps, helplines, and social media for awareness and rehabilitation.

Status of Drug Abuse in India (National Survey on Substance Use, 2019)

- **Alcohol:** 14.6% of population (10–75 years) are current users.
- **Cannabis & Opioids:** Cannabis (ganja, charas) and opioids (heroin, opium) are widely abused.
- **Regional Variation:** Higher prevalence in Punjab, Uttar Pradesh, Delhi, and Northeast states.
- **Youth Vulnerability:** Peer pressure, unemployment, and academic stress increase youth susceptibility.

Legislative & Policy Framework in India

- **Narcotic Drugs and Psychotropic Substances Act, 1985 (NDPS Act):** Prohibits narcotic drugs and psychotropic substances except for medical/scientific use.
- **Prevention of Illicit Traffic in NDPS Act, 1988:** Strengthens enforcement against trafficking networks.
- **National Action Plan for Drug Demand Reduction (NAPDDR), 2018-25:** Promotes prevention, rehabilitation, and community mobilisation.
- **Nasha Mukt Bharat Abhiyaan (NMBA), 2020:** Nationwide campaign in 272 districts targeting awareness, de-addiction, and youth engagement.

Challenges in Tackling Drug Abuse

- **Social Stigma:** Addiction often seen as a moral failing rather than a medical condition.
- **Cross-Border Drug Trafficking:** India's geographic location makes it vulnerable (Golden Triangle, Golden Crescent).
- **Weak Rehabilitation Infrastructure:** Limited de-addiction centres, lack of trained counsellors.
- **Youth Demographic Pressure:** India's **youth bulge** can either be harnessed productively or risk being derailed by addiction.
- **Economic Costs:** Substance abuse leads to productivity loss, healthcare burden, and rising crime.

Way Forward (As per SC, Policy Experts & Global Best Practices)

1. **Public Health Approach:** Addiction treated as a disease, not just a crime.
2. **Community Engagement:** Religious, spiritual, and cultural institutions to destigmatize recovery.
3. **Technology Integration:** Use of apps, helplines, and AI tools for early intervention.
4. **Education System Role:** Curriculum to include awareness on drug abuse, life skills, and stress management.
5. **Youth Empowerment:** Leverage youth through MY Bharat for campaigns, peer counselling, and volunteer networks.
6. **International Collaboration:** Strengthen cooperation with **UNODC (United Nations Office on Drugs and Crime)** and SAARC frameworks for cross-border challenges.

MAINS PRACTICE QUESTION

"India's fight against drug abuse requires a shift from criminalisation to public health and youth-led community engagement." Critically analyse in light of the Kashi Declaration.

Conclusion

The **Kashi Declaration** signifies a **paradigm shift from punitive to preventive and rehabilitative approaches**, with youth at the centre of the movement. By blending **policy, spirituality, education, and technology**, India aims to create a **drug-free generation**, in alignment with the vision of a **Viksit Bharat 2047**.

Divya Deshmukh Wins FIDE Women's World Cup

Syllabus Mapping

- ✓ GS Paper I – Indian Society & Women Empowerment (Role of women in sports)
- ✓ GS Paper II – International Institutions (FIDE, IOC)
- ✓ GS Paper III – Achievements in Science & Technology (AI in sports, digital governance in gaming)

Why in News?

Indian chess prodigy **Divya Deshmukh** created history by becoming the **first Indian woman to win the FIDE Women's World Cup** after defeating Grandmaster **Konneru Humpy** in the final at Batumi, Georgia.

About FIDE World Championship Cycle

- **FIDE World Cup** – Determines 3 players who qualify for the Women's Candidates Tournament.
- **Candidates Tournament** – 8-player double round-robin; winner challenges the reigning world champion.
- **Qualification Pathways:**
 - Top finishers in FIDE World Cup.
 - Winners of FIDE Grand Swiss & FIDE Circuit.
 - Highest-rated player on FIDE list.
- **World Championship Match** – Final showdown between reigning champion and Candidates winner.

About International Chess Federation (FIDE)

Key Highlights

Historic Victory:

Divya Deshmukh is now the fourth Indian woman to achieve Grandmaster status, joining Koneru Humpy, Dronavalli Harika, and R Vaishali. She automatically qualifies for the 2026 Candidates Tournament.



- **Founded:** 1924 in Paris.
- **Headquarters:** Lausanne, Switzerland.
- **Members:** 201 national federations.
- **Recognition:** Accepted by **International Olympic Committee (IOC)** in 1999.
- **Role:** Governs chess rules, ratings, international tournaments, and world championships.

Significance of Divya's Win

1. **Gender Empowerment** – Breaks barriers in a male-dominated sport.
2. **Global Recognition** – India emerges as a **chess powerhouse** alongside Russia and China.
3. **Boost to Youth Inspiration** – Encourages participation in mental sports in a country dominated by cricket.
4. **Policy Dimension** – Strengthens India's case for **sports infrastructure and digital coaching ecosystems**.

Conclusion

Divya Deshmukh's triumph symbolizes the **rise of Indian women in global sports**. With India already producing legends like **Viswanathan Anand and Gukesh**, the country's chess ecosystem is witnessing a renaissance. Going forward, policy

support, digital training tools, and grassroots promotion can ensure India remains a **world leader in chess**.

MAINS PRACTICE QUESTION

Q. India is rapidly emerging as a global chess powerhouse, with historic wins by young prodigies. Discuss the role of institutional support, digital technology, and cultural factors in shaping India's chess dominance.

AN INSTITUTE FOR CIVIL SERVICES

ETHICS, INTEGRITY, AND APTITUDE

Celebrity Endorsements & Ethics: Fame vs Responsibility

❖ Syllabus Mapping

- ✓ GS Paper II – Governance (Accountability, Transparency, Role of Civil Services and Regulatory Bodies)
- ✓ GS Paper IV – Ethics, Integrity, and Aptitude (Role of Public Figures, Corporate Ethics, Trusteeship, Virtue Ethics)
- ✓ GS Paper III – Economy & Technology (Digital Governance, Regulation of Emerging Markets, Consumer Protection)

Introduction

Celebrities wield immense influence in shaping public opinion. However, recent controversies – from **illegal betting app promotions** (ED cases against actors/hosts) to endorsements of **alcohol, tobacco surrogates, junk food, and unregulated crypto platforms** – highlight the **ethical dilemmas and regulatory gaps** in celebrity endorsements. These incidents raise questions about **celebrity accountability, corporate responsibility, and state regulation** in safeguarding consumer rights.

Key Stakeholders and Interests

Stakeholder	Interests
 Celebrities	Financial gain, visibility, and career growth; but also risk loss of credibility if caught in unethical endorsements Maximise profits and reach wider markets via trusted faces
 Brands/Companies	Maximise profits and reach wider markets via trusted faces Expect safety, truthfulness, and transparency in advertisements
 Government/Regulators	Enforce laws, protect consumers, curb money laundering, and maintain public trust Advocate ethical practices, raise awareness about misleading ads
 Civil Society/NGOs	Advocate ethical practices, raise awareness about misleading ads

Key Ethical Issues in Celebrity Endorsements

1. **Autonomy and Informed Consent**
 - Many ads conceal risks while appealing to emotions.
 - *Kantian Ethics*: Treating people as means to profit, not ends.
 - *ASCI Guidelines*: Mandatory “ad” labels, disclosure of payments.
2. **Accountability & Responsibility**
 - *Gandhian Trusteeship*: Fame should be used as a trust for public good.
 - *Consumer Protection Act, 2019*: Holds endorsers liable for misleading claims.
3. **Beneficence and Non-Maleficence**
 - Ethical duty: *Do good and Do no harm*.
 - Conflict arises when celebrities endorse unhealthy foods, alcohol surrogates, or unregulated platforms.
4. **Integrity and Role-Model Crisis**
 - *Virtue Ethics*: Promotes prudence, honesty, and social responsibility.
 - Repeated association with questionable products erodes credibility.

Challenges in Preventing Unethical Endorsements

- **Financial Incentives Override Ethics** – Lucrative contracts often outweigh moral concerns.
- **Information Asymmetry** – Celebrities rely on company claims, with little independent verification.
- **Celebrity Worship Culture** – Fans resist criticism of public figures, diluting accountability.
- **Evolving Product Categories** – New markets (crypto, betting apps, influencers) outpace regulation.
- **Regulatory Limitations** – ASCI/Consumer Protection enforcement limited by manpower and jurisdiction.

Way Forward

1. **Ethical Self-Audit by Celebrities**
 - Verify legality of brands before endorsing.
 - Transparent disclosure of paid promotions.
 - Prioritise social causes (health, environment, financial literacy).

- CSR-driven branding instead of profit-only motives.
- Formation of **celebrity code-of-conduct councils**.

3. Strengthened Policy Framework

- **Sector-specific regulation:** e.g., strict ban on endorsements of betting, tobacco, and unhealthy food to children.
- Mandatory **disclosure norms** for crypto and financial services.
- Extend **penalties** to both brands and endorsers.

4. Public Awareness and Education

- Consumer education campaigns on critical thinking.
- Ethics education in schools to counter blind celebrity worship.

5. Collective Moral Responsibility

- Endorsement as a **moral choice**, not merely a commercial act.
- Role of society, regulators, media, and celebrities in upholding dignity of public trust.

Conclusion

In a society where **celebrity fame commands trust**, endorsements are not just commercial deals but **moral decisions with real social consequences**. Ethical self-restraint by celebrities, stronger corporate accountability, and robust regulatory oversight are essential to ensure that endorsements serve **public good** instead of exploiting public faith.

MAINS PRACTICE QUESTION



GS Paper IV (Ethics):

1. Examine the ethical dilemmas involved in **celebrity endorsements of harmful products**. How can frameworks like **Gandhian Trusteeship and Virtue Ethics** guide responsible **celebrity behavior**?

GS Paper II (Governance):

2. Discuss the role of laws such as the **Consumer Protection Act, 2019** and **ASCI guidelines** in regulating **misleading celebrity endorsements**. What gaps remain in India's digital ecosystem?

Ethical Digital Conduct in Public Service

📌 Syllabus Mapping

✓ GS Paper II – Governance: Accountability, Transparency, and Role of Civil Services

✓ GS Paper IV – Ethics, Integrity, and Aptitude: Information Ethics, Digital Responsibility, Political Neutrality

Introduction

The rapid expansion of digital platforms has blurred the lines between **personal expression and professional responsibility**. The **Maharashtra government's directive (2025)** regulating social media usage by employees, and the **LBSNAA advisory to probationers**, highlight the urgent need for **ethical digital conduct in public service**. The issue reflects a delicate balance between **fundamental rights (Article 19)** and the **ethical duty of neutrality, confidentiality, and integrity** expected from civil servants.

Key Pillars of Ethical Digital Conduct

1. **Transparency**
 - Ensures openness in governance through accountable communication.
 - But must be balanced with confidentiality in sensitive matters.
2. **Accountability**
 - Digital actions leave permanent footprints.
 - Civil servants are accountable for both official and personal online behavior.
3. **Impartiality**
 - Maintaining **political neutrality** on social media.
 - Avoiding posts that suggest bias or undermine institutional credibility.
4. **Integrity**
 - Honesty, consistency, and fairness in digital interactions.
 - Avoiding fake news, trolling, or manipulative online behavior.

Arguments in Favour of Regulation

- **Preserving Political Neutrality**
 - Prevents erosion of apolitical character of civil services.
 - *Deontological Ethics* (Kant) & *Rawls' Justice Theory* stress impartial duty and fairness.
- **Safeguarding Confidentiality**
 - Prevents inadvertent leaks of sensitive information.
 - *Kantian Duty Ethics* sees breach of confidentiality as wrong, regardless of intent.
- **Protecting Institutional Integrity**

- Online misconduct affects public trust (e.g., Pune police officer suspended for fantasy gaming).
- *Virtue Ethics* emphasizes propriety and restraint.
- **Public Interest First**
 - Gandhian trusteeship and *Utilitarian Ethics* justify regulation when larger public good outweighs individual freedom.

Arguments Against Over-Regulation

- **Violation of Freedom of Expression**
 - Article 19(1)(a) guarantees free speech.
 - *Mill's Liberty Principle*: Restrict freedom only when it causes direct harm.
- **Curtailing Transparency**
 - Social media enables direct citizen engagement and accountability.
 - Example: *Pooja Khedkar case* scrutiny through digital platforms.
- **Generational Disconnect**
 - Younger officers rely on social media for outreach.
 - Over-regulation may alienate citizens, especially the youth.
- **Morale and Trust Issues**
 - Excessive restrictions foster suspicion, eroding workplace trust.
 - Goes against *Organizational Justice* principles.

Way Forward

1. **Balanced Regulation**
 - Create **guidelines for ethical use** instead of blanket bans.
 - Allow **positive use of social media** for awareness, grievance redressal, and transparency.
2. **Digital Literacy Training**
 - Mandatory workshops on digital ethics, misinformation, and cyber security.
3. **Codes of Conduct**
 - Institution-specific *Digital Conduct Codes*, reviewed annually.
4. **Technology Solutions**
 - Use AI-based monitoring for sensitive data leaks while respecting privacy.
5. **Peer and Mentorship Models**
 - Encourage senior officers to mentor juniors in responsible digital behavior.

Conclusion

Ethical digital conduct in public service is not about **restricting freedom** but about **harmonizing rights with responsibilities**. In the digital age, where reputations are shaped in seconds, civil servants must act as **custodians of neutrality, confidentiality, and integrity**. Regulation should thus be **enabling, not stifling**—promoting transparency while safeguarding public trust.

Existing Regulatory Mechanism

Law/Rule	Key Provision
CCS (Conduct) Rules, 1964	Prohibits criticism of government policy, mandates neutrality
All India Services (Conduct) Rules, 1968	Dignified conduct, prohibits disclosure of information
RTI Act, 2005	Promotes transparency but balances with exemptions
Official Secrets Act, 1923	Prevents leaks of classified information

MAINS PRACTICE QUESTION

GS Paper II (Governance):
 1. "In the age of digital governance, should civil servants' freedom of expression on social media be restricted to preserve neutrality? Critically examine."

GS Paper IV (Ethics):
 2. Discuss the ethical dilemmas faced by civil servants in balancing transparency, neutrality, and confidentiality in their digital conduct.

HISTORY, ART & CULTURE

Chola Gangam Lake: Engineering & Heritage

📌 Syllabus Mapping

- ✓ GS Paper I – Indian History & Culture (Art, Architecture, Ancient Kingdoms, Water Management Systems)
- ✓ GS Paper II – Governance & Society (Cultural Heritage, Local Governance, Administrative Systems)
- ✓ GS Paper III – Environment & Infrastructure (Water Resources, Irrigation, Traditional Knowledge Systems)

Why in News?

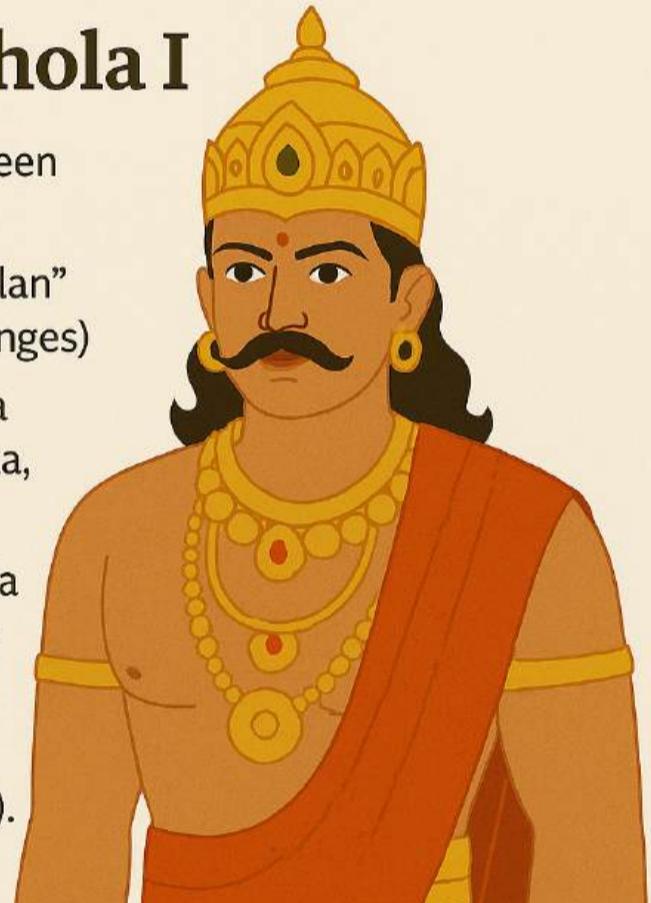
The Tamil Nadu government has announced the **development of the 1,000-year-old Chola Gangam Lake at Gangaikonda Cholapuram**, coinciding with the **Aadi Thiruvathirai Festival**, which celebrates the **birth anniversary of Rajendra Chola I** and his maritime conquests.

About Chola Gangam Lake

- **Other Name:** Ponneri Lake
- **Location:** Near Gangaikonda Cholapuram, Ariyalur District, Tamil Nadu.
- **Construction:** Built by **Rajendra Chola I** (1014–1044 CE), son of Rajaraja Chola I.
- **Historical Significance:**
 - After conquering the Ganga valley and defeating rulers like the **Palas of Bengal** and **Kalinga kings**, Rajendra brought **sacred water from the Ganga** and poured it into this lake, symbolizing victory.
 - Known as **Chōlagāngam** during the Chola period and **Ponneri** in the Vijayanagara period.
- **Structure:**
 - Elliptical bunds reinforced with laterite stones.
 - Connected via a **canal to the Kollidam River** (a distributary of the Kaveri).
- **Purpose:** Drinking water supply to Gangaikonda Cholapuram and irrigation for nearby areas.

About Rajendra Chola I

- Son of Rajaraja Chola I; ruled between 1014–1044 CE.
- Earned the title “Gangaikonda Cholan” (‘The Chola who conquered the Ganges’)
- **Military Glory:** Expanded the Chola empire across South India, Sri Lanka, and Southeast Asia
- **Capital Shift:** Founded Gangaikonda Cholapuram as his capital after the Gangetic expedition
- **Achievements:** Naval expedition against the Srivijaya Empire (1025 CE).



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

- **Origins:** Began as local chiefs under the Pallavas at Uraiur; rose under **Vijayalaya Chola** (9th century CE).
- **Administration:**
 - Kingdom divided into **Mandalams** → **Valanadus** → **Nadus** → **Kurrams/Kottams**.
 - **Local Self-Governance:** Village assemblies (Ur/Sabha) followed **Kudavolai system** (lot-based elections).
- **Economy:** Taxation included **Vetti (forced labour)** and **Kadamai (land revenue)**.
- **Maritime Power:**
 - Maintained one of the **world's strongest navies** of the time.
 - Famous ports: **Mahabalipuram, Kavirippumpattinam (Poompuhar), Korkai**.
- **Cultural Contributions:**
 - Built the **Great Living Chola Temples** (UNESCO World Heritage Sites).
 - Patronized **Shaiva Siddhanta philosophy** and **Bhakti literature**.
 - Excelled in **bronze sculptures**, especially the **Nataraja**.

Major Chola Temples

Temple	Location	Built by	Period	Features	UNESCO WHS
Brihadeeswara (Peruvudaiyar) Temple	Thanjavur	Rajaraja Chola I	1010 CE	55m vimana, inscriptions narrating Chola rise	✓
Gangaikonda Cholapuram Temple	Ariyalur	Rajendra Chola I	1035 CE	Sculptures: Nataraja, Dakshinamurthy, Lingodbhava	✓
Airavatesvara Temple	Darasuram	Rajaraja Chola II	12th Century CE	Chariot-shaped stonework, musical steps	✓

Cultural Context: Aadi Thiruvathirai Festival

- Celebrates Rajendra Chola's maritime expedition and capital shift.
- Honours Tamil Shaiva traditions, 63 Nayanmars, and Shaiva Siddhanta philosophy.
- Links the Cholas' political power with spiritual patronage.

Significance of Chola Gangam Lake

1. **Water Management:** Ancient hydro-engineering feat integrating river canal systems.
2. **Cultural Symbol:** A "liquid pillar of victory," linking political conquests with sacred traditions.
3. **Agricultural Support:** Enhanced irrigation and prosperity of Gangaikonda Cholapuram region.
4. **Heritage Value:** Oldest large-scale man-made lake in India.
5. **Modern Relevance:** Model for sustainable water storage and irrigation systems in semi-arid zones.

MAINS PRACTICE QUESTION

Q. The Chola Gangam Lake is a symbol of both political conquest and water management. Discuss its significance in the context of Chola administration, maritime power, and cultural legacy.

Conclusion

The Chola Gangam Lake, alongside the Great Living Chola Temples, reflects the Cholas' genius in engineering, governance, naval power, and cultural patronage. Its revival today not only preserves a millennium-old legacy but also offers lessons in sustainable water management, inclusive governance, and cultural pride—vital for India's path to sustainable development.

Maratha Military Landscapes: India's 44th UNESCO Site

Syllabus Mapping

- ✓ GS Paper I – Indian History & Culture (Art, Architecture, Medieval Kingdoms)
- ✓ GS Paper II – Governance & International Relations (UNESCO, Heritage Diplomacy)
- ✓ GS Paper III – Security & Strategy (Fortifications, Defence Systems, Maritime Security)

Why in the News?

The Maratha Military Landscapes of India have been inscribed as India's 44th UNESCO World Heritage Site, highlighting the military genius of the Maratha Empire, especially under Chhatrapati Shivaji Maharaj.

About Maratha Military Landscapes

- **Tentative List:** Placed in 2021, inscribed in 2025.
- **Spread:** Across Maharashtra and Tamil Nadu.
- **Terrains:** Sahyadri mountains, Konkan coast, Deccan plateau, and Eastern Ghats.
- **Evolution:** Developed mainly in the 17th century under Shivaji, strengthened during Peshwa rule (till 19th century).
- **Significance:** Reflects military strategy, naval dominance, and architectural ingenuity in diverse geographies.

12 Key Forts of Maratha Military Landscape

Fort	Type	Significance
Salher (Maharashtra)	Hill fort	Site of 1672 Maratha–Mughal battle.
Shivneri	Hill fort	Birthplace of Chhatrapati Shivaji Maharaj.
Lohgad	Hill fort	Near Buddhist caves at Bhaje; strategic watch fort.
Raigad	Hill fort	Permanent capital chosen by Shivaji.
Rajgad (Murumdev)	Hill fort	First political base of Hindavi Swarajya; capital before Raigad.
Gingee (Tamil Nadu)	Hill fort	Massive fort with three citadels; later Maratha capital in south.
Pratapgad	Forest fort	Famous for Shivaji's 1659 battle with Afzal Khan.
Panhala	Plateau fort	Capital under Tarabai; linked to resistance.

Sindhudurg	Island fort	Built by Shivaji on an islet in Arabian Sea.
Suvarnadurg	Island fort	Naval base; originally Bijapur's, later under Shivaji.
Khanderi	Island fort	Built by Shivaji (1679) to counter Siddis of Murud-Janjira.
Vijaydurg	Coastal fort	Captured by Shivaji, renamed "Eastern Gibraltar."

Maratha Empire – Background



Foundation:
Chhatrapati Shivaji Maharaj, crowned in 1674 at Raigad

Capitals: Raigad, Satara, Pune
Gingee

Peak:
Extended from Peshawar to Thanjavur in the 18th century

Administration



Ashtapradhan Mandal – council of 8 ministers (Peshwa, Amatya, Senapati, etc.)

Decline: After Third Battle of Panipat (1761) against Ahmad Shah Adbali

Decline: After Third Battle of Panipat (1761) against

- Must have **Outstanding Universal Value (OUV)**.
- Evaluated by **ICOMOS** (cultural) and **IUCN** (natural).
- Final decision by **World Heritage Committee** (India member, 2021–25).

Strategic Features of Maratha Forts

- **Diverse Typology:** Hill forts, forest forts, plateau forts, coastal forts, and island forts.
- **Military Vision:**
 - **Hill forts** for defence and political centres.
 - **Island & coastal forts** to command Arabian Sea trade routes.
 - **Forest forts** for guerilla warfare and surprise attacks.
- **Architecture:**
 - Adapted to terrain (e.g., elliptical walls, multiple citadels).
 - Strategic water management and hidden passages.
 - Thick stone walls, watch towers, and bastions.
- **Maritime Power:** Enabled Shivaji's navy to check European traders, Bijapur rulers, and Siddis.

UNESCO World Heritage Sites – India's Position

- **Convention:** 1972 World Heritage Convention.
- **Categories:** Cultural, Natural, Mixed.
- **India's Standing:**
 - **44 sites** (36 cultural, 7 natural, 1 mixed).
 - **6th globally, 2nd in Asia-Pacific.**
- **Nodal Agency:** Archaeological Survey of India (ASI).
- **Selection Process:**

Significance of the Inscription

1. **Historical Recognition:** Highlights Shivaji's **military foresight** and unique fortification style.
2. **Cultural Diplomacy:** Boosts India's soft power and **tourism potential**.
3. **Heritage Conservation:** Ensures **international funding & technical support** for preservation.
4. **Regional Pride:** Reinforces Maharashtra's and Tamil Nadu's role in shaping Indian history.

Conclusion

The inclusion of the **Maratha Military Landscapes** into the UNESCO World Heritage List is a tribute to the **military genius of Chhatrapati Shivaji Maharaj and the Maratha state**. These forts—spanning coasts, plateaus, forests, and hilltops—represent a blend of **political vision, architectural excellence, and maritime strategy**. Their recognition not only preserves heritage but also strengthens India's global cultural standing.

MAINS PRACTICE QUESTION

Q. The Maratha military landscapes reflect both architectural brilliance and strategic foresight. Discuss their significance in the political, maritime, and cultural history of India.

GEOGRAPHY & DISASTER MANAGEMENT

Depleting Coral Cover in Lakshadweep

❖ Syllabus Mapping

- ✓ GS Paper I – Geography (Physical & Human Geography, Flora & Fauna)
- ✓ GS Paper III – Environment, Conservation, Climate Change, Disaster Management
- ✓ GS Paper II – Government Policies & International Agreements (Climate Commitments)

Context

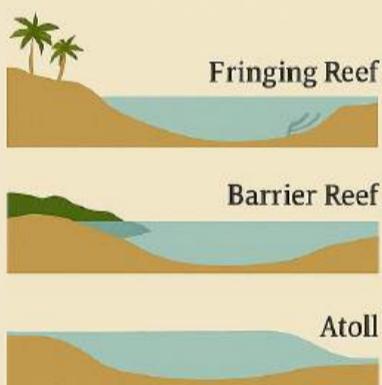
A recent study on **Agatti, Kadmat, and Kavaratti atolls** reveals that coral cover in the **Lakshadweep archipelago** has declined by **50%** (from **37.24% in 1998 to 19.6% in 2022**). The decline is linked to **climate change-induced marine heatwaves, El Niño events, and human pressures**.

What are Coral Reefs?

Definition: Coral reefs are diverse marine ecosystems formed by colonies of tiny marine animals called polyps, which secrete calcium carbonate.

Types: Fringing Reefs

- (close to shore)
- Barrier Reefs: parallel to coast, separated by lagoon)
- Atolls: circular reefs around lagoons; Lakshadweep is a prime



Global Significance: Support 25% of marine biodiversity, though they occupy <1% of ocean floor

2. Economic

- Decline in **fisheries & seafood exports**.
- Collapse of **reef tourism economy** (Lakshadweep, Maldives).
- Costly **coastal protection infrastructure** needed if natural reefs vanish.

3. Social & Security Concerns

- **Food Security Risks:** Millions rely on reef fisheries.
- **Coastal Vulnerability:** Reefs act as **natural breakwaters**, preventing erosion and storm surges.
- **Health Impact:** Loss of potential medicines (anti-cancer, anti-inflammatory compounds).

Reasons for Depletion of Coral Reefs

1. **Climate-Related Stress**
 - **Marine Heatwaves & El Niño:** Intensify **coral bleaching** by disrupting coral-algae (zooxanthellae) symbiosis.
 - **Ocean Acidification:** Excess **CO₂ absorption** lowers pH, weakening coral skeletons and hampering regeneration.
 - **Urbanization & Concretization:** Raises **Urban Heat Island effect** in coastal towns, worsening stress.
2. **Anthropogenic Pressures**
 - **Pollution & Runoff:** Fertilizers and sewage → algal blooms that smother corals.
 - **Sedimentation:** From coastal projects blocks sunlight, reducing photosynthesis.
 - **Destructive Fishing:** Dynamite, cyanide fishing, and trawling physically damage reefs.
 - **Tourism:** Anchoring, diving, and snorkeling often harm fragile reefs.

Implications of Coral Depletion

1. **Environmental & Ecological**
 - Loss of **25% of marine biodiversity**.
 - Decline in fish populations, cascading effects on marine food chains.
 - Disruption of carbon cycling and water filtration.

Initiatives to Protect Coral Reefs

Global

- **International Coral Reef Initiative (ICRI):** Global partnership for reef conservation.
- **Global Fund for Coral Reefs (GFCR):** Blended finance to protect reefs and support dependent communities.
- **SDGs:** Especially **SDG 14 – Life Below Water**.

Why So Many Earthquakes and Volcanoes?



Subduction Zones (Convergent Boundaries)

- Denser oceanic plate sinks beneath continental or lighter oceanic plate → melting rock forms magma → volcanoes
- Example: Taupo Volcanic Arc (New Zealand) - Pacific Plate subducting under Australian Plate

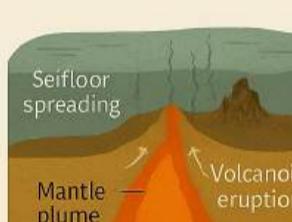
Transform Faults (Lateral Movement)

- Plates slide past each other
- cause earthquakes but limited volcanism
- Example: San Andreas Fault, California



Mid-Ocean Ridges (Divergent Boundaries)

- Plates pull apart → seafloor spreading, hydrothermal vents, volcanic eruptions
- Example: East Pacific Rise



Hot Spots

- Mantle plumes push magma upward → form volcano chains
- Example: Hawaiian Islands (in the middle of the Pacific Plate, not on a boundary)



- Highlights the need for early warning systems and regional cooperation.

Features of the Ring of Fire

- **Geological Landforms:** Mountain chains, island arcs, volcanic belts, and the world's deepest oceanic trench (**Mariana Trench** at ~11 km depth).
- **Geothermal Resources:** Over 40% of the world's geothermal energy is concentrated in this region (e.g., Iceland, Philippines, Japan).
- **Mineral Wealth:** Deposits of **gold, copper, molybdenum**, and rare earths.
- **Agricultural Significance:** Volcanic soils (e.g., Indonesia, Philippines) are highly fertile, supporting crops like **rice and coffee**.

Implications of Ring of Fire Activity

1. **Disasters & Human Vulnerability**
 - **Earthquakes & Tsunamis:** Japan, Indonesia, Philippines frequently hit (e.g., **2004 Indian Ocean Tsunami, 2011 Tohoku Earthquake in Japan**).
 - Coastal megacities face **high disaster risk** (Tokyo, Manila, Jakarta).
2. **Economic Impacts**
 - High cost of rebuilding after disasters.
 - Simultaneously, fertile soils and geothermal energy aid economic growth.
3. **Environmental Impacts**
 - Volcanic eruptions inject ash and gases → short-term **climate cooling** (e.g., **Mount Pinatubo eruption, 1991** cooled global temperature by 0.5°C).
4. **Strategic Significance for India**
 - Although India is not part of the Ring of Fire, **tsunami waves generated in this zone (Indonesia, Sumatra)** directly impact Indian Ocean coasts.

MAINS PRACTICE QUESTION

1. Examine the tectonic processes responsible for high seismicity in the Pacific Ring of Fire. How do these processes differ from those in the Himalayan region?
2. "The Pacific Ring of Fire is both a curse and a boon for human civilization." Discuss with reference to disaster risks and economic opportunities.

Conclusion

The **Pacific Ring of Fire** is a vivid reminder of Earth's dynamic geology where **converging, diverging, and sliding tectonic plates** shape landscapes and pose significant risks to human societies. While it remains a **hotspot of disasters**, it also provides opportunities in terms of **geothermal energy, mineral wealth, and fertile soils**. For India, strengthening **disaster preparedness, regional cooperation, and resilient infrastructure** is critical to mitigate the spillover impacts of this volatile region.

Global Wetland Outlook 2025: Status, Challenges, and Way Forward

Syllabus Mapping

- ✓ GS Paper I - Geography: Distribution of key natural resources, Environmental Geography
- ✓ GS Paper II - Governance & International Conventions (Ramsar Convention, Biodiversity Frameworks)
- ✓ GS Paper III - Environment, Conservation, Climate Change, Biodiversity

Why in News?

- The **Global Wetland Outlook (GWO) 2025**, released by the **Secretariat of the Ramsar Convention (1971)**, highlights alarming trends in wetland degradation, particularly in **Africa**, which has some of the world's most degraded wetlands.
- Wetlands, though covering only **6% of Earth's surface**, contribute an estimated **USD 39 trillion in ecosystem services (~7.5% of global GDP)**.

Key Highlights of GWO 2025

- **Wetland Funding Gap**
 - Global biodiversity funding stands at just **0.25% of global GDP**, insufficient for restoration and conservation targets.
- **Global Coverage**
 - Wetlands include **seagrass beds, kelp forests, coral reefs, estuaries, mangroves, tidal flats, rivers, marshes, peatlands, and lakes**, covering **1,800 million ha globally**.
 - Yet, data remains inconsistent due to lack of uniform global monitoring.
- **Loss and Degradation**

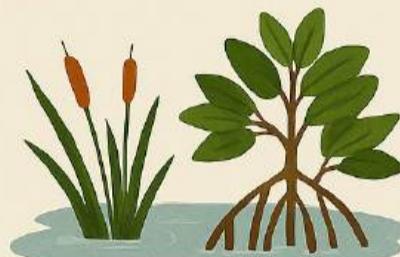
- Since **1970**, nearly **411 million ha** of wetlands have disappeared (22% decline).
- Worst affected: **Africa, Latin America, Caribbean**; rising losses also in **Europe, North America, Oceania**.
- LDCs report the worst wetland conditions; developed economies show more wetlands in *good* than *poor* condition.

- Economic Value**

Understanding Wetlands

Definition

Natural/artificial areas of marsh, fen, peatland, shallow marine water (up to 6m depth at low tide) that may be fresh, brackish, or saline.



Types of Wetlands

- Human-made:** Reservoirs, aquaculture ponds, dams, salt pans (e.g. Nagi & Nakti Bird Sanctuaries, Bihar)
- Natural** Lakes (Ansupa Lake, Odisha), river floodplains (Bakhira WLS, UP), oxbow lakes (Kanwar Lake, Bihar), estuaries (Chilika Lagoon, Odisha), swamps (Sundarban mangroves)
- High Productivity** Salt marshes produce biomass per acre more than many crops

Ecosystem Services

- Water Purification** act as “kidneys of the Earth.”
- Flood & Storm Protection** Mangroves reduce storm surge depths by 15-70%
- Carbon Sequestration** Peatlands & mangroves are powerful carbon sinks
- Wildlife Habitat** support 25% of all biodiversity hotspots.



- Wetlands provide **food, water purification, flood control, disaster risk reduction, carbon storage, and cultural value**.
- Conservation is cheaper than restoration** – restoring degraded wetlands can cost **USD 1,000-70,000 per ha annually**.

Key Recommendations by GWO 2025

- Alignment with Kunming-Montreal Global Biodiversity Framework (KM-GBF)**
 - Target 2: Restore at least **30% of degraded ecosystems** (~123-350 million ha of wetlands).
 - Target 3: Conserve **30% of land, waters, and seas** (~428 million ha wetlands under protection).
- Invest in Wetland-Based Nature-Based Solutions (NbS)**
 - Mobilise both public and private investment in wetlands as cost-effective tools for **climate resilience, disaster protection, and water security**.
 - Build **long-term global strategies** for wetland investments.

Wetlands in India

- Status**
 - India has **1,307 wetlands**, covering **1.35 million ha**.
 - 91 Ramsar Sites** (as of 2025; latest additions: Khichan & Menar in Rajasthan).
 - India has the **highest wetland coverage in South Asia**.
- Conservation Efforts**
 - Ramsar Convention (1982)** – India ratified; Chilika Lake & Keoladeo NP first listed sites.
 - Montreux Record** – India has 2 wetlands listed: *Keoladeo NP* (Rajasthan), *Loktak Lake* (Manipur).
 - National Wetland Decadal Change Atlas** – satellite-based monitoring.
 - Wetlands of India Portal (2021)** – public access to data.
 - Amrit Dharohar Scheme (2023)** – links wetlands with eco-tourism & carbon credits.
 - Namami Gange Integration** – aligns wetland conservation with river basin management.
 - World Wetlands Day (2nd February)** – awareness day since 1971 adoption of Ramsar.

Challenges in Wetland Conservation

- Urbanisation & Encroachment** – wetlands drained for real estate & agriculture.
- Pollution** – sewage, agricultural runoff causing algal blooms.
- Climate Change** – sea-level rise threatens coastal wetlands.
- Institutional Weakness** – fragmented governance, low funding, weak enforcement.
- Awareness Gap** – low understanding among communities about ecological value.

Way Forward

- Prioritise **conservation over restoration** – prevention is cheaper.
- Integrate wetlands into **urban master plans & climate action strategies**.
- Enhance **community-led conservation** models (e.g., Chilika Lagoon revival).
- Mobilise **green finance** & promote wetlands as **carbon credit projects**.
- Strengthen **international cooperation** under Ramsar, CBD, UNFCCC.

Conclusion

Wetlands, often called the “**kidneys of the Earth**”, are disappearing faster than forests. The **GWO 2025** underlines that without urgent action, wetland loss will intensify climate risks, food insecurity, and biodiversity collapse. For India, wetlands are not just ecosystems but also **life-support systems for agriculture, water security, and climate resilience**. Protecting them aligns with both **global biodiversity targets** and **national sustainable development goals**.

MAINS PRACTICE QUESTION

- Wetlands are disappearing three times faster than forests. Critically analyse the ecological and economic consequences of wetland loss in India.
- Discuss the significance of the Ramsar Convention in global wetland conservation. How effective has India been in implementing its obligations?

Changing Nature of Floods in India

📌 Syllabus Mapping

- ✓ GS Paper I – Geography: Distribution of key natural resources, Floods & Disasters
- ✓ GS Paper III – Disaster Management: Floods, mitigation, preparedness
- ✓ Essay – Environment, Climate Change, Sustainable Development

Why in News?

- A study by IIT Delhi and IIT Roorkee analyzing data from 170+ monitoring stations (1970–2010) has revealed that the **magnitude, intensity, and timing of floods in India are undergoing significant changes** due to climate variability, dams, and changing rainfall patterns.

Key Findings of the Study

1. Decline in Flood Magnitude

- 74% stations recorded declining flood magnitude trends.
- 26% stations reported increasing flood magnitude.
- Larger catchments witnessed reduced flood magnitudes.

Regional Patterns:

- **West & Central Ganga Basin** → 17% decline per decade in monsoon floods (due to reduced precipitation & soil moisture).
- **Narmada Basin** → consistent decline in flood magnitudes (due to large-scale **dam construction & regulation of flows**).
- **Marathwada Region** → river flows down by **8% in monsoon** and **31% in pre-monsoon season**.

Causes Behind Changing Flood Patterns



1. Climate Change & Monsoon Variability

- Erratic rainfall, increased frequency of heavy rainfall events
- El Niño & La Niña cycles



3. Land Use Change & Deforestation

- Soil compaction, reduced infiltration, increase runoff



4. Warming Trends

- Higher temperatures increase evaporation & precipitation extremes, altering flood timings

2. Rise in Pre-Monsoon Flood Intensity

- **Malabar Coast (Kerala)** → increase of **8% per decade** in pre-monsoon flood intensity.
- Affected rivers: **Chaliyar, Periyar, Bharathapuzha**.
- Linked to **rising pre-monsoon rainfall** driven by climate variability.

3. Shift in Flood Timing

- **Upper Ganga** → delayed floods.
- **Central India** → earlier floods.
- **Southern India** → generally later floods.
- Indicates altered **hydrological cycles** and **changing monsoon behaviour**.

Implications

- **Disaster Management:** Traditional flood models may no longer predict accurately; new adaptive flood forecasting required.
- **Agriculture:** Early/late floods disrupt sowing & harvesting cycles.
- **Urban Resilience:** Rising risk of **urban flooding** due to stormwater mismanagement.
- **Water Security:** Declining floods reduce groundwater recharge, impacting dry-season flows.
- **Economic Losses:** Increasing **localized flash floods** cause infrastructure & livelihood damages.

Way Forward

1. **Data & Forecasting Improvements**
 - Strengthen **hydro-meteorological monitoring** & predictive flood models using AI, GIS, & remote sensing.
 - Integration with **Doppler radars and IMD forecasts**.
2. **Region-Specific Adaptation Strategies**
 - Basin-wise flood management instead of one-size-fits-all.
 - Revise **dam operation protocols** to balance irrigation, hydropower, and flood control.
3. **Nature-Based Solutions (NbS)**

- Wetland restoration, river rejuvenation, afforestation for reducing flood intensity.
- 4. **Urban Flood Management**
 - **Blue-Green Infrastructure** (permeable pavements, rain gardens, urban wetlands).
 - Revise stormwater drainage systems for extreme rainfall events.
- 5. **Community Preparedness & Governance**
 - Empower **local disaster management committees**.
 - Build climate-resilient infrastructure under schemes like **AMRUT 2.0, Smart Cities Mission**.

Conclusion

The IIT study underscores that **flood risks in India are not only increasing but also changing in nature**—from magnitude to timing. Traditional approaches focusing only on structural solutions like dams and embankments are insufficient. A **climate-resilient, basin-specific, and community-oriented strategy integrating science, technology, and governance is the way forward**.

MAINS PRACTICE QUESTION

1. "The changing nature of floods in India is as much a product of human interventions as of climate change." Discuss.
2. How do shifting flood patterns affect India's agriculture and urban planning? Suggest policy interventions.

Human-Made Dams and Earth's Polar Shift

❖ Syllabus Mapping

✓ GS Paper I – Geography (Earth's Physical Features, Geomorphology, Natural Phenomena)
 ✓ GS Paper III – Environment, Science & Technology

Why in News?

- A recent study found that **human-made dams** have shifted Earth's **rotational axis** by **over 1 meter since 1835**, a phenomenon called **True Polar Wander (TPW)**.
- Dams have emerged as **anthropogenic drivers** of this natural process.

What is True Polar Wander (TPW)?

- **Definition:** TPW (or planetary reorientation) is the **rotation of Earth's solid crust and mantle around its liquid outer core** to maintain rotational balance due to mass redistribution.
- **Natural Drivers:**
 - Glacial melting & ice sheet melt
 - Tectonic plate movement
 - Oceanic mass redistribution (currents, swell)

How Dams Are Driving TPW?

- **Mass Redistribution:** Dams trap huge amounts of water inland which would otherwise remain in oceans.
- This **shifts Earth's mass** → altering the planet's moment of inertia → causing a shift in Earth's **rotational axis**.
- **Variation in Impact:** The effect is not uniform; it depends on:
 - **Size of reservoir** (larger dams store more water)
 - **Location** (latitude/longitude influences rotational balance)

Effects of Shifting Poles

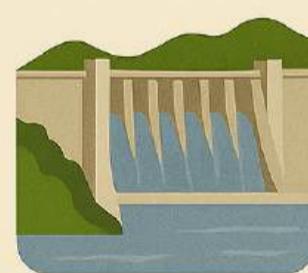
1. **Navigation & Technology**
 - Affects **satellites, GPS, and space telescopes** which rely on Earth's stable axis for precise positioning.
2. **Climate Implications**
 - Small changes in axis tilt can alter **climate patterns** and long-term **distribution of solar energy** on Earth.
3. **Day Length**
 - Earth's days are **getting slightly longer** due to altered rotational balance.
 - Though changes are in milliseconds, they accumulate over centuries.

CASE STUDY:

HUMAN FOOTPRINT ON PLANETARY SYSTEMS



Aral Sea



Three Gorges Dam (China)



Tehri & Bhakra-Nangal Dams

Aral Sea shrinkage, Three Gorges Dam (China), and India's Tehri & Bhakra-Nangal dams are major examples of how water redistribution changes local ecology and contributes to global-scale geophysical shifts.

4. Scientific Relevance

- Helps scientists track **human impact on geophysical processes**.
- Adds to the evidence that humans are a **geological force** shaping Earth (Anthropocene).

Way Forward

- **Sustainable Hydropower Planning** → Large reservoirs must account for geophysical and environmental impact.
- **Global Monitoring Systems** → Using satellite data (e.g., GRACE Mission) to track Earth's mass shifts.
- **Integration with Climate Studies** → Axis shifts can be used as indicators of climate-induced mass redistribution.

Conclusion

The study reveals a **new dimension of human impact on Earth systems**—beyond climate change and biodiversity loss, **infrastructure like dams can alter Earth's very rotation**. This highlights the urgency of **sustainable development and planetary stewardship**.

MAINS PRACTICE QUESTION



1. Explain the phenomenon of True Polar Wander (TPW). How have anthropogenic activities like dam construction accelerated this process?
2. "Human activities are no longer just environmental but geophysical in impact." Discuss in the context of dam-induced polar shifts.

Melting Glaciers and Volcanic Eruptions

📌 Syllabus Mapping

- ✓ GS Paper I – Geography (Glaciation, Volcanoes, Climate Change)
- ✓ GS Paper III – Environment (Climate Change, Disaster Management, Science & Tech applications in Geoscience)
- ✓ GS Paper II – International Relations (Global cooperation on climate science and geohazards)

Why in News?

At the **2025 Goldschmidt Conference (Prague)**, scientists presented findings linking **melting glaciers to an increased risk of volcanic eruptions**, particularly in regions such as **West Antarctica**.

Key Findings of the Study

1. Subglaciated Volcanoes

- Found under glaciers/ice sheets in **Iceland, British Columbia, Antarctica, Russia, and New Zealand**.
- **West Antarctica** – home to ~100 subglaciated volcanoes – is most at risk.
- As glaciers retreat, pressure on magma chambers decreases, making eruptions more likely.

2. Glacial Unloading Effect

- Ice sheets exert pressure on **magma chambers**, keeping them suppressed.
- With **ice melt**, pressure decreases → gases and magma expand → higher chance of eruptions.
- Example: During Iceland's **last major deglaciation (15,000–10,000 years ago)**, volcanic activity was **30–50 times higher**.

3. Climate & Water Interactions

- Climate change increases **precipitation**, which can seep into volcanic systems, interacting with magma and triggering eruptions.

Climate Effects of Volcanic Eruptions

- **Short-Term Cooling**
 - Volcanic eruptions emit **sulfur dioxide (SO₂)** → forms **sulfuric acid aerosols** in the stratosphere → reflects sunlight → temporary global cooling.
 - Example: **Mt. Pinatubo (1991)** cooled Earth's surface by ~0.5°C for a year.
- **Long-Term Warming**
 - Continuous eruptions emit **greenhouse gases (CO₂, CH₄)** → accelerate global warming.
 - Creates a **feedback loop**: glacier melt → eruptions → warming → more glacier melt.

About Glaciers

- **Definition:** Large, slow-moving ice masses formed from compressed snow.
- **Coverage:** ~10% of land surface (~15 million sq. km).
- **Sea-Level Impact:** If all melted, sea levels could rise by **60 meters (195 feet)**.

- **Types:**
 - Alpine glaciers – mountain valleys
 - Ice sheets – >50,000 sq. km (only in **Greenland & Antarctica**)
 - Ice caps – <50,000 sq. km
 - Icefields – smaller, terrain-driven
- **Examples:**
 - Largest Glacier: **Seller Glacier (Antarctica)**
 - Longest Glacier: **Bering Glacier (Alaska)**
 - Blue Ice: Appears blue due to dense crystal structure absorbing other wavelengths.

Global and Indian Relevance

- **Global:**
 - West Antarctica melting poses **double risk** – sea level rise + volcanic hazards.
 - Similar risks in **Iceland, Alaska, and Kamchatka (Russia)**.
- **India:**
 - No subglaciated volcanoes, but **Himalayan glaciers** are retreating **rapidly** (Gangotri, Siachen).
 - Any disruption in global climate feedback loops directly impacts **monsoon cycles, river systems, and sea-level rise in India's coastal zones**.

Conclusion

The findings highlight how **climate change, glacial retreat, and volcanic activity** are interlinked in a dangerous feedback loop. This underscores the urgency of **climate mitigation**, international collaboration in **geohazard monitoring**, and investment in **early warning systems**.

MAINS PRACTICE QUESTION

Q. Critically examine the linkages between climate change, glacier retreat, and geohazards such as volcanic eruptions and sea-level rise. How can India strengthen its resilience to such global climatic feedback loops?

India's Preparedness Against Glacial Lake Outburst Floods (GLOFs)

Syllabus Mapping

- ✓ GS Paper I – Geography: Natural Hazards & Disaster Risk Reduction
- ✓ GS Paper III – Disaster Management, Environment, and Climate Change
- ✓ GS Paper II – Governance: Disaster Preparedness, Institutions & Policy Frameworks

Introduction

Glacial Lake Outburst Floods (GLOFs) represent one of the most severe **climate-induced disasters in the Himalayan region**. Recent GLOF events in **Nepal (2023–24)** and **India (South Lhonak, Sikkim 2023; Kedarnath 2013)** highlight their devastating socio-economic and ecological impacts. With **over 7,500 glacial lakes** in the Indian Himalayas, many of which are expanding due to **accelerated glacial retreat**, GLOFs pose a **high disaster risk** for downstream communities, infrastructure, and ecosystems.

What is a GLOF?

- A **Glacial Lake Outburst Flood** occurs when a moraine or ice-dammed glacial lake suddenly breaches, releasing massive volumes of water downstream.
- **Causes:**
 - Glacial retreat & climate change (melting glaciers).
 - Cloudbursts & extreme rainfall (Kedarnath 2013).
 - Avalanches & landslides (Chamoli 2021, South Lhonak 2023).
 - Seismic activity (Nepal earthquake 2015 impact).
 - Weak moraines & seepage (Dig Tsho, Nepal 1985).
 - Human activity (hydropower projects, road expansion).

India's Vulnerability to GLOFs

1. **Geographic Spread**
 - IHR covers **11 major river basins** with **28,000+ glacial lakes**.
 - 7,500 within India, mostly above 4,500 m – difficult to monitor physically.
2. **Growing Risk**
 - ISRO data: Of 2,431 large lakes (2016–17), **676 expanded, 601 doubled in size** (1984–2023).
3. **Recent Events**
 - **South Lhonak GLOF, Sikkim (2023):** Destroyed ₹16,000 crore Teesta-III dam, caused heavy silting.
 - **Chorabari GLOF, Uttarakhand (2013):** Triggered Kedarnath tragedy with cascading cloudbursts and landslides.
4. **Climatic Triggers**

- Rising **extreme rainfall events** and **record heat in 2023-24** accelerating glacier melt.
- 66% of GLOFs caused by **ice/rock avalanches** into lakes.

5. Downstream Risks

- Hydropower projects, roads, settlements face collapse.
- Biodiversity loss, sediment load, reduced riverbed capacity.

India's Preparedness

1. National GLOF Mitigation Programme (NDMA, 2023)

- Budget: **\$20 million**.
- Covers **195 high-risk lakes** (initial focus: 56).
- Shift from relief → prevention.
- Backed by **Committee on Disaster Risk Reduction (CoDRR)**.

2. Scientific & Technological Measures

- **Bathymetry** – measures lake water volume.
- **ERT (Electrical Resistivity Tomography)**: Detects ice-cores under moraines.
- **UAV & slope stability surveys**: Terrain mapping.
- **SAR interferometry**: Detects micro slope changes.
- **AWWS (Automated Weather & Water Stations)**: Installed in Sikkim, provide 10-min real-time data.

3. Security Forces & Local Participation

- ITBP personnel trained for **manual early warning** in remote regions.
- **Community-based disaster preparedness** with awareness drives at sacred sites.

4. NDMA's 5-Fold Strategy

- Hazard assessment of all lakes.
- AWWS for real-time monitoring.
- Early warning systems (EWS).
- Risk mitigation (controlled lake drawdown, structural safety).
- Community engagement & preparedness.

Challenges in Preparedness

- **Monitoring Gaps**: Remote terrain, limited year-round access.
- **Technological Dependence**: Remote sensing provides post-facto analysis, lacks predictive precision.
- **Infrastructure Risk**: Hydropower projects in fragile zones (e.g., Teesta-III dam destruction).
- **Policy & Coordination**: Fragmented between state, central, and local agencies.
- **Climate Change Uncertainty**: Extreme, localized warming increases unpredictability.

Way Forward

- **Strengthen Monitoring**: Expand AWWS across Himalayan lakes; use AI & machine learning for predictive GLOF modelling.
- **Regional Cooperation**: Himalayas are transboundary; need India-Nepal-China-Bhutan GLOF risk-sharing framework.
- **Zonation & Land Use Planning**: Restrict hydropower projects and construction in high-risk glacial catchments.
- **Capacity Building**: Local community training, mock drills, integration of **Indigenous Knowledge**.
- **Financing & Insurance**: Climate adaptation funds, parametric insurance for vulnerable communities.
- **International Best Practices**: Adopt glacier monitoring models from Switzerland, Iceland, and Chile.

Conclusion

India's preparedness against GLOFs is **evolving but remains inadequate** given the scale of Himalayan vulnerability. While programmes like NDMA's **GLOF Mitigation** and ISRO-based monitoring mark progress, **climate adaptation, cross-border cooperation, and community resilience** are crucial for long-term safety. A **science-policy-community integration model** is needed to tackle GLOFs as part of India's broader climate resilience framework.

MAINS PRACTICE QUESTION

GS Paper I (Geography):

1. Examine the role of climate change in increasing the frequency of Glacial Lake Outburst Floods (GLOFs) in the Indian Himalayan Region.

GS Paper III (Disaster Management):

2. Critically evaluate India's preparedness against GLOFs in the Himalayan region. Suggest measures for effective early warning and risk mitigation.

National Crisis Management Committee (NCMC)

Syllabus Mapping

- GS Paper II – Governance: Disaster Management, Statutory & Institutional Mechanisms
- GS Paper III – Disaster Management & Internal Security

Introduction

The recent amendment to the Disaster Management Act, 2005 (via DM Act, 2025) has provided **statutory backing** to the National Crisis Management Committee (NCMC), recognizing it as the **apex decision-making body** for disaster response coordination in India. This marks a major institutional reform in India's **disaster management architecture**, especially in the context of rising frequency and intensity of disasters due to **climate change, urbanization, and technological risks**.

National Crisis Management Committee (NCMC)

1. Constitution & Legal Backing

- Earlier, NCMC functioned as an **executive arrangement** under the Cabinet Secretariat.
- Now, under **Section 8A(2) of the Disaster Management (Amendment) Act, 2025**, it has **statutory authority**.

2. Composition

- Chairperson:** Cabinet Secretary.
- Members:**
 - Union Home Secretary
 - Defence Secretary
 - Secretary (Coordination), Cabinet Secretariat
 - Member & Head of Department, NDMA
- Co-opted Members:** Experts/officers from Centre, States, or any specialized agency depending on crisis.

3. Functions

- Assessing national preparedness** against disasters.
- Coordinating & monitoring** response across **central ministries, state governments, NDMA, NDRF & armed forces**.
- Issuing directions** for quick mobilization of relief and rehabilitation efforts.
- Ensuring unified response**, avoiding overlaps between central and state agencies.

Disaster Management (Amendment) Act, 2025 – Key Provisions

- Statutory Status to NCMC & High-Level Committee** – apex coordination bodies now legally backed.
- Direct Planning Powers:**
 - NDMA → prepares **National Disaster Management Plan (NDMP)**.
 - SDMAs → prepare **State Disaster Plans**.
 - Earlier, NEC & SECs handled planning; amendment reduces bureaucratic layering.
- Urban Disaster Management Authorities (UDMAs):**
 - Mandatory for **state capitals & large municipal cities**.
 - Focus on **urban floods, industrial accidents, building collapses, cyber & infrastructure disasters**.
- Strengthening SDRFs (State Disaster Response Forces):**
 - Legal empowerment for states to constitute dedicated SDRFs (on the lines of NDRF).

Significance of Statutory Backing to NCMC

- Clarity in Authority:** Removes ambiguity in inter-agency coordination.
- Faster Response:** Cabinet Secretary-led body ensures **direct communication** with PMO and ministries.
- Strengthened Federalism:** Enables better **Centre-State coordination** during disasters.
- Urban Disaster Preparedness:** With UDMAs, India addresses **growing urban vulnerabilities** (floods in Chennai, Mumbai; Delhi AQI crisis).
- Accountability:** Being statutory, NCMC decisions carry legal force → binding on all agencies.

Challenges Ahead

- Over-centralization:** States may feel overshadowed by a Cabinet Secretariat-dominated mechanism.
- Resource Gaps:** SDRFs & UDMAs may face shortage of trained personnel and funds.
- Urban Governance Issues:** Municipalities often lack disaster planning capacity.
- Coordination with Defence Forces:** While military plays a major disaster-relief role, institutionalizing synergy remains complex.

- **Climate Uncertainty:** Rising **GLOFs, cyclones, heatwaves, pandemics** demand anticipatory governance, not just crisis response.

Way Forward

- **Strengthen Early Warning Systems:** AI & remote sensing for real-time forecasting (integration with C-FLOOD, IMD, ISRO).
- **Decentralized Preparedness:** Empower **local governments & panchayats** for grassroots disaster resilience.
- **Capacity Building:** Train SDRFs & municipal officials in **multi-hazard disaster management**.
- **Community Engagement:** Promote **community-based disaster risk reduction (CBDRR)** for trust and awareness.
- **Regular Mock Drills:** Enforce simulation-based crisis drills at central, state, and urban levels.
- **International Collaboration:** Align with **Sendai Framework for Disaster Risk Reduction (2015–2030)**.

Conclusion

The **statutory recognition of NCMC** strengthens India's **institutional disaster governance framework**, marking a shift from fragmented response to a **unified, legally-backed coordination system**. However, effectiveness will depend on **federal cooperation, resource mobilization, and integration of technology with community resilience**. In an era of climate uncertainty, this reform can make India's disaster response **more anticipatory, rapid, and accountable**.

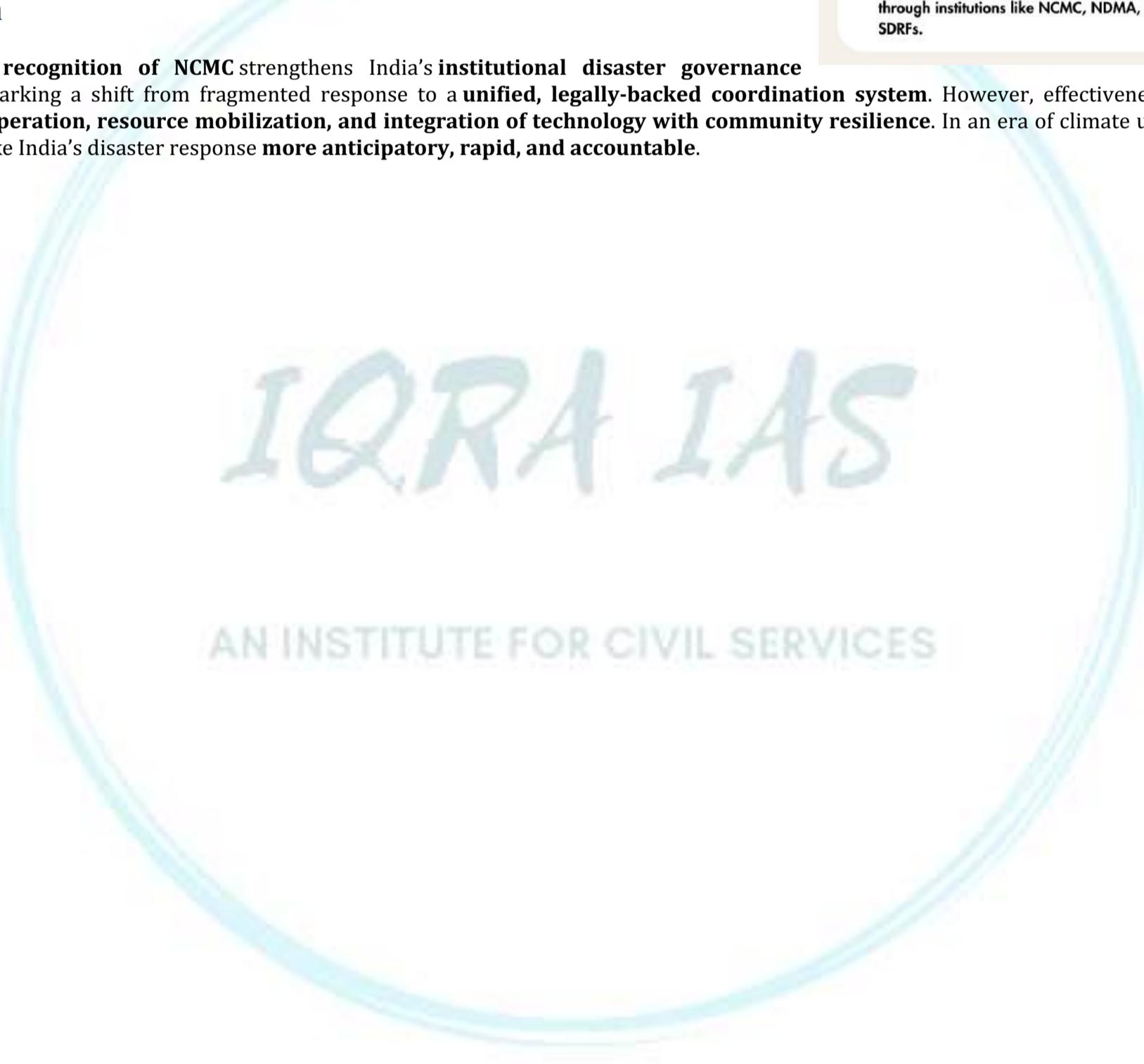
MAINS PRACTICE QUESTION

GS Paper II (Governance):

1. Critically evaluate the significance of giving statutory status to the National Crisis Management Committee (NCMC) in India's disaster management architecture.

GS Paper III (Disaster Management):

2. Discuss the challenges and opportunities in strengthening India's disaster preparedness through institutions like NCMC, NDMA, and SDRFs.



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ENVIRONMENT & ECOLOGY

Decarbonisation of Global Shipping

📌 Syllabus Mapping

- ✓ GS Paper III – Environment (Climate Change, Energy Transition, Sustainable Development)
- ✓ GS Paper II – International Relations (Global Institutions: IMO, Climate Diplomacy)
- ✓ GS Paper III – Indian Economy & Infrastructure (Ports, Energy, Trade)

Why in News?

- The **global shipping industry** (≈ 3% of GHG emissions, if a country = 6th largest emitter) is moving towards **carbon neutrality by 2050**.
- The **IMO** (International Maritime Organization) has set staged emission reduction targets:
 - **40% carbon intensity cut by 2030**
 - **70% by 2040** (vs 2008 levels)
 - **Net Zero by 2050**
- This transition offers **major opportunities for India** in green fuel production, port infrastructure, and leadership in global policy frameworks.

Green Fuels for Shipping

1. Green Methanol

- Produced from **green hydrogen + captured CO₂**.
- **Pros:** Drop-in fuel (works in existing engines), cuts emissions 90–95%.
- **Cons:** High cost (USD 1,950/ton vs USD 560 for VLSFO), needs electrolyser capacity.

2. Green Ammonia

- Made from **green hydrogen + atmospheric nitrogen**.
- **Pros:** Carbon-neutral, scalable long-term solution.
- **Cons:** Volatile, safety risks, requires special tanks + new engines.

3. Biofuels

- Derived from organic waste or crops.
- **Pros:** Can be used with minimal engine modifications.
- **Cons:** Competes with food security, limited scalability due to land/feedstock constraints.

Key Challenges in Adoption

1. Cost Barriers

- High production cost of green fuels (10–11 MWh renewable power needed for 1 ton green methanol).
- Demand-supply mismatch: 14 MT demand vs 11 MT supply (by 2028).

2. Technological & Infrastructure Barriers

- Ships need **engine retrofits**; ports need **green bunkering facilities**.
- Ammonia engines still experimental → sector prefers methanol.

3. Regulatory Gaps

- IMO regulations evolving but **no uniform certification framework** for green fuels.

4. Storage & Safety

- Hydrogen difficult to store/transport; ammonia highly toxic.

5. Geopolitics of Transition

- Oil exporters (Saudi Arabia) resist steep changes.
- China: minimal carbon levies to maintain competitiveness.
- Small Island States: steep levies to finance climate resilience.
- India & Singapore: **compromise Market-Based Measure (MBM)** adopted at IMO.

India's Role in Global Shipping Decarbonisation

Significance for India



Economic Export hub for green fuels, creates new markets for India.



Strategic: Strengthens India's voice in climate diplomacy & IMO negotiations



Geopolitical: Helps balance interests of Global South (equity in transition)



Employment: New opportunities in green ports, fuel production, R&D.

1. Policy Leadership

- At IMO MEPC-83, India helped shape MBM framework: **penalise polluters, reward Zero/Near-Zero fuel adopters.**
- Hosted **Green Shipping Conclave 2025 (Mumbai).**

2. Clean Fuel Production

- **National Green Hydrogen Mission:** target → make India hub for green ammonia & methanol.
- Renewable push: **280 GW solar capacity by 2030** (part of 500 GW RE target).

3. Green Ports & Maritime Infrastructure

- **Harit Sagar Green Port Guidelines & Green Tug Transition Programme.**
- Developing bunkering hubs at Tuticorin (VOC Port), Kandla, others.

4. Financial Commitment

- **₹25,000 crore Maritime Development Fund (FY26)** for fleet modernisation & green infrastructure.
- **Maritime India Vision 2030** aligns with IMO's climate targets.

Conclusion

Decarbonising global shipping is a **climate necessity and economic opportunity**. India, with its **renewable energy capacity, green hydrogen mission, and maritime infrastructure**, is uniquely positioned to be a leader. However, challenges of **high costs, safety, and global regulatory gaps** must be tackled through innovation, partnerships, and supportive policies.

MAINS PRACTICE QUESTION

1. "The decarbonisation of global shipping presents both challenges and opportunities for India." Discuss.
2. "India's National Green Hydrogen Mission has the potential to make the country a global leader in green shipping fuels." Evaluate.

Ethanol Blending in India: Cleaner Fuels Push

Syllabus Mapping

- ✓ GS Paper III – Energy Security, Environment, Sustainable Development
- ✓ GS Paper II – Government Policies & Interventions
- ✓ GS Paper I – Economic Geography, Agricultural Resources

Context

India has achieved the **20% ethanol blending target in petrol (E20)** in 2025, five years ahead of the original 2030 timeline under the **National Policy on Biofuels (2018, amended 2022)**. This marks a **13-fold increase** in blending (from **1.5% in 2014 to 20% in 2025**), strengthening the country's commitment to clean energy transition and energy self-reliance.

Ethanol Blended Petrol (EBP) Programme

- **Launch:** 2003 – to blend ethanol in petrol and reduce crude imports.
- **Blending Categories:**
 - E10 (10% ethanol)
 - E20 (20% ethanol)
 - E85 (85% ethanol, flexible fuel vehicles).
- **Benefits of E20:**
 - Reduces **CO₂ emissions by 30%** compared to E10.
 - Provides **better ride quality and acceleration.**
- **Achievements:**
 - Ethanol production rose from **38 crore litres (2014)** to **660+ crore litres (2025)**.

Significance of Ethanol Blending

1. **Energy Security:**
 - Reduces crude oil imports (India imports ~85% of its crude).
 - E20 blending saves ~₹35,000 crore annually in forex.
2. **Environmental Gains:**
 - Cleaner burning fuel lowers **CO₂ and CO emissions**.
 - Supports India's **Net Zero 2070** commitments.
3. **Agricultural Benefits:**
 - Provides alternate market for farmers.
 - Supports **crop diversification** and reduces stubble burning (2G ethanol from agri-residues).
4. **Economic Development:**
 - Boosts rural employment via bio-refineries.
 - Strengthens **circular economy**.

What is Ethanol?



Ethanol (C_2H_5OH) is an anhydrous ethyl alcohol, a renewable fuel made via:

- Biological route – Fermentation of sugars (sugarcane, maize, wheat)
- Petrochemical route – Ethylene hydration

Types of Ethanol

- 1st-Generation
From food crops (sugarcane, rice, wheat, corn)
- 2nd-Generation
From agricultural, ligno-cellulosic biomass
- 3rd-Generation
Algae-based biomass
- 4th Generation
From genetically engineered plants/microbes

Challenges in Ethanol Blending

1. Food Security & Inflation

- FAO warns of **food vs fuel dilemma**.
- Diversion of rice, maize may affect **PDS supply & prices**.

2. Environmental Concerns

- Heavy reliance on **sugarcane**, a **water-intensive crop**, depletes aquifers.
- Risk of **monoculture stress**.

3. Technological & Vehicle Issues

- Older vehicles not designed for E20; risk of **engine damage**.
- Lower energy density → **drop in mileage**.
- Ethanol absorbs water → **fuel clogging & corrosion risk**.

4. Supply & Logistics

- Ethanol blending yet to take off in the **North-East** (lack of feedstock & distilleries).
- **Inter-state movement restrictions** still remain despite 1951 Act amendment.
- Lack of **storage & distribution infrastructure**.

Government Initiatives

- **PM JI-VAN Yojana**: Support for 2G ethanol projects.
- **Ethanol Interest Subvention Scheme (EISS)**: Promotes Dedicated Ethanol Plants.
- **Tax Reforms**: GST on ethanol for EBP cut to 5% (from 18%).
- **Regulatory Support**: Amendment to **Industries (Development & Regulation) Act, 1951** for free ethanol movement.

Way Forward

- **Balanced Feedstock Policy**: Diversify towards **2G, 3G & 4G ethanol** (stubble, algae, GM crops).
- **Technology Upgradation**: Promote **flex-fuel vehicles** and mandate automakers to roll out E20/E85 compatible engines.
- **Water-smart Approaches**: Incentivise **drip irrigation** in sugarcane cultivation.
- **Logistics & Storage Infrastructure**: Build ethanol storage depots and improve transport networks.
- **Sustainability Checks**: Align blending policies with **food security** and **biodiversity safeguards**.
- **Global Learning**:
 - **Brazil**: Success with **flex-fuel cars** and E27.
 - **USA**: Large-scale E10/E15 with corn-based ethanol.

MAINS PRACTICE QUESTION

1. Discuss the significance of India achieving the 20% ethanol blending target ahead of schedule. What are the associated challenges and solutions?
2. Critically examine the "food vs fuel" dilemma in India's ethanol blending programme in the context of food security and climate sustainability.

Conclusion

India's **20% ethanol blending milestone** represents a **transformative step** in balancing **energy security**, **farmer welfare**, and **environmental sustainability**. However, to sustain the momentum, India must address **food-water-energy trade-offs**, **technological bottlenecks**, and **regional disparities**. A **phased and diversified ethanol roadmap** is the key to building a truly green transport economy.

CSS-IDWH: Wildlife Habitat Development Scheme

Syllabus Mapping

- ✓ GS Paper III – Environment & Ecology (Conservation, Species Protection, Biodiversity)
- ✓ GS Paper II – Governance (Centrally Sponsored Schemes, Centre-State relations)
- ✓ GS Paper I – Indian Geography (Flora & Fauna, Biodiversity Hotspots)

Why in News?

The Ministry of Environment, Forest and Climate Change (MoEFCC) has recommended the inclusion of **Gharial** and **Sloth Bear** under the **Species Recovery Programme** of the **Centrally Sponsored Scheme – Integrated Development of Wildlife Habitats (CSS-IDWH)**.

About CSS-IDWH Scheme

- Type:** Centrally Sponsored Scheme (CSS)
- Nodal Ministry:** Ministry of Environment, Forest and Climate Change (MoEFCC)
- Launch:** 2009 (by merging earlier schemes including Eco-Development, Assistance to National Parks, etc.)
- Objective:**
 - Protection and conservation of **wildlife and habitats** inside and outside Protected Areas (PAs).
 - Recovery of **critically endangered species** and fragile ecosystems.
 - Strengthening **in-situ conservation** measures.
- Financial Assistance to States/UTs for:**
 - Development of Wildlife Habitats (National Parks, Wildlife Sanctuaries, Conservation & Community Reserves).
 - Protection of wildlife outside protected areas.
 - Species Recovery Programme (SRP).**
- Key Components:**
 - Development of Wildlife Habitats** – strengthening infrastructure, anti-poaching squads, habitat improvement.
 - Project Tiger** – launched in 1973 for tiger conservation.
 - Project Elephant** – launched in 1992 for elephant conservation.
 - Species Recovery Programme** – focused on saving critically endangered species.
- Species Covered under SRP:** 22 species so far, including **Snow Leopard, Asiatic Lion, Great Indian Bustard, Gangetic River Dolphin, Hangul, Nicobar Megapode, Marine Turtles**, etc.

About the Species Recently Recommended

Gharial (*Gavialis gangeticus*)

Habitat

Prefers deep, fast-flowing rivers, (Ganga & tributaries, Chambal, Mahanadi in Nepal)

Forests and grasslands of India, Nepal, and Sri Lanka.

Threats

- Thinnest, most elongated snout among crocodilians
- Specialized fish-eating aquatic among crocodilians
- Decline of prey fish due to overfishing

- Dams, barrages, and water structures among crocodilians
- Specialized fish-eating visibl sexual attractants
- Only rehiberante (due to overfishing)

Conservation Status

- Project Crocodile (1975),

- (1975) supported by UNDP

Sloth Bear (*Melursus ursinus*)

Features

- Shaggy black coat, long snout, and curved claws (resembles a sloth, hence name).
- Habitat loss and fragmentation (agriculture, mining)
- Poaching for body parts and illegal dancing

Conservation Status

- IUCN Red List:** Critically Endangered
- CITES:** Appendix I
- WPA, 1972:** Schedule I

Efforts

- Daroul Sloth Bear Sanctuary (Karnataka) - first dedicated sloth bear sanctuary in Asia
- Community-based conflict mitigation programmes

Significance of Including These Species in CSS-IDWH

- Enhanced Funding:** Ensures better financial assistance for recovery efforts.
- Habitat Conservation:** Strengthens **riverine ecosystems** (for gharial) and **forest ecosystems** (for sloth bear).
- Biodiversity Protection:** Helps maintain **ecological balance** by protecting apex/indicator species.
- Community Benefits:** Provides alternative livelihood and eco-tourism opportunities.

Challenges

- Fragmented Governance:** Overlap between MoEFCC, State Forest Departments, and local authorities.

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- **Funding Constraints:** Delayed release and underutilisation of funds (similar issue seen in CAMPA funds).
- **Human-Wildlife Conflict:** Rising in case of sloth bears, particularly in central India.
- **Climate Change:** Riverine ecosystems and forest landscapes are highly vulnerable.
- **Illegal Trade & Poaching:** Demand for exotic pets (gharial hatchlings) and bear parts persists.

Way Forward

- **Scientific Habitat Management:** Eco-restoration of rivers and forest corridors.
- **Community Participation:** Involving local communities in **eco-tourism, compensation schemes, and conflict mitigation.**
- **Technology Integration:** Use of **camera traps, GIS mapping, and AI-based monitoring.**
- **Stronger Law Enforcement:** Anti-poaching squads, better training for forest guards.
- **Awareness & Education:** Public campaigns to reduce demand for illegal wildlife products.

Conclusion

The inclusion of **Gharial and Sloth Bear** under the **CSS-IDWH Species Recovery Programme** is a critical step towards reversing their population decline. This move reinforces India's commitment to **Aichi Biodiversity Targets, Convention on Biological Diversity (CBD), and SDG 15 (Life on Land)**. However, success will depend on funding efficiency, scientific monitoring, and community involvement.

MAINS PRACTICE QUESTION

1. "The conservation of flagship species like Gharial and Sloth Bear has ecological as well as socio-economic importance." Examine with reference to CSS-IDWH Scheme.
2. Discuss the role of Centrally Sponsored Schemes in wildlife conservation in India. What challenges do they face in implementation at the state level?

CITES: Trade in Endangered Species

📌 Syllabus Mapping

✓ GS Paper III – Environment (Conservation of Biodiversity, International Agreements)
 ✓ GS Paper II – International Relations (Global Treaties & Conventions, Multilateralism)

Why in News?

- CITES is celebrating its 50th anniversary in 2025.
- India, a party since 1976, continues to play a key role in implementing wildlife trade regulations.

About CITES

- **Genesis:** Conceived in 1963 at an **IUCN meeting**; entered into force in **1975**.
- **Aim:** To ensure that **international trade in wild animals and plants does not threaten their survival**.
- **Nature:** A **voluntary international agreement** but legally binding on parties (implemented through national laws).
- **Parties:** 185 members (states + regional organizations).
- **India's Status:** Ratified in **1976**.
- **Secretariat:** Located in **Geneva, Switzerland**; administered by **UNEP**.
- **Technical Support:** IUCN provides scientific and technical services.
- **Conference of Parties (CoP):** Highest decision-making body.
 - Notably, **CoP3 was held in New Delhi (1981)**.

CITES Appendices – Regulation of Trade

Appendix	Protection Level	Examples
Appendix I	Species threatened with extinction; trade only in exceptional cases	Tiger, Asiatic Lion, Red Panda, Great Indian Bustard
Appendix II	Species not threatened, but trade must be controlled to avoid over-exploitation	Himalayan Black Bear, Indian Star Tortoise, Agarwood
Appendix III	Species protected in at least one country which seeks assistance of other Parties	Walrus, certain turtle species

👉 Over 40,000 species of flora and fauna are protected under CITES.

Key Initiatives of CITES

1. **MIKE Programme (Monitoring the Illegal Killing of Elephants):**
 - Helps range states in management and enforcement decisions.
 - **India's MIKE sites:** Chirang-Ripu Elephant Reserve (Assam), Dihing-Patkai Elephant Reserve (Assam).
2. **Strategic Vision 2021-2030:**
 - Aligns CITES with **CBD (Convention on Biological Diversity)** and **SDGs**, esp. Goal 15 (*Life on Land*).
3. **CITES Tree Species Programme (CTSP):**

- Promotes sustainable and legal trade of listed **tree species** (e.g., rosewood, agarwood).
- 4. **International Consortium on Combating Wildlife Crime (ICCWC), 2010:**
 - A joint initiative of CITES, INTERPOL, UNODC, World Bank & WCO.
 - Strengthens **criminal justice systems** to combat wildlife & forest crime.
- 5. **CITES Trade Database:**
 - Managed by **UNEP-WCMC**; provides trade data to monitor compliance.

Significance of CITES

- **Biodiversity Conservation:** Provides global protection to endangered species.
- **Trade Regulation:** Balances conservation with sustainable trade (e.g., orchids, medicinal plants, timber).
- **International Cooperation:** Provides a common platform for enforcement against **illegal wildlife trade**.
- **Support to National Laws:** In India, CITES strengthens **Wildlife Protection Act, 1972**, **Biological Diversity Act, 2002**, etc.

Challenges

- **Illegal Wildlife Trade:** Despite CITES, global illegal wildlife trade is worth **\$7-23 billion annually** (UNEP).
- **Weak Enforcement in Developing Countries:** Smuggling networks outpace monitoring systems.
- **Conflict with Livelihoods:** Local communities dependent on wildlife/timber sometimes face restrictions.
- **Non-binding Nature:** CITES decisions rely on national implementation; compliance varies.
- **Climate Change Stressors:** Trade restrictions alone cannot address broader ecological threats.

India & CITES

- India has **domestic legislation** aligned with CITES – *Wildlife Protection Act (1972)*.
- Species like **Red Sand Boa, Pangolin, Star Tortoise** are protected under **Appendix I & II**.
- India has taken action against **illegal ivory, shahtoosh, and red sanders trade**.
- **2019:** India banned trade in exotic wildlife species without proper documentation.

Conclusion

CITES at 50 years has emerged as a cornerstone of global biodiversity governance, **curbing illegal wildlife trade while promoting sustainable use of natural resources**. However, its future effectiveness will depend on **stronger compliance mechanisms, synergy with climate and biodiversity frameworks, and greater financial and technical support to developing nations** like India.

MAINS PRACTICE QUESTION

1. CITES is often criticized for being strong on paper but weak in enforcement. Critically examine with reference to India's challenges in wildlife trade regulation.
2. Discuss the role of CITES in global biodiversity conservation. How does India balance its trade interests with conservation commitments under CITES?

SDGs Report 2025: Global Progress & Challenges

Syllabus Mapping

- ✓ GS Paper II – International Relations (UN, Global Reports, SDGs)
- ✓ GS Paper III – Environment, Economic Development, Social Justice
- ✓ Essay Paper – Issues of Poverty, Inequality, and Sustainable Development

Why in News?

- The **United Nations released the Sustainable Development Goals Report (SDGR) 2025**, the **only official UN report monitoring global progress on the 2030 Agenda** for Sustainable Development.
- It provides a reality check on achievements, gaps, and challenges across all **17 Sustainable Development Goals (SDGs)**, highlighting urgent need for acceleration as 2030 approaches.

Key Highlights of SDGR 2025

Goal 1: No Poverty

- **8.9% of global population** still lives in *extreme poverty*.
- Progress uneven; poverty deepened in conflict zones, Sub-Saharan Africa, and climate-stressed regions.

Goal 2: Zero Hunger

- **1 in 11 people** faced hunger in 2023.
- Food insecurity worsened due to **climate extremes, conflicts, and supply-chain disruptions**.

Goal 4: Quality Education

- Since 2015, **110 million more children and youth** entered school.
- Yet, **272 million children/youth** remained *out of school* in 2023, mostly in conflict-affected and least developed countries.

Goal 5: Gender Equality

- Women hold **less than one-third of managerial positions** worldwide.
- Gender pay gap persists; women more likely in informal, low-paid jobs.

Goal 8: Decent Work & Economic Growth

- Global **unemployment rate** fell to record low **5% in 2024**.
- Yet, **58% of workers** remained informally employed, lacking job security and social protection.

Goal 10: Reduced Inequalities

- By 2024, **57% of working-age population employed**, benefiting **3.6 billion people and their families**.
- However, **income inequality remains entrenched**, especially across regions and genders.

Goal 11: Sustainable Cities & Communities

- **3 billion people** worldwide struggle to afford housing.
- **1.12 billion people** live in slums or informal settlements, exposing them to climate and health risks.

Goal 13: Climate Action

- **2024 was the hottest year on record, 1.55°C above pre-industrial levels**.
- Climate extremes (heatwaves, floods, wildfires) increased displacement and food insecurity.

Goal 16: Peace, Justice & Strong Institutions

- In 2024, **50,000 lives lost to conflicts**.
- **123.2 million forcibly displaced people**, the highest in decades.
- Weak institutions, cyber threats, and rising authoritarianism undermine progress.

Broader Insights from SDGR 2025

- **Global Development at Risk**: While certain indicators (education, employment) improved, **conflicts, climate change, and inequality** reversed progress in poverty, hunger, and resilience.
- **Funding Deficit**: Global SDG financing gap widened; development aid declined while debt servicing burden increased in Global South.
- **Climate-SDG Nexus**: Climate change now the single biggest threat to achieving all SDGs, directly affecting food, health, and livelihoods.
- **COVID Legacy**: Pandemic-induced setbacks (learning losses, health gaps) still visible in developing countries.

Challenges in Achieving SDGs

- **Uneven Regional Progress** – Sub-Saharan Africa, South Asia lag behind in poverty, hunger, and gender equality.
- **Resource Mobilization** – Only **0.25% of global GDP spent on biodiversity & environment** (similar to wetlands funding gap seen in GWO 2025).
- **Conflict & Displacement** – Wars in Ukraine, Gaza, Sudan, and Sahel directly derail SDG progress.
- **Data Gaps** – Inadequate monitoring, weak statistical capacity in LDCs.

Way Forward

- **Accelerated Finance**: Global South requires concessional finance, debt restructuring, and stronger private investments.
- **Inclusive Growth Models**: Push for **green jobs, digital inclusion, gender parity, and social protection schemes**.
- **Climate-Resilient Pathways**: Integrating SDGs with **Paris Agreement**, ensuring *climate-smart agriculture, renewable energy, and disaster resilience*.

- **Strengthen Global Governance:** Reform multilateral institutions (UN, World Bank, IMF) to better represent developing nations.
- **Localisation of SDGs:** Empower local governments (ULBs, Panchayats) for grassroots action and monitoring.

Conclusion

The **SDGR 2025** underlines that the world is **off-track to achieve SDGs by 2030**. While progress exists in education and jobs, worsening climate change, conflict, and inequality overshadow achievements. For India, balancing **growth with sustainability** is crucial, especially since it chairs the **G20 Development Agenda** and plays a leading role in **South-South cooperation**.

"Achieving SDGs is not just about meeting targets—it is about securing dignity, justice, and resilience for humanity and the planet." – UN Secretary General António Guterres

MAINS PRACTICE QUESTION

1. "The Sustainable Development Goals are off-track as the 2030 deadline nears." Critically analyse the global progress as reflected in the **SDG Report 2025**.
2. Discuss how climate change has emerged as the biggest impediment to achieving SDGs. Suggest measures for India to integrate climate action with SDG targets.

Environment Rules 2025: Contaminated Site Management

❖ Syllabus Mapping

- ✓ GS Paper II – Governance, Policies & Interventions
- ✓ GS Paper III – Environment, Pollution, Conservation
- ✓ Essay – Environmental Governance & Public Health

Why in News?

- The **Ministry of Environment, Forest and Climate Change (MoEFCC)** notified the **Environment Protection (Management of Contaminated Sites) Rules, 2025** under the **Environment (Protection) Act, 1986**.
- The rules address **legacy pollution** and ensure **remediation of contaminated sites** on the **polluter-pays principle**.

What are Contaminated Sites?

- **Definition:** Areas where **hazardous waste was disposed of earlier**, leading to **soil and water pollution** and posing **risks to environment and human health**.
- **Examples:** Abandoned chemical factory lands, pesticide dumps, tanneries, hazardous industrial waste sites.

Key Features of the Rules

1. Scope

- Covers **189 hazardous substances** (as per Hazardous and Other Wastes Rules, 2016).
- **Excludes:** Radioactive waste, mining waste, offshore oil spills, municipal solid waste dumps (covered under other laws).

2. Response Levels

- **Different standards** prescribed for **agricultural, residential, commercial, and industrial sites**.
- Ensures **graded remediation** according to land use and risk exposure.

3. Management Framework

- **Site Identification:** Local bodies/district administration must report suspected sites **twice a year** to State Pollution Control Boards (SPCBs).
- **Site Assessment:** SPCBs inspect & prepare list of probable contaminated sites, uploaded to **CPCB portal**.
- **Polluter Identification:** SPCB identifies polluter. If land is sold, **liability shifts to new owner**.
- **Clean-up Plan:** Polluter must fund remediation through **approved agency**. If polluter not found → SPCB executes the plan.

4. Funding Mechanism

- Initial assessment cost borne by:
 - **Central Govt.** (from Environmental Relief Fund, under **Public Liability Insurance Act, 1991**)
 - **State Governments** (where required).
- If polluter is identified → **must reimburse within 3 months**.

5. Penalties

- SPCBs empowered to **impose fines** on failure to remediate, especially if it poses **imminent health risk**.
- Introduces provisions for **voluntary remediation** by industries/owners.

Significance of the Rules

- **Closes Legal Vacuum:** Earlier, no clear law existed for **legacy contaminated site remediation**.
- **Implements Polluter-Pays Principle:** Shifts responsibility to polluters or landowners.
- **Strengthens Environmental Governance:** Brings **CPCB-SPCB-local bodies** under one framework.
- **Health & Environmental Safety:** Reduces long-term **cancer clusters, groundwater contamination, and soil infertility**.
- **Supports International Commitments:** Aligns with **SDG 6 (Clean Water), SDG 3 (Health), SDG 15 (Land Biodiversity)**.

Challenges Ahead

- **Identification Gaps:** India lacks a **national inventory of contaminated sites**.
- **Capacity Constraints:** SPCBs often underfunded & understaffed for technical site assessments.
- **Financial Burden:** Remediation costs can be huge (e.g., Bhopal Gas Tragedy site clean-up remains pending for decades).
- **Industrial Resistance:** Polluters may delay or litigate liability.
- **Monitoring Issues:** Need for robust digital & ground monitoring of remediation progress.

Way Forward

- **National Inventory of Contaminated Sites** with GIS mapping.
- **Technology-driven Remediation:** Bio-remediation, phytoremediation, nano-remediation.
- **Capacity Building:** Training SPCBs and local bodies in scientific remediation.
- **Corporate Responsibility:** Encourage industries to voluntarily remediate legacy sites under **CSR & ESG frameworks**.
- **Community Participation:** Empower local communities for **reporting & monitoring** contaminated sites.

Conclusion

The **2025 Rules** mark a turning point in India's fight against **legacy pollution**. By enforcing accountability and strengthening institutional mechanisms, India can safeguard public health, soil fertility, and water security—ensuring cleaner and resilient ecosystems.

MAINS PRACTICE QUESTION

1. Discuss the significance of the Environment Protection (Management of Contaminated Sites) Rules, 2025 in strengthening India's environmental governance framework.
2. "The polluter-pays principle has been operationalised in the 2025 Contaminated Site Rules, but implementation challenges remain." Examine.

BIOTECHNOLOGY & HEALTH

Phenome India National Biobank: Advancing Precision Medicine

📌 Syllabus Mapping

- ✓ GS Paper II – Governance, Health, and Social Justice (Healthcare Policies, Biobanks, Public Health Research)
- ✓ GS Paper III – Science & Technology (Biotechnology, Precision Medicine, AI in Healthcare, Data for R&D)
- ✓ GS Paper IV – Ethics (Data Privacy, Equity in Healthcare, Genetic Research Ethics)

Why in News?

The **National Biobank** has been inaugurated at the **CSIR-Institute of Genomics and Integrative Biology (IGIB)**, New Delhi, under the **Phenome India Project**.

- This facility marks a **milestone in India's biomedical research**, creating the country's first large-scale, **longitudinal health database** for genomic and phenotypic studies.

About National Biobank

- **Launched under:** *Phenome India-CSIR Health Cohort Knowledgebase (PI-CheCK)*.
- **Model:** Inspired by the **UK Biobank**, but customized for **India's genetic, cultural, and environmental diversity**.
- **Coverage:**
 - Will collect **genomic, lifestyle, and clinical data** from **10,000 participants** across India.
 - Designed as a **long-term health tracking project**.

Purpose & Significance

- **Early Diagnosis:** Enables identification of genetic and environmental risk factors for diseases.
- **Precision Medicine:** Facilitates **AI-driven diagnostics, gene-guided therapies, and personalized treatment**.
- **Research Support:** Aids in studying **diabetes, cancer, cardiovascular diseases, rare genetic disorders, and environmental impacts on health**.
- **Data Sovereignty:** Reduces dependency on foreign databases like UK Biobank and ensures **Indian-specific health solutions**.

Global Context



UK Biobank

Covers 500,000 individuals, widely used in global biomedical research



China Kadoorie Biobank

5,10,000 participants across 10 regions



India's National Biobank

is an important step to place India among global leaders



All of Us (USA)

Aims for 1 million participants to promote inclusive precision medicine

About Phenome India Project

- **Launch:** 2023 by **Council of Scientific and Industrial Research (CSIR)**.
- **Objective:** To create a **national health cohort**, tracking individuals' **health trajectories** over several years.
- **Phenome:**
 - Refers to the **complete set of phenotypes** (observable traits like height, blood pressure, metabolism, behaviour).
 - Determined by the **interaction of genes (genotype) and environmental factors**.

Key Challenges for India

1. **Ethical & Privacy Concerns**
 - Genetic data can be misused; lack of a comprehensive **genomic data protection law**.
 - Need to ensure **informed consent** and **data anonymization**.
2. **Representation**
 - India's **vast genetic diversity** requires inclusion of **all regions, castes, and communities** to avoid research bias.

3. Infrastructure & Funding

- Long-term sustainability requires continuous **government support** and **PPP models**.

4. Integration with Healthcare

- Translating data into **clinical outcomes** (early screening, affordable therapies) is still limited.

Conclusion

The **Phenome India National Biobank** is a landmark initiative that can transform India's healthcare by shifting from **generalized treatment to precision medicine**. If supported by strong **ethical safeguards, inclusive representation, and long-term funding**, it will not only enhance India's health security but also strengthen its global standing in **genomic research and biotechnology**.

MAINS PRACTICE QUESTION

Q. The launch of the Phenome India National Biobank is being seen as a turning point for India's biomedical research. Discuss its significance for precision medicine in India while highlighting the challenges of implementation.

WHO “3 by 35” Health Tax & India’s Immunization Progress

❖ Syllabus Mapping

- ✓ GS Paper II – Governance & Social Justice (Health Policies, Welfare Schemes, WHO Initiatives)
- ✓ GS Paper III – Economy & Health (Taxation, NCDs, Public Health Financing, Immunization Programmes)
- ✓ GS Paper IV – Ethics (Public Health Responsibility, Preventive Health vs Curative Health)

Why in News?

- The **World Health Organization (WHO)** launched the “**3 by 35 Initiative**”, aiming to increase the prices of **tobacco, alcohol, and sugary drinks** by at least 50% through **health taxes** by 2035.
- WHO also released **WHO/UNICEF 2024 Immunization Data**, highlighting India's progress in reducing zero-dose children by **43% in one year**.

WHO’s “3 by 35” Initiative

What is Health Tax?

- A **fiscal measure** levied on products harmful to public health (tobacco, alcohol, sugary drinks).
- Recognized by WHO as one of the **most cost-effective public health tools** for reducing Non-Communicable Diseases (NCDs).

Why Needed?

1. Health Impact

- NCDs cause **>75% of global deaths**.
- Tobacco use alone costed the global economy **USD 1.4 trillion (2012)**.

2. Economic Impact

- Harmful products generate **negative externalities** (burden on public health system) and **internalities** (hidden costs borne by consumers).

3. Revenue Generation

- A **50% excise tax** could generate **USD 3.7 trillion in 5 years** (~USD 740 billion/year ≈ 0.75% of global GDP).

4. Equity

- NCDs disproportionately affect **low-income populations**, hence health taxes act as a **progressive health policy**.

Global & Indian Context

- Functions as a **coalition model**: engaging governments, academia, civil society, and development partners.
- India's Steps so far:**
 - Aerated drinks: **28% GST + 12% Compensation Cess**.
 - High-Fat, Sugar, Salt (HFSS) foods: **12% GST**.
 - FSSAI regulation: **<2% Trans Fatty Acids (TFAs)** allowed in oils/fats.

WHO-UNICEF Immunization Data 2024

Global Snapshot

- 89% of infants worldwide** received at least one dose of **DTP (Diphtheria, Tetanus, Pertussis)** vaccine in 2024.

India's Achievements

- Zero-dose children** fell by **43% in 2024** (from 1.6 million to 0.9 million).

- Polio-free status (2014), Neonatal Tetanus elimination (2015).
- Immunization remains a **core component of NRHM**.

Universal Immunization Programme (UIP) - India

- **Genesis:** 1978 (Expanded Programme on Immunization), upgraded to UIP in 1985.
- **Coverage:**
 - Nationwide (9 diseases): Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, Childhood TB, Hepatitis B, Meningitis & Pneumonia.
 - Region-Specific (3 diseases): Rotavirus, Pneumococcal Pneumonia, Japanese Encephalitis.
- **Recent Initiatives:**
 - **Mission Indradhanush 5.0 (2023-24)** – focus on Measles-Rubella eradication.
 - **U-WIN Portal** – digital immunization tracking system.

Critical Analysis

- **WHO's "3 by 35" Initiative:** If adopted, it could significantly **reduce premature NCD-related deaths** and **mobilize huge revenues** for health financing. However, **strong lobbying by beverage & tobacco industries**, along with **regressive tax concerns**, may challenge its adoption in LMICs including India.
- **India's Immunization Progress:** Impressive reduction in **zero-dose children** reflects successful interventions under **UIP & IMI**. Yet, **regional disparities, vaccine hesitancy, and last-mile delivery challenges** remain barriers.

Conclusion

Both **preventive taxation (WHO's "3 by 35")** and **universal immunization coverage (UIP, IMI)** are vital for achieving **SDG 3 – Good Health and Well-Being**. For India, integrating **fiscal health policies with public health programmes** will be key to tackling **NCDs and communicable diseases together**, ensuring a resilient health system.

MAINS PRACTICE QUESTION

Q. "Health taxes and universal immunization are complementary strategies to achieve SDG 3." Discuss in the context of WHO's "3 by 35" initiative and India's Universal Immunization Programme.

AN INSTITUTE FOR CIVIL SERVICES

SCIENCE & TECHNOLOGY

RDI Scheme: Boosting Atmanirbharta in R&D

📌 Syllabus Mapping

- ✓ **GS Paper III – Science & Technology:** Indigenization, Research & Development, Technology Missions
- ✓ **GS Paper II – Governance:** Government policies & interventions in various sectors
- ✓ **GS Paper III – Economy:** Investment, Employment, and Industrial Policy

📰 Why in the News?

- The Union Cabinet approved the **RDI Scheme** with a corpus of ₹1 lakh crore.
- Aims to strengthen **private sector-led research, deep-tech innovation, and commercialization** of critical technologies.

💡 About the RDI Scheme

Nodal Agency

- Department of Science and Technology (DST)

Objectives

- Scale up **private sector R&D investment** in sunrise and strategic domains.
- Finance projects at **higher Technology Readiness Levels (TRL 4 and above)**.
- Support **acquisition of critical and strategic technologies**.
- Establish a **Deep-Tech Fund of Funds** for startups and industry.

!

Challenges in India's R&D Landscape

1 Low R&D Spending

- GERD: -0.7% of GDP (vs South Korea 4.8%, Israel 5.6%)
- Private sector share only 36.4% (US & China >70%)



2 State-Level Weakness

- Only 6.7% of national R&D spending comes from states



3 Inefficiency in Utilisation

- DBT & DST used only 61-72% of allocated budgets (2022-23)



4 Brain Drain & Talent Under-Recognition

- 40,000+ PhDs annually but lack of incentives → low innovation output



Funding Structure

- **Total Budget:** ₹1 lakh crore
- **Mode of Financing:**
 - Long-term loans (nil/low interest).
 - Equity infusion (esp. for startups).
 - Contribution to Deep-Tech Fund of Funds.
- **Coverage:** Up to **50% of project cost** (exceptions possible via Empowered Group of Secretaries).
- **Exclusions:** No short-term loans or grants.

Implementation

- **Special Purpose Fund** under Anusandhan National Research Foundation (ANRF) as custodian.
- **Second-Level Fund Managers:** Alternate Investment Funds (AIFs), NBFCs, DFIs, IIT Research Parks, TDB, etc.

⭐ Significance of the Scheme

- **Private Sector Participation:** Corrects imbalance where India's R&D is public sector-driven.
- **Commercialization of Research:** Bridges the gap between labs and markets.
- **Strategic Self-Reliance:** Push for Atmanirbharta in deep-tech, semiconductors, defence, and energy.
- **Job Creation:** Encourages startups and MSMEs in technology-intensive sectors.
- **Leverage Effect:** Public funds catalyse private investment.

Way Forward

- **Raise GERD to 2% of GDP by 2030** (National STI Policy target).
- **Fiscal Incentives**: Tax rebates, credit guarantees, and innovation-linked financing.
- **State Innovation Councils**: Localised R&D strategies (e.g., Kerala Startup Mission, Bengaluru biotech cluster).
- **Industry-Academia Collaboration**: Joint centres (Semiconductor Mission, ISRO-industry model).
- **Efficient Fund Utilisation**: Link allocations to patents, publications, and societal impact.
- **Talent Recognition**: Expand PMRF, repatriation schemes for global Indian talent.
- **Diversity & Inclusion**: Fast-track grants for women scientists (CURIE, KIRAN).

Government Initiatives Complementing RDI

- **Anusandhan National Research Foundation (ANRF), 2023** – umbrella R&D funding body.
- **National AI Mission** – AI applications in health, education, agriculture.
- **Atal Innovation Mission (AIM)** – Atal Tinkering Labs, incubation centres.
- **National Quantum Mission (NQM)** – hubs for quantum computing, sensing, materials.

Conclusion

The RDI Scheme is a **landmark shift** towards private sector-driven research and deep-tech innovation. By combining **risk capital, institutional reforms, and strong industry-academia collaboration**, India can emerge as a **global innovation hub** while reducing dependence on foreign technologies. Success will depend on **efficient implementation, fiscal discipline, and talent retention**.

MAINS PRACTICE QUESTION

Q. "India's R&D ecosystem has been historically public sector-driven. Discuss how the RDI Scheme seeks to transform this paradigm, and critically analyse the challenges in fostering private sector-led innovation."

Atomic Minerals Rules 2025: Offshore Exploration

Syllabus Mapping

- ✓ GS Paper II – Governance & Policy (Acts, Rules & Regulations)
- ✓ GS Paper III – Science & Technology (Atomic Minerals, Energy Security)
- ✓ GS Paper III – Economy (Resource Management, Mineral Regulation)

Why in News?

- The Government of India notified the **Offshore Areas Atomic Minerals Operating Right Rules, 2025**, under the **Offshore Areas Mineral (Development and Regulation) Act, 2002**.
- These rules aim to regulate **exploration and mining of atomic minerals (uranium, thorium, etc.) in offshore areas**.

About the Rules

- **Objective**: To ensure transparent, secure, and regulated exploration & mining of atomic minerals in India's offshore regions.
- **Application**:
 - Rules apply **only if concentration of atomic minerals is above a prescribed minimum level**.
- **Licensing Framework**:
 - Government-nominated entities can be granted **Exploration Licences or Production Leases**.
 - For **foreign entities**, prior approval of the Government is mandatory before undertaking exploration operations.

Key Atomic Minerals in India

1. Uranium

- **Importance**: Vital for India's Pressurised Heavy Water Reactors (PHWRs).
- **Major Reserves**:
 - **Jharkhand**: Jaduguda (first commercial uranium mine), Bagjata.
 - **Andhra Pradesh**: Lambapur-Peddagattu, Tummalapalle.
 - **Meghalaya, Rajasthan** also host small deposits.
- **Challenges**:
 - Deposits are **low-grade and scattered**, unlike high-grade ores in Canada or Kazakhstan.
 - India depends on imports for a significant share of uranium.

2. Thorium

- **Importance:** Backbone of India's **Three-Stage Nuclear Programme**, crucial for future energy security.
- **Resource Availability:**
 - Thorium reserves are **abundant** in India, unlike uranium.
 - **Monazite sands** in Kerala, Tamil Nadu, and Odisha contain **8-10% thorium**.
- **Potential:** Estimated **12 million tonnes of monazite reserves**, making India one of the world's largest holders of thorium.

Strategic Significance

1. **Energy Security:**
 - India's **limited uranium but vast thorium reserves** make offshore exploration vital for long-term nuclear power generation.
2. **Geopolitical Dimensions:**
 - Rules reinforce **sovereignty over offshore mineral resources** under UNCLOS (United Nations Convention on the Law of the Sea).
 - Prevents foreign dominance in strategic atomic mineral exploration.
3. **Economic Potential:**
 - Opens opportunities for **deep-sea mining technologies**, collaborations, and domestic capacity building.
4. **Strategic Defence Needs:**
 - Uranium & thorium are critical for **civilian nuclear energy** and **defence nuclear programme**.

Challenges Ahead

- **Technological:** Deep-sea exploration and extraction are costly, technologically demanding.
- **Environmental:** Mining offshore sands may disturb fragile marine ecosystems.
- **Regulatory:** Ensuring **stringent safeguards** against illicit diversion of nuclear material.
- **Global Concerns:** International monitoring under **IAEA & NPT frameworks**; India must balance sovereignty with global obligations.

Conclusion

The **Offshore Areas Atomic Minerals Operating Right Rules, 2025** mark a crucial step in harnessing India's underexplored **offshore nuclear mineral potential**, especially thorium. While they align with **energy security, self-reliance, and strategic goals**, success will depend on **balancing technological innovation, environmental safeguards, and global commitments**.

MAINS PRACTICE QUESTION

Q. India has abundant thorium but limited uranium reserves. In this context, critically evaluate the significance of the Offshore Areas Atomic Minerals Operating Right Rules, 2025, for India's energy security and strategic autonomy

Quantum Cyber Readiness: Post-Quantum Security

Syllabus Mapping

- ✓ GS Paper III – Science & Technology (Quantum Technology, ICT, Cybersecurity)
- ✓ GS Paper II – Governance (Policy Interventions, National Security)
- ✓ GS Paper III – Internal Security (Cyber Threats, Emerging Technologies)

Why in News?

- The **Ministry of Electronics & IT (MeitY), CERT-In**, and cybersecurity firm **SISA** released a whitepaper titled "*Transitioning to Quantum Cyber Readiness*".
- It warned that **quantum computers can break current encryption systems** like RSA, threatening data security beyond 2030.

Quantum Computing and Cybersecurity

- **Quantum Computers:** Exploit principles of **superposition and entanglement**, enabling calculations at speeds unimaginable for classical computers.
- **Threat to Encryption:** Current **asymmetric cryptographic systems** (RSA, ECC) rely on factoring large numbers—quantum algorithms (e.g., *Shor's algorithm*) could break them in seconds.
- **Risk Timeline:** Any sensitive data (defence, finance, governance) that must remain secure **beyond 2030** is considered *immediately at risk*.

Key Cyber Threats from Quantum Technology

1. **Harvest Now, Decrypt Later (HNDL):**
 - Hackers steal encrypted data today → store → decrypt in future using quantum computing.
 - Threatens *health records, defence communications, financial data*.
2. **Secure Channel Decryption:**
 - Breaks encrypted channels → eavesdropping on confidential conversations.

- E.g., defence strategy calls, financial transactions.
- 3. **Signature Impersonation:**
 - Quantum computing may forge **digital certificates** → spread malware & phishing attacks.
- 4. **Zero-Day Quantum Vulnerabilities:**
 - Unknown quantum algorithms may expose flaws in existing cryptosystems.
 - Transition to **Post-Quantum Cryptography (PQC)** is complex and uncertain.

Whitepaper's Roadmap for Quantum Cyber Readiness

Area	Recommendations
Foundational Assessment & Strategic Planning	<ul style="list-style-type: none"> - Quantum Bill of Materials (QBOM) → inventory of cryptographic assets. - Upgrade planning & compliance audits in cryptographic usage.
Technology Readiness & Capability Building	<ul style="list-style-type: none"> - AI-enhanced risk assessment. - Rigorous testing of PQC before large-scale deployment. - Hybrid cryptography combining classical + quantum-safe algorithms during transition.
Phased Organizational Rollout	<ul style="list-style-type: none"> - Embed PQC in software development & ICT policies. - Automated key management & signing processes. - Standards body approved PQC algorithms mandated across govt. & vendor systems.
Resilience, Monitoring & Futureproofing	<ul style="list-style-type: none"> - Explore Quantum Key Distribution (QKD) for physics-based unbreakable communication. - Use algorithms like ML-DSA (Module Lattice-based Digital Signature Algorithm) & SLH-DSA (Stateless Hash-based Digital Signature Algorithm) for critical transactions.

Significance for India

- **National Security:** Defence, space & nuclear data must be quantum-safe.
- **Digital Economy:** UPI, Aadhaar, DBT—all rely on encryption.
- **Atmanirbhar Tech Push:** India's **National Quantum Mission (2023)** + **ANRF R&D support** crucial for indigenisation of PQC.
- **Global Leadership:** Early adoption can position India as a **global hub for quantum cybersecurity services**.

Challenges

- **High Cost of Transition:** PQC algorithms demand **higher computational power & bandwidth**.
- **Policy Gaps:** Lack of global standards for post-quantum security.
- **Skill Deficit:** India needs more **quantum scientists, cryptographers, cybersecurity experts**.
- **Lag in Industry Adoption:** MSMEs & banks may struggle with PQC transition.

Conclusion

The **quantum revolution is inevitable**. While quantum computing offers breakthroughs in AI, healthcare, and logistics, it also poses **existential risks to cybersecurity**. India must act proactively—through **policy, R&D investment, skill development, and international cooperation**—to ensure **quantum-safe digital sovereignty**.

India's Nuclear Energy Expansion

❖ **Syllabus Mapping**

✓ **GS Paper II – Governance, International Relations (Nuclear agreements, Regulatory frameworks)**

✓ **GS Paper III – Energy Security, Infrastructure, Technology, Environment**

✓ **GS Paper I – Post-Independence India (Science & Technology in nation building)**

Why in News?

- Union Budget 2025–26 announced an ambitious target of **100 GW nuclear power capacity by 2047**.
- Positions **nuclear energy** as a key pillar for **Viksit Bharat 2047** and to achieve **net-zero by 2070**.

Significance of Nuclear Energy for India

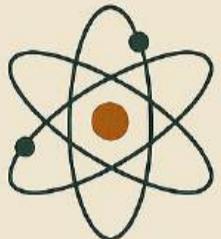
1. Energy Security

- Provides **24x7 baseload power**, unlike intermittent renewables.
- **SMRs (Small Modular Reactors) & micro-reactors** can supply **remote & disaster-prone areas**.
- Nuclear desalination – addresses **water scarcity** in coastal regions.

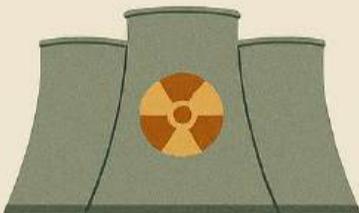
MAINS PRACTICE QUESTION

1. **Quantum computing poses a dual challenge of opportunity and threat for India. Critically analyse with reference to cybersecurity.**
2. **Discuss the concept of "Harvest Now, Decrypt Later" in the context of India's data security. How can Post-Quantum Cryptography mitigate these risks?**

India's Nuclear Power Journey



1956: Asia's first research reactor, Apsara



1963

First commercial power reactors at Tarapore

Indigenisation

Development of 220 MW PHWRs (Rajasthan, Narora, Kaiga, Kakrapar)

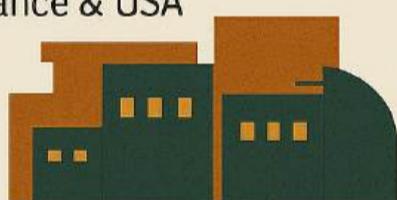


1954: Dr. Homi Bhabha's vision - 8 GW nuclear power by 1980

Current Capacity:
8.18 GW (2025)

Future Target:
100 GW by 2047

Global Partnerships
Active in COP28 declaration to triple nuclear capacity, collaboration with France & USA



- Nuclear energy not classified as "renewable" → limited green financing, tax benefits.

3. Fuel Supply Constraints

- India has **limited uranium reserves**.
- NSG non-membership** → hinders long-term fuel assurance.
- 2008 NSG waiver** enabled deals, but implementation with **France/US** slow.

4. Waste Management

- No **deep geological repository** for high-level waste.
- Current reprocessing insufficient for 100 GW expansion.

Reform Roadmap

- Legislative:** Amend **Atomic Energy Act, 1962** to allow private/PPP participation.
- Liability Regime:** Review **CLNDA 2010**, align with **Convention on Supplementary Compensation (CSC, 1997)**.
- Financing:** Recognise nuclear under **green taxonomy**, enable **ESG-linked funding & sovereign green bonds**.
- Fuel Security:** Diversify uranium imports, accelerate **thorium-based reactor R&D** (India has world's largest thorium reserves).
- Waste Disposal:** Establish **deep geological repositories** & explore **fast breeder & reprocessing tech**.
- Technology Collaboration:** Partner with **France (EPR tech)**, **USA (SMRs)**, **Russia (fuel supply)**.

Way Forward

- Short-term (till 2030):** Expand PHWRs, operationalise PFBR, pilot SMRs.
- Medium-term (2030-2040):** Scale SMRs, increase uranium imports, begin thorium-cycle pilots.

2. Industrial Growth

- Powers **energy-intensive industries** (steel, cement, hydrogen, data centers).
- SMRs** suitable for decentralised industrial power.

3. Geopolitical Leverage

- Prototype Reactor (PFBR, Kalpakkam)** strengthens **indigenous technology & strategic autonomy**.
- Enhances India's bargaining power in **energy diplomacy & NSG debates**.

4. Disaster Resilience

- Reliable during **natural disasters & geopolitical supply shocks**.

Small Modular Reactors (SMRs)

- Definition:** Advanced nuclear reactors with **≤300 MW capacity per unit**.
- Advantages:** Small size, factory assembly, modular deployment, faster rollout.

Types of Reactors:

- Micro Reactors (1-20 MW)** → mobile, can fit on trucks.
- SMRs (20-300 MW)** → scalable through modular expansion.
- Full-scale Reactors (300-1000+ MW)** → baseload, high-capacity electricity.

Challenges in India's Nuclear Energy Expansion

- Legislative & Regulatory Hurdles**
 - Atomic Energy Act, 1962** → restricts nuclear power generation to **government-only (NPCIL)**.
 - Civil Liability for Nuclear Damage Act, 2010** → supplier liability clause deters **foreign participation (e.g., US, France)**.
 - AERB's limited autonomy** → weakens regulatory independence.
- Financing & Cost Barriers**
 - PHWRs cost **~\$2 million/MW**, nearly **double coal plants**.

MAINS PRACTICE QUESTION



Q. Critically examine the challenges and opportunities in achieving India's target of 100 GW nuclear energy by 2047. How can legislative, financial, and technological reforms enable this vision?

- **Long-term (2040–2047):** Achieve **100 GW nuclear capacity**; establish **thorium-based reactors** for sustainable growth.

Conclusion

Nuclear energy is central to India's **energy transition**. To meet the **100 GW by 2047** target, India must **overcome legal, financial, and fuel constraints**, while leveraging its **thorium advantage and SMR technology**. A **balanced energy mix** with nuclear at its core will ensure **energy security, industrial growth, and climate resilience**.

NISAR Satellite: NASA–ISRO Collaboration

Syllabus Mapping

- ✓ GS Paper II – International Relations (India–US space collaboration, science diplomacy)
- ✓ GS Paper III – Science & Technology, Space Technology, Disaster Management, Climate Change
- ✓ GS Paper I – Geography (Earth observation, remote sensing, environmental monitoring)

Why in News?

The **NISAR satellite**, a joint mission of **NASA and ISRO**, was successfully launched from **Satish Dhawan Space Centre, Sriharikota**, marking a major milestone in India's space-based Earth observation capabilities.

About NISAR Satellite

- **Type:** Microwave imaging mission with **L-band & S-band Synthetic Aperture Radar (SAR)**.
- **Collaboration:**
 - **NASA:** L-band radar, GPS receiver, high-rate telecom system, solid-state recorder, 12-m deployable antenna.
 - **ISRO:** S-band radar, spacecraft bus, GSLV-F16 launch vehicle, associated systems.
- **Investment:** NASA – **\$1.16 billion**, ISRO – **\$90 million**.
- **Weight:** 2,392 kg.
- **Orbit:** Sun-Synchronous Polar Orbit (743 km) — first time a **GSLV** was used for this orbit (normally used for GTO missions).
- **Mission Life:** 5 years.

Technical Features

1. **SweepSAR Technology** – produces **high-resolution, wide-swath images**, critical for global terrain monitoring.
2. **Repeat Cycle** – Revisits every **12 days**, enabling continuous monitoring of land and ice changes.
3. **Dual-band SAR (world's first):**
 - **L-band SAR (24 cm)** → penetrates forest canopies, soil, glaciers → useful for **biomass, land subsidence, and ice deformation studies**.
 - **S-band SAR (12 cm)** → detects **vegetation cover, tree canopy height, snow cover changes**.
4. **12-metre unfurlable reflector antenna** → produces resolution equivalent to a **20-km-long ground antenna**.
5. **Open-Data Policy** – Data will be **freely available worldwide**, aiding **developing countries** in climate resilience and planning.

About Synthetic Aperture Radar (SAR)

- **Active sensing technology:** Sends out microwave pulses → records reflected signals → creates high-resolution images regardless of **cloud cover, day/night conditions**.
- **Why "Synthetic"?** A **smaller antenna** mimics a very large one (several km long) by combining sequential acquisitions → improves resolution without impractical antenna size.
- **Advantage over optical sensors:** Can penetrate **clouds, vegetation, soil, and ice**.

Applications of NISAR

1. Climate & Environment

- Tracking **deforestation, desertification, wetlands, and glacier retreat**.
- Supports **Paris Agreement** and **SDG 13 (Climate Action)**.

2. Disaster Management

- Monitoring **earthquakes, landslides, floods, volcanic activity** in near real-time.
- Crucial for India's **National Disaster Management Authority (NDMA)** and international disaster relief.

3. Agriculture & Food Security

- Crop health monitoring, soil moisture mapping, precision farming.

- Helps improve **food security** in climate-vulnerable regions.

4. Urban & Infrastructure Planning

- Detecting **ground subsidence, water stress, and coastal erosion**.
- Assists in **smart cities planning** and infrastructure risk management.

5. Geopolitics & Diplomacy

- Strengthens **India-US space partnership**, building **strategic trust**.
- Enhances India's **South-South cooperation role** by sharing open-access data with developing nations.

Significance for India

- Enhances **disaster preparedness** in flood & cyclone-prone regions.
- Provides critical data for **river basin management, Ganga rejuvenation, and agricultural monitoring**.
- Strengthens **climate change adaptation policies** at national and state levels.
- Elevates India's role in **global Earth observation networks**.

Challenges Ahead

- **Data handling & processing:** Massive datasets require robust AI & supercomputing infrastructure.
- **Integration into policy:** Translating space data into **actionable local policies** remains difficult.
- **Capacity building:** ULBs and state governments need training to effectively use satellite data.
- **Sustainability of mission:** With only 5 years' life, future collaborations must ensure **continuity of data**.

Conclusion

NISAR represents a **watershed moment in Indo-US space cooperation**, combining advanced **radar imaging technology** with an **open-access policy**. It will significantly strengthen India's **disaster resilience, environmental governance, and climate policy implementation**, making it a true "satellite for sustainable development".

MAINS PRACTICE QUESTION

Q. Examine the significance of the NISAR mission for India's climate resilience and disaster preparedness. How does it reflect the evolving contours of India-US space cooperation?

AI Web Crawlers: Copyright & Ethics Challenge

📌 Syllabus Mapping

- ✓ GS Paper II – Governance: Digital Governance, Regulation of New Technologies
- ✓ GS Paper III – Science & Technology: AI, Data Protection, Cybersecurity
- ✓ GS Paper II – International Relations: Global Digital Governance, IPR regimes

Why in News?

Major publishers in the **US and UK** have begun **blocking AI web crawlers** to stop the unauthorized use of their content for training AI models. This development has **renewed debates in India** on consent-based copyright frameworks, fair revenue-sharing, and the ethical use of AI-generated content.

Concerns Raised

1. Regulatory Vacuum in India

- No specific law governs **AI data scraping or training rights**.
- Large tech firms harvest Indian content **without consent or compensation**, creating a **digital asymmetry**.

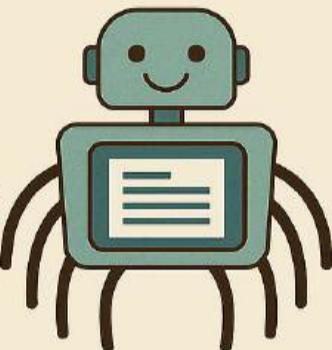
2. Copyright Challenges

- **India's Copyright Act, 1957** is not equipped to handle AI use cases.
- Unresolved issues:
 - Are AI outputs **derivative works**?
 - Does training an AI model on copyrighted content qualify as **fair use**?

What is an AI Web Crawler?

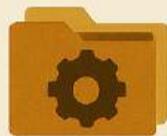
Definition:

Automated bots that scan and collect online content, primarily for AI model training or live information retrieval



Types of Crawlers:

1. Model Training Crawlers



collect massive datasets for training generative AI models

Examples: GPTBot (OpenAI), Amazonbot (Amazon), GoogleOther (Google)

2. Live Retrieval Crawlers



extract real-time data to enhance responses in AI assistants and search engines

Examples: ChatGPT (with browsing), Bing AI Search

- Enable publishers to deploy AI **bot-blocking tools** (via collaborations with **Cloudflare**, etc.).
- Promote **digital watermarking** and **dataset audits** to track usage.

4. Balanced Innovation Ecosystem

- Protect creators' rights while ensuring **open data access** for startups and researchers.
- Align with **SDG 9 (Innovation & Infrastructure)** and **SDG 16 (Strong Institutions)** for ethical AI governance.

Conclusion

The blocking of AI web crawlers by global publishers highlights the urgent need for **India to balance innovation with intellectual property rights**. With AI becoming a key driver of the digital economy, India must develop a **consent-based governance model**, ensuring fair revenue sharing, ethical AI practices, and protection of digital sovereignty.

- Lack of clarity allows "**free-riding**" by global AI firms on Indian news, blogs, and educational content.

3. Ethical Issues

- **Opacity**: AI firms rarely disclose datasets used for training.
- **No attribution or reward** to original creators.
- Training on **outdated/biased content** can distort reality and spread misinformation.
- Risk of **AI bias** and erosion of **public trust** in AI-generated knowledge.

4. Data Protection Limitations

- India's **Digital Personal Data Protection Act, 2023** covers **personal data**, not **non-personal datasets** (which AI heavily relies on).
- Absence of a framework leaves creators vulnerable.

Global Approaches

- **European Union (AI Act, 2024)** – Regulates AI training on copyrighted data, enforces transparency obligations.
- **United States** – Publishers pursuing **licensing deals** (e.g., OpenAI-Associated Press agreement) and **lawsuits** against AI firms.
- **UK** – News organizations adopting **technical blocking tools** to prevent AI bots from scraping.

Way Forward for India

1. Legal Framework

- Define "**unauthorized AI scraping**" under **MeitY & I&B Ministry**.
- Establish **consent-based AI licensing models** for data use.
- Update **Copyright Act, 1957** for AI-generated works & training rights.

2. Revenue Sharing & Licensing

- Mandate **revenue-sharing arrangements** between AI firms and original content creators (similar to Google-News partnerships).
- Encourage **collective licensing platforms** for Indian publishers and creators.

3. Technological Safeguards

MAINS PRACTICE QUESTION



Q. The rise of AI web crawlers has reignited debates on copyright and ethical AI use. Discuss the challenges India faces in regulating AI data scraping and suggest measures to create a consent-based digital ecosystem.

Black Hole Merger GW231123: New Insights

📌 Syllabus Mapping

- ✓ GS Paper III – Science & Technology: Space, Astronomy, Gravitational Waves
- ✓ GS Paper I – Universe & Physical Geography
- ✓ GS Paper II – International Collaboration in Science & Technology

Why in News?

An international team of scientists has detected the most massive black hole merger ever observed.

- The event, named **GW231123**, was observed by the **LIGO-Virgo-KAGRA (LVK) collaboration**, which forms the global **Gravitational Wave Network**.

What is a Black Hole Merger?

- **Definition:** Occurs when **two black holes orbit each other**, emit **gravitational waves**, spiral inward, and finally **merge into a larger black hole**.
- **Process:**
 1. **Inspiral Phase** – black holes orbit each other, radiating energy as gravitational waves.
 2. **Merger Phase** – the two collide into a single, massive black hole.
 3. **Ringdown Phase** – the new black hole stabilizes, emitting final gravitational waves.
- **Gravitational Waves:**
 - Ripples in **space-time** caused by violent cosmic events.
 - First predicted by **Einstein in 1916** (General Theory of Relativity).
 - First detected in **2015** by **LIGO**, winning the **2017 Nobel Prize in Physics**.

Gravitational Wave Network (LVK)

- **LIGO (Laser Interferometer Gravitational-Wave Observatory)** – USA
 - First detected waves in 2015.
 - Uses **laser interferometry** to measure tiny distortions in space-time.
- **Virgo** – Italy
 - Enhances accuracy by **triangulating signals** with LIGO.
- **KAGRA** – Japan
 - Underground facility, reduces noise and increases sensitivity.
- **LIGO-India (Upcoming)**
 - India, in collaboration with the US, is building its own detector.
 - Will significantly improve the global network's **detection accuracy and coverage**.

Significance of GW231123

- **Most Massive Black Hole Merger** recorded till date.
- Black holes involved: approx. **100 and 140 solar masses**, merging into a **225 solar mass black hole**.
- **Unusually Fast Spinning Black Hole** formed, challenging existing astrophysical theories.
- **Time Factor:** Waves originated **billions of years ago**, but detected on Earth in 2025.

Why is it Important?

- **Scientific Importance:**
 - Provides insights into **formation of massive black holes**.
 - Suggests that some giant black holes may form by **mergers of smaller black holes**, not just star collapse.
- **Technological Significance:**
 - Validates advanced **interferometric detection technologies**.
 - Strengthens India's role in frontier science through **LIGO-India project**.
- **Philosophical & Educational Value:**
 - Reinforces Einstein's theories.
 - Opens avenues for **astrophysics education, research, and global collaboration**.

Conclusion

The detection of **GW231123** marks a milestone in **space science**. It not only deepens our understanding of **cosmic phenomena and black hole evolution**, but also highlights the

MAINS PRACTICE QUESTION

Q. Discuss the significance of gravitational wave astronomy in advancing our understanding of the universe. How can projects like LIGO-India strengthen India's position in global scientific research?

importance of **international scientific collaboration**. With **LIGO-India** set to join the LVK network, India is poised to play a crucial role in the global quest to decode the **mysteries of the universe**.

Deepfakes: Threats & Legal Safeguards

📌 Syllabus Mapping

- ✓ GS Paper II – Governance, Constitution & Polity (Digital Governance, Legal Safeguards, Media Regulation)
- ✓ GS Paper III – Science & Technology (AI, Cybersecurity, Digital Ethics)
- ✓ GS Paper IV – Ethics (Manipulation of Truth, Privacy, Consent, Misuse of Technology)

Why in News?

- Denmark has proposed a **landmark copyright amendment** to ban the sharing of **deepfakes without consent**.
- Law will:
 - Treat realistic deepfakes as **copyright violations**.
 - Grant individuals control over their **digital likeness for 50 years after death**.
 - Mandate **platforms to remove such content** or face penalties.

What are Deepfakes?

- **Definition:** Synthetic media (video, audio, images) digitally altered using **AI** to make it appear that someone said or did something they never did.
- **Technology Used:**
 - **Generative Adversarial Networks (GANs)** – generator creates fake media, discriminator tests authenticity until fake is indistinguishable.
 - **Natural Language Processing (NLP)** – for **voice cloning**.
 - **Lip-syncing** – aligns deepfake audio with facial movements.
- **Types of Deepfakes:**
 1. **Face swaps** – replacing one person's face with another.
 2. **Voice clones** – imitating voice to generate speech.
 3. **Source video manipulation** – making people appear to say/do things never done.
- **Detection:**
 - Clues: unnatural blinking, lighting mismatches, lip-sync errors.
 - Tools: Microsoft Video Authenticator, Adobe's Content Authenticity Initiative, Sensity AI, etc.

India's Legal and Institutional Response

- **No dedicated law on deepfakes**, but existing legal frameworks partially cover them:
 1. **Information Technology Act, 2000**
 - Section 66D – punishment for cheating by personation via computer.
 - Sections 67, 67A, 67B – prohibit obscene and sexually explicit content.
 2. **IT Rules, 2021**
 - Platforms must remove impersonation/morphed content **upon notice** or risk losing **safe harbour protection**.
 3. **Copyright Act, 1957**
 - Covers unauthorized use of copyrighted images/videos in deepfakes.
 4. **CERT-In Advisories**
 - Issues alerts to prevent spread and guide detection.
 5. **I4C (Indian Cybercrime Coordination Centre)**
 - Assists law enforcement in tackling cybercrime, including deepfakes.
 6. **Judicial Interventions**
 - **Anil Kapoor Case (2023)** – Delhi HC barred misuse of name, likeness, and traits; upheld **personality rights**.
 - **Rajnikant Case (2015)** – Madras HC restrained unauthorised use of name, image, caricature; extended **celebrity rights**.

RISKS OF DEEPFAKES



Global Approaches

- **EU AI Act, 2024** – mandates labelling of AI-generated content; regulates AI training on copyrighted data.
- **US** – licensing deals with publishers; lawsuits against AI firms.
- **China** – mandates **watermarking of deepfakes** to distinguish real from fake.
- **Denmark** – proposed **posthumous rights (50 years)** over digital likeness.

Way Forward for India

- **Legal Reforms:**
 - Draft a **comprehensive deepfake law** under IT framework.
 - Define **digital likeness rights** and ensure **posthumous protection**.
- **Consent-Based Framework:**
 - Explicit legal requirement for **individual consent** before use of likeness.
- **Technological Safeguards:**
 - Encourage watermarking, blockchain verification, and AI-detection tools.
 - Provide Indian publishers tools to **block AI web crawlers**.
- **Awareness & Media Literacy:**
 - National campaigns to educate citizens about spotting and reporting deepfakes.
- **Institutional Strengthening:**
 - Empower CERT-In, I4C, and set up a **National Deepfake Monitoring Cell**.

Conclusion

Deepfakes represent a **double-edged sword** – while they have applications in **cinema, education, and accessibility**, they also pose grave risks to **democracy, dignity, and security**. India must move towards a **consent-driven, rights-based digital governance model** balancing **innovation with accountability**.

MAINS PRACTICE QUESTION

Q. Deepfake technology is a disruptive innovation with both constructive and destructive potential. Critically evaluate its impact on democracy, individual rights, and digital governance in India. Suggest legal and technological measures to address these challenges.