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CURRENT AFFAIRS

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AN INSTITUTE FOR CIVIL SERVICES



POLITY

Lok Adalats and Justice Delivery

✦ Syllabus Mapping:

- ✓ **GS Paper II – Polity & Governance:** Judiciary, access to justice, alternative dispute resolution
- ✓ **GS Paper IV – Ethics:** Justice, equity, fairness, institutional trust

Introduction (Contextual Background)

The **Fourth National Lok Adalat (NLA) of 2025** marked a significant milestone in India's justice delivery system by resolving **2.59 crore disputes in a single day**. Cumulatively, between **2022–23 and 2024–25**, over **23.5 crore cases** have been disposed of through various Lok Adalats across the country. This performance is particularly noteworthy against the backdrop of over **4.7 crore pending cases** recorded on the **National Judicial Data Grid**, underscoring the growing relevance of **Alternative Dispute Resolution (ADR)** mechanisms.

Institutional Framework of Lok Adalats

Legal Basis and Objective

- Lok Adalats are established under the **Legal Services Authorities Act, 1987**, institutionalising ADR to deliver **speedy, affordable, and consensual justice**.
- Core objectives include:
 - **Reducing judicial pendency**
 - **Encouraging amicable settlements**
 - **Enhancing access to justice**, especially for marginalised sections

Organisational Structure

- Lok Adalats are organised by the **National Legal Services Authority (NALSA)**.
- The **Supreme Court of India**, through the Chief Justice of India, acts as the **Patron-in-Chief**, lending constitutional legitimacy and institutional oversight.

Nature of Awards

- Decisions (awards) are:
 - **Final and binding**
 - **Equivalent to civil court decrees**
 - **Not appealable**, ensuring finality and swift closure

Scope and Jurisdiction

- Lok Adalats can adjudicate:
 - **Pre-litigation disputes**
 - **Cases pending before courts**
- Excluded matters:**
 - **Non-compoundable criminal offences**
 - **Divorce and matrimonial disputes** involving complex personal law issues

Types of Lok Adalats

1 National Lok Adalat (NLA)

- Conducted **simultaneously across the country on a single day**
- Covers all judicial levels—from the Supreme Court to **Taluk-level courts**
- Designed for **mass disposal** of cases, particularly motor accident claims, bank recoveries, and utility disputes

2 Permanent Lok Adalat (PLA)

- Established for disputes related to **Public Utility Services** such as:
 - Transport



- Postal and telegraph services
- Electricity and water supply
- Monetary jurisdiction: **Up to ₹1 crore**
- Distinct feature: Can decide disputes **on merits** if conciliation fails

3 E-Lok Adalats and Mobile Lok Adalats

- **E-Lok Adalats:**
 - Enable **remote participation** using digital platforms
 - Particularly useful during emergencies and for geographically dispersed litigants
- **Mobile Lok Adalats:**
 - Travel to **remote and rural areas**
 - Bring justice closer to citizens with limited court access

Significance in India's Justice System

Governance Perspective

- Reduce pressure on regular courts
- Improve **judicial efficiency** and **case clearance rates**

Social Justice Perspective

- Provide **low-cost justice**
- Reduce procedural complexity
- Enhance **legal inclusion** for vulnerable groups

Ethical Dimension

- Emphasise **consensus over contest**
- Reflect Gandhian principles of **conciliation and harmony**
- Strengthen **public trust** in institutions

Challenges and Criticisms

- Risk of **coerced settlements**, especially in high-volume drives
- Limited suitability for **complex legal disputes**
- Quality of justice may vary depending on legal awareness of parties

Way Forward

- Strengthen **legal aid awareness** to ensure informed consent
- Expand **digital infrastructure** for E-Lok Adalats
- Continuous **capacity building** of conciliators and legal services personnel
- Integrate Lok Adalats more systematically with court-annexed ADR mechanisms

Conclusion (Keywords Highlighted)

Lok Adalats have emerged as a **cornerstone of India's ADR framework**, delivering **speedy, affordable, and consensual justice**. While not a substitute for formal adjudication, they are an indispensable complement in addressing **judicial pendency**, advancing **access to justice**, and reinforcing **constitutional values of equity and fairness**.

Keywords: *Alternative Dispute Resolution, Access to Justice, Judicial Pendency, Consensus-based settlements*



Mains Practice Question

“Assess the role of Lok Adalats in reducing judicial pendency in India. Discuss their strengths, limitations, and relevance in ensuring access to justice.”

Dowry Eradication: A Constitutional and Social Imperative

✦ Syllabus Mapping:

- ✓ **GS Paper II – Polity & Governance:** Judiciary, fundamental rights, law enforcement
- ✓ **GS Paper I – Society:** Social issues, gender justice, social reform
- ✓ **GS Paper IV – Ethics:** Justice, dignity, social responsibility

Introduction (Contextual Background)

In December 2025, the **Supreme Court of India** underscored that the **eradication of dowry is an urgent constitutional and social necessity**, issuing comprehensive directions in *State of Uttar Pradesh v. Ajmal Beg*. The judgment seeks to strengthen the enforcement of the **Dowry Prohibition Act, 1961 (DPA)** and address persistent gaps in implementation, at a time when **dowry-related crimes continue to rise despite a robust legal framework**.



Supreme Court Directions: Key Interventions

1 Strengthening Institutional Enforcement

- **Appointment of Dowry Prohibition Officers (DPOs)** by State Governments, as mandated under the DPA
- Provision of **adequate resources, staffing, and logistical support**
- **Public dissemination of DPO contact details** to enhance accessibility and reporting

➡ Emphasises that laws without implementing machinery remain **symbolic rather than transformative**.

2 Expeditious Disposal of Dowry-Related Cases

- High Courts directed to **review and monitor pendency** of cases under:
 - **Section 304-B IPC** (Dowry Death)
 - **Section 498-A IPC** (Cruelty by husband or relatives)
- Aim: **Time-bound justice**, deterrence, and reduced secondary victimisation

3 Capacity Building and Sensitisation

- **Periodic training for:**
 - Police officials
 - Judicial officers
- Focus on:
 - Sensitivity towards **genuine victims**
 - Ability to **identify and filter frivolous complaints**, ensuring balance between protection and due process

4 Social Awareness and Preventive Measures

- **Grassroots awareness campaigns** led by district administrations
- **Curricular reforms** to inculcate gender equality and anti-dowry values from early education
- Community-based engagement to challenge **social normalisation of dowry**

Dowry in India: Nature and Magnitude

Legal Definition

- Under the **Dowry Prohibition Act, 1961**, dowry includes:

Any property or valuable security given or agreed to be given, directly or indirectly, at or before or any time after marriage.

Current Trends and Data

- According to the **National Crime Records Bureau**, dowry-related crimes:
 - Increased by **14% in 2023**
 - **Over 15,000 cases** registered nationwide
 - **More than 6,100 deaths** reported in the same year

➡ Indicates a **deep-rooted social pathology**, not merely a legal deficit.

Existing Legal and Institutional Framework

1 Dowry Prohibition Act, 1961

- Criminalises giving, taking, or demanding dowry
- Prescribes:
 - **Minimum 5 years' imprisonment**
 - **Monetary fines**

2 Bharatiya Nyaya Samhita (BNS), 2023

- **Section 80 of BNS** (corresponding to **Section 304-B IPC**) specifically addresses **dowry deaths**

3 Protection of Women from Domestic Violence Act, 2005

- Provides civil remedies against:
 - Physical, emotional, economic, and sexual abuse
- Acts as a **preventive and protective instrument**

4 Role of the National Commission for Women

- The **National Commission for Women**:
 - Reviews existing laws
 - Investigates complaints of dowry harassment
 - Advises governments on strengthening safeguards

Broader Analytical Dimensions

Constitutional Perspective

- Dowry violates:
 - **Article 14** (Equality before law)
 - **Article 15** (Prohibition of discrimination)
 - **Article 21** (Right to life with dignity)
- Reinforces the State's duty under **Directive Principles** to promote social justice

Social Perspective

- Reflects entrenched **patriarchal norms** and commodification of women
- Leads to:
 - Gender-based violence
 - Economic exploitation
 - Inter-generational normalisation of inequality

Ethical Perspective

- Contravenes principles of **human dignity, justice, and fairness**
- As argued by **B.R. Ambedkar**, social reform must accompany legal reform for true emancipation

Way Forward

- Universal appointment and empowerment of **DPOs**
- **Fast-track courts** for dowry death and cruelty cases
- Community-led monitoring and **social sanction against dowry**
- Continuous **legal literacy and gender sensitisation**
- Stronger **data-driven oversight** of enforcement outcomes

Conclusion (Keywords Highlighted)

The Supreme Court's intervention reiterates that dowry eradication is not merely a legal obligation but a **constitutional mandate and moral imperative**. While laws exist, their impact depends on **effective enforcement, institutional accountability, and sustained social transformation**. Only a **multi-pronged approach combining law, education, and social reform** can dismantle the entrenched dowry system.

Keywords: Gender justice, Constitutional morality, Dowry Prohibition, Social reform, Women's dignity



Mains Practice Question

“Despite a comprehensive legal framework, dowry continues to persist as a serious social evil in India.” In light of the Supreme Court’s recent directions, examine the constitutional, legal, and social measures required for the effective eradication of dowry

Viksit Bharat Shiksha Adhishthan Bill, 2025

✦ Syllabus Mapping:

✓ **GS Paper II – Polity & Governance:** Parliament, regulatory institutions, public policy

✓ **GS Paper II – Social Justice:** Education reforms, role of the State

✓ **GS Paper I – Society:** Education, human capital development

Introduction (Contextual Background)

The **Viksit Bharat Shiksha Adhishthan (VBSA) Bill, 2025**, introduced in the **Lok Sabha**, seeks to fundamentally restructure India’s higher education regulatory architecture. The Bill aims to empower **Higher Educational Institutions (HEIs)** to achieve **academic excellence, coherence, and global competitiveness**, in line with the transformative vision of the **National Education Policy 2020 (NEP 2020)**.

Rationale Behind the Bill

India’s higher education system has long been criticised for:

- **Fragmented regulation**
- **Overlapping mandates** of multiple regulators
- Excessive compliance focus over **outcome-based quality**

The VBSA Bill attempts to address these structural limitations by creating a **single, integrated regulatory framework**, replacing the legacy system established in the mid-20th century.

Key Provisions of the VBSA Bill, 2025

1 Repeal of Existing Regulatory Legislations

The Bill proposes the repeal of:

- **University Grants Commission Act, 1956**
- **All India Council for Technical Education Act, 1987**
- **National Council for Teacher Education Act, 1993**

➡ This marks a decisive shift away from **discipline-based fragmented regulation**.

2 Establishment of Viksit Bharat Shiksha Adhishthan (VBSA)

- VBSA will function as a **single umbrella commission** for higher education regulation.
- It will subsume the roles earlier played by UGC, AICTE, and NCTE.
- All HEIs under the **Ministry of Education** will fall within its regulatory ambit for **determination of academic standards**.

3 Composition and Appointment

- The Commission will consist of:
 - **A President**
 - **Up to 12 Members** (excluding ex-officio members and Member Secretary)
- Appointments will be made by the **President of India**, ensuring constitutional legitimacy.

4 Creation of Three Functional Councils

In alignment with NEP 2020’s principle of **separation of roles**, VBSA will establish:

- **Viksit Bharat Shiksha Viniyaman Parishad**
(Regulatory Council) – enforcement and compliance
- **Viksit Bharat Shiksha Gunvatta Parishad**
(Accreditation Council) – quality assurance
- **Viksit Bharat Shiksha Manak Parishad**
(Standards Council) – academic benchmarks and learning outcomes

➡ This functional segregation addresses long-standing concerns of **regulatory conflict of interest**.

5 Role of Professional Standard Setting Bodies

- The **Council of Architecture**, established under the **Architects Act, 1972**, will function as a **Professional Standard Setting Body (PSSB)**.
- This is consistent with NEP 2020's vision of **domain-specific professional autonomy**.

6 Funding and Financial Autonomy

- **Centrally funded HEIs** will remain **outside the funding purview of VBSA**.
- This ensures:
 - Continued governmental financial oversight
 - Separation between **academic regulation and financial control**

7 Enhanced Enforcement Powers

- The Regulatory Council is empowered to impose **stringent penalties** for violations:
 - Minimum: **₹10 lakh**
 - Maximum: **₹2 crore**

➡ Signals a shift from advisory regulation to **credible deterrence-based governance**.

Broader Analytical Dimensions

Governance Perspective

- Simplifies regulatory architecture
- Enhances **policy coherence and accountability**
- Reduces compliance burden on HEIs

Educational Perspective

- Encourages **institutional autonomy with responsibility**
- Focus on **learning outcomes, accreditation, and global standards**
- Facilitates multidisciplinary and flexible education pathways

Federal and Constitutional Perspective

- Centralisation of regulation may raise concerns regarding:
 - **Federal balance**
 - Role of State governments in higher education
- Requires cooperative federalism for effective implementation

Challenges and Concerns

- Risk of **over-centralisation**
- Transitional issues during repeal of existing Acts
- Need for safeguards against **bureaucratic overreach**
- Capacity building of new institutions to avoid regulatory vacuum

Way Forward

- Ensure **transparent appointment processes**
- Strengthen stakeholder consultation with States and universities
- Phase-wise transition from old to new regulatory systems
- Robust parliamentary oversight of VBSA's functioning

Conclusion (Keywords Highlighted)

The VBSA Bill, 2025 represents a **paradigm shift in higher education governance**, moving towards **integration, autonomy, accountability, and quality assurance** as envisioned under NEP 2020. Its success, however, will depend on **balanced centralisation, institutional capacity, and cooperative federalism**, ensuring that regulatory reform translates into **academic excellence and global competitiveness**.

Keywords: *Higher education reform, NEP 2020, Regulatory integration, Institutional autonomy, Quality assurance*



Mains Practice Question

“The Viksit Bharat Shiksha Adhishthan Bill, 2025 seeks to overhaul India's higher education regulatory framework.” Critically examine its key provisions and assess its potential impact on autonomy, quality, and governance of higher educational institutions in India.

Sabka Bima Sabki Raksha Bill, 2025

✦ Syllabus Mapping:

- ✓ **GS Paper II – Polity & Governance:** Parliament, regulatory institutions, consumer protection
- ✓ **GS Paper III – Indian Economy:** Financial sector reforms, FDI, insurance penetration

Introduction (Context & Significance)

The Lok Sabha has passed the **Sabka Bima Sabki Raksha (Amendment of Insurance Laws) Bill, 2025**, marking a major step in **deepening insurance penetration, strengthening policyholder protection, and liberalising the insurance market**. The Bill amends three foundational legislations—the **Insurance Act, 1938**, the **LIC Act, 1956**, and the **IRDAI Act, 1999**—to align India’s insurance ecosystem with **global best practices and domestic developmental needs**.

Objectives of the Bill

- Accelerate **growth and competitiveness** of the insurance sector
- Enhance **policyholder awareness and protection**
- Attract **long-term foreign capital and expertise**
- Strengthen **regulatory capacity and enforcement**

Key Provisions of the Bill

1 Liberalisation of Foreign Direct Investment (FDI)

- Raises FDI limit in Indian insurance companies from **74% to 100% of paid-up equity capital**
- **Paid-up capital** refers to the portion of equity capital fully paid by shareholders

Significance

- Encourages **capital inflow**, innovation, and product diversification
- Brings advanced **risk management and actuarial practices**
- Supports India’s low insurance penetration (life and non-life) challenge

Concern: Requires strong regulation to prevent **profit repatriation at the cost of consumer interest**

2 Policyholders’ Education and Protection Fund

- Establishes a dedicated **Policyholders’ Education and Protection Fund**
- To be **administered by the Insurance Regulatory and Development Authority of India (IRDAI)**

Purpose

- Protect policyholder interests
- Promote **financial literacy and insurance awareness**
- Address issues of **mis-selling and information asymmetry**

➡ Reflects a shift towards **consumer-centric financial regulation**.

3 Entry of Global Re-insurers

- **Net-Owned Fund requirement** for foreign re-insurers reduced from:
 - **₹5,000 crore → ₹1,000 crore**

Implications

- Encourages more **global re-insurers** to enter India
- Improves **risk absorption capacity**, especially for:
 - Climate risks
 - Infrastructure projects
 - Natural disasters

4 Enhanced Powers of IRDAI

- IRDAI granted **stronger enforcement powers**, akin to **Securities and Exchange Board of India (SEBI)**
- Authority to:
 - Recover **wrongful gains**
 - Penalise regulatory violations effectively

➡ Strengthens **regulatory deterrence** and **market discipline**.

5 Greater Autonomy to LIC

- **Life Insurance Corporation of India (LIC)** granted enhanced operational flexibility
- Can establish **new zonal offices without prior government approval**

Significance

- Enables faster expansion
- Improves operational efficiency
- Enhances competitiveness vis-à-vis private insurers

Broader Analytical Dimensions

Economic Perspective

- Insurance acts as a **risk-mitigation tool** and mobiliser of long-term savings
- Higher insurance penetration supports:
 - Infrastructure financing
 - Financial inclusion
 - Economic resilience

Governance Perspective

- Reflects the State's evolving role from **controller to regulator**
- Emphasis on **independent, empowered regulators**

Social Perspective

- Better insurance coverage strengthens:
 - Household financial security
 - Social protection against health, accident, and disaster risks

Challenges and Concerns

- Risk of **regulatory arbitrage** with 100% foreign ownership
- Need to ensure **policyholder primacy over shareholder interest**
- Capacity building required for IRDAI to handle expanded mandate

Way Forward

- Robust **prudential norms and solvency regulations**
- Continuous **consumer awareness campaigns**
- Effective monitoring of FDI-driven insurers
- Strong coordination between **financial regulators**

Conclusion (Keywords Highlighted)

The **Sabka Bima Sabki Raksha Bill, 2025** represents a decisive move towards **liberalisation with regulation**, aiming to balance **market growth, global integration, and policyholder protection**. Its success will hinge on **strong regulatory oversight, consumer-centric governance, and prudent management of foreign capital**, ensuring that insurance truly becomes a pillar of **inclusive and resilient economic growth**.

Keywords: *Insurance reforms, FDI liberalisation, Policyholder protection, Regulatory strengthening, Financial inclusion*



Mains Practice Question

“The Sabka Bima Sabki Raksha (Amendment of Insurance Laws) Bill, 2025 seeks to liberalise and strengthen India’s insurance sector simultaneously.” Critically examine the key provisions of the Bill and discuss their implications for insurance penetration, regulatory governance, and policyholder protection in India.

GOVERNANCE

Viksit Bharat–G RAM G Bill, 2025

Syllabus Mapping:

- ✓ **GS Paper II – Polity & Governance:** Parliament, welfare schemes, decentralisation
- ✓ **GS Paper III – Indian Economy:** Rural employment, inclusive growth, infrastructure
- ✓ **GS Paper I – Society:** Rural development, livelihoods, social justice

Introduction (Context & Rationale)

The **Viksit Bharat–Guarantee for Rozgar and Ajeevika Mission (Gramin) Bill, 2025 (VB–G RAM G Bill)** was introduced in the **Lok Sabha** with the objective of **replacing the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), 2005**. The Bill aims to **recalibrate rural employment from a safety-net approach to a development-linked livelihood mission**, aligned with the broader vision of **Viksit Bharat**.

State governments are mandated to **notify their schemes within six months** of the Bill's commencement, ensuring contextualised implementation within a national framework.

Key Features of the VB–G RAM G Bill, 2025

Expanded Employment Guarantee

- **125 days of guaranteed unskilled manual work** per rural household per financial year (enhanced from 100 days).
- Designed to provide **greater income security**, especially amid climate variability and agrarian distress.

Critical Provision: States may **suspend the scheme for up to 60 days** during **sowing and harvesting seasons** to ensure **availability of agricultural labour**.

➡ This attempts to balance **farm productivity** with **wage employment**, though it raises concerns regarding income continuity.

Focus on Durable Asset Creation

Employment is linked to creation of **productive and resilient rural assets** under four priority themes:

- **Water Security** (ponds, irrigation channels, watershed works)
- **Core Rural Infrastructure** (roads, drainage, sanitation)
- **Livelihood-related Infrastructure** (storage, processing units)
- **Special Works for Extreme Weather Events** (flood/drought mitigation)

➡ Reflects a shift from consumption smoothing to **long-term rural capital formation**.

Revamped Planning Architecture

Viksit Gram Panchayat Plans (VGPPs)

- Prepared by **Gram Panchayats** based on local needs
- Integrated with **PM Gati Shakti**, enabling convergence with national infrastructure planning

Viksit Bharat National Rural Infrastructure Stack (VB-NRIS)

- Aggregates VGPPs at higher levels
- Enables **coordinated, data-driven rural infrastructure planning**

Panchayat Grading and Targeted Resource Allocation

- Panchayats graded based on **development indicators**
- **Higher allocations for underperforming panchayats**
- Objective: **Reduce regional and intra-state disparities**

➡ Aligns with principles of **equity-based fiscal transfers**.



5 Institutional Oversight Mechanism

- **Central and State Gramin Rozgar Guarantee Councils**
 - Review and monitor implementation
 - Advise on policy course correction
- **National and State Steering Committees**
 - Recommend financial allocations
 - Promote **inter-ministerial convergence**
 - Provide strategic oversight

6 Transparency, Digitisation and Accountability

- Emphasis on **technology-enabled governance**:
 - Biometric authentication
 - AI-enabled analytics for monitoring
- **Social Audit by Gram Sabha**
- **Grievance Redressal** at block and district levels

➡ Seeks to address long-standing issues of **leakages and delays**.

Comparative Perspective: VB-G RAM G vs MGNREGA

Dimension	MGNREGA (2005)	VB-G RAM G Bill (2025)
Employment days	100	125
Nature of focus	Wage employment	Employment + Asset creation
Planning	Decentralised	Digitally integrated, multi-level
Asset durability	Limited	Explicitly prioritised
Governance	Programme-based	Mission-mode with councils

Key Concerns and Criticisms

- **Suspension clause** may dilute the “guarantee” aspect
- Risk of **over-centralisation** through national infrastructure stacks
- Implementation capacity of Gram Panchayats varies widely
- Digital reliance may exclude **digitally marginalised workers**

Way Forward

- Ensure **clear safeguards** against arbitrary suspension by States
- Strengthen **Panchayat capacity-building**
- Maintain **rights-based orientation** while pursuing efficiency
- Independent evaluation of asset quality and livelihood outcomes

Conclusion (Keywords Highlighted)

The VB-G RAM G Bill, 2025 represents a **structural shift in rural employment policy**, integrating **income support, asset creation, digital planning, and regional equity**. Its success will depend on **preserving the rights-based guarantee**, empowering local institutions, and ensuring that **technology enhances—rather than replaces—grassroots accountability**.

Keywords: Rural livelihoods, Employment guarantee, Decentralisation, Asset creation, Inclusive growth

Mains Practice Question

“The Viksit Bharat-G RAM G Bill, 2025 marks a shift from a wage-centric employment guarantee to a development-linked rural livelihood framework.” Critically examine its key features and assess the implications for rural employment, decentralised planning, and social equity in India.

Securities Markets Code, 2025

Syllabus Mapping:

- ✓ **GS Paper II – Polity & Governance:** Parliament, regulatory institutions, economic governance
- ✓ **GS Paper III – Indian Economy:** Financial markets, capital market reforms

Introduction (Context & Rationale)

The **Securities Markets Code (SMC), 2025** has been tabled in the **Lok Sabha**, proposing a **single, rationalised legal framework** to govern India’s securities markets. The Bill seeks to **consolidate and modernise** the fragmented statutory architecture to enhance **clarity, efficiency, and regulatory effectiveness** in a rapidly evolving financial ecosystem.

What the SMC, 2025 Proposes

Consolidation of Three Core Laws

The Code subsumes provisions from:

- Securities and Exchange Board of India Act, 1992
- Depositories Act, 1996
- Securities Contracts (Regulation) Act, 1956

➡ This unification aims to eliminate overlaps, reduce interpretational ambiguities, and ensure **coherent market governance**.

Objectives of the Securities Markets Code

- Simplify and streamline securities regulation
- Enable **principles-based, future-ready oversight**
- Strengthen **investor protection and market integrity**
- Improve **ease of doing business** for market intermediaries
- Align regulation with **global best practices**

Why a Unified Code Is Needed

Governance Challenges Under the Existing Framework

- Multiple statutes led to **regulatory silos** and duplication
- Slower response to **financial innovation** (digital assets, new instruments)
- Compliance burden for intermediaries operating across segments

Benefits of Codification

- **Legal certainty** and faster regulatory updates
- Better coordination under the apex regulator, **Securities and Exchange Board of India (SEBI)**
- Enhanced capacity to address **systemic risks** and market misconduct

Broader Implications

Economic Dimension

- Deeper, more efficient capital markets support **investment and growth**
- Improved confidence boosts **domestic and foreign participation**

Regulatory Dimension

- Facilitates **risk-based supervision** and timely enforcement
- Reduces scope for **regulatory arbitrage**

Global Integration

- Positions India closer to **international capital market standards**, aiding cross-border flows

Way Forward

- Ensure **transparent rule-making** under the Code
- Maintain **regulatory independence** with strong accountability
- Build capacity for **technology-driven supervision**
- Phase-wise transition to minimise disruption for market participants

Conclusion (Keywords Highlighted)

The **Securities Markets Code, 2025** marks a decisive step towards **unified, modern, and agile regulation** of India's capital markets. By consolidating legacy laws into a single code, it promises **clarity, efficiency, and resilience**, essential for safeguarding **investor interests** and sustaining **financial market-led growth** in a complex global environment.

Keywords: Capital markets reform, Regulatory consolidation, Investor protection, Financial governance

 **Mains Practice Question**

“The Securities Markets Code, 2025 seeks to simplify and strengthen India’s capital market regulation through legal consolidation.” Critically examine the rationale behind the Code and assess its potential impact on market efficiency, investor protection, and regulatory governance in India.

INTERNATIONAL RELATIONS

India and the Indian Ocean Blue Economy

 **Syllabus Mapping:**

✓ **GS Paper II – International Relations:** Indian Ocean Region (IOR), regional cooperation, maritime diplomacy

✓ **GS Paper III – Economy & Environment:** Blue Economy, climate change, resource management, internal security

Introduction (Contextual Overview)

India envisions the **Indian Ocean** as a **shared, open, and inclusive maritime commons**, rather than a zone of rivalry. Anchored in the principle “*From the Indian Ocean, for the World*”, India’s approach seeks to harmonise **economic growth**, **ecological sustainability**, and **collective security**. This vision gains urgency amid intensifying **climate stress**, **ecological degradation**, and **geopolitical competition** across the Indian Ocean Region (IOR).

Growing Challenges in the Indian Ocean Region

1 Climate Change and Ocean Health

- Rising **sea surface temperatures**, **ocean acidification**, and **sea-level rise**
- Increased frequency of **cyclones and storm surges**
- Severe impacts on **coastal communities** and **Small Island Developing States (SIDS)**

2 Ecological Degradation

- Spread of **Illegal, Unreported and Unregulated (IUU) fishing**
- Coral reef bleaching and loss of marine biodiversity
- Overexploitation of marine resources undermining long-term sustainability

3 Socio-Economic Instability

- Declining **coastal livelihoods** (fisheries, tourism)
- Heightened risks to **food security**
- Climate-induced displacement weakening **social cohesion**

India’s Blue Ocean Strategy: Core Pillars

A. Cooperative Maritime Governance

- Prioritising the Indian Ocean as a **shared security and ecological space**
- Emphasis on:
 - **Biodiversity conservation**
 - **Sustainable fisheries**
 - **Ecosystem restoration**
- Operationalised through the **MAHASAGAR doctrine**, reinforcing India’s commitment to **collective growth and security**, not competitive exploitation

B. Climate Resilience and Ocean Science

- Shift from reactive response to **preparedness and adaptation**
- Proposal for a **Regional Resilience and Ocean Innovation Hub**:
 - Strengthening **early warning systems**
 - Expanding **ocean observation networks**
 - Enhancing climate data-sharing across the IOR
- Aligns with IPCC’s emphasis on **regional cooperation for ocean-climate action**

C. Inclusive Blue Economy Growth

India advocates equitable access to emerging blue economy sectors:

- **Green shipping** and low-carbon maritime transport
- **Offshore renewable energy** (wind, tidal, wave)
- **Sustainable aquaculture**
- **Marine biotechnology**

➡ This approach prevents concentration of benefits among a few advanced economies and supports **developmental aspirations of littoral states**.

D. Leveraging Global Finance for Regional Priorities

- Harnessing momentum from platforms such as:
 - **Blue Economy and Finance Forum (BEFF) 2025**
 - **One Ocean Partnership** (aiming to mobilise \$20 billion for ocean action by 2030)
- Proposal for an **Indian Ocean Blue Fund**:
 - Channel global finance into **regional adaptation, conservation, and livelihood projects**
 - Ensure **local ownership and needs-based allocation**

Strategic Importance of the Indian Ocean for India

1 Economic Significance

- **95% of India's trade by volume** and **68% by value** transits through the Indian Ocean
- Nearly **80% of crude oil imports** depend on maritime routes
- Any disruption directly impacts **economic stability and energy security**

2 Resource Dependency

- India has an **Exclusive Economic Zone (EEZ)** of **2.02 million sq km**
- Coastline length: **~11,000 km**
- **Captured fisheries production** reached **44.95 lakh tonnes (2023–24)**
- Exclusive rights to explore the **Central Indian Ocean seabed** for minerals:
 - Manganese
 - Cobalt
 - Nickel
 - Copper

3 Security Linkages

- The Indian Ocean is central to **India's internal and external security**
- Non-traditional threats include:
 - Smuggling and piracy
 - Human trafficking
 - IUU fishing
 - Proliferation of **Weapons of Mass Destruction (WMDs)**
- The **2008 Mumbai terror attacks** highlight the maritime dimension of internal security challenges

Way Forward

- Institutionalise **cooperative ocean governance frameworks**
- Integrate **climate resilience** into maritime infrastructure planning
- Expand **capacity-building** for smaller IOR nations
- Balance **strategic interests with ecological responsibility**
- Transition from **blue growth** to **blue sustainability**

Conclusion (Keywords Highlighted)

India's leadership in the Indian Ocean Blue Economy reflects a shift from **power-centric maritime politics** to **people- and planet-centric ocean governance**. By promoting **cooperation over competition**, **sustainability over exploitation**, and **inclusion over exclusivity**, India positions itself as a **norm-shaper** in the evolving maritime order of the 21st century.

Keywords: *Blue Economy, Climate resilience, Cooperative security, Indian Ocean Region, Sustainable maritime governance*



Mains Practice Question

“India views the Indian Ocean as a shared and inclusive maritime space rather than a theatre of competition.” In this context, discuss India's emerging Blue Economy strategy and its significance for sustainable development and regional security in the Indian Ocean Region.

WTO and Global Trade Governance

✦ Syllabus Mapping:

- ✓ **GS Paper II – International Relations:** Multilateral institutions, global governance
- ✓ **GS Paper III – Indian Economy:** International trade, trade policy, WTO issues

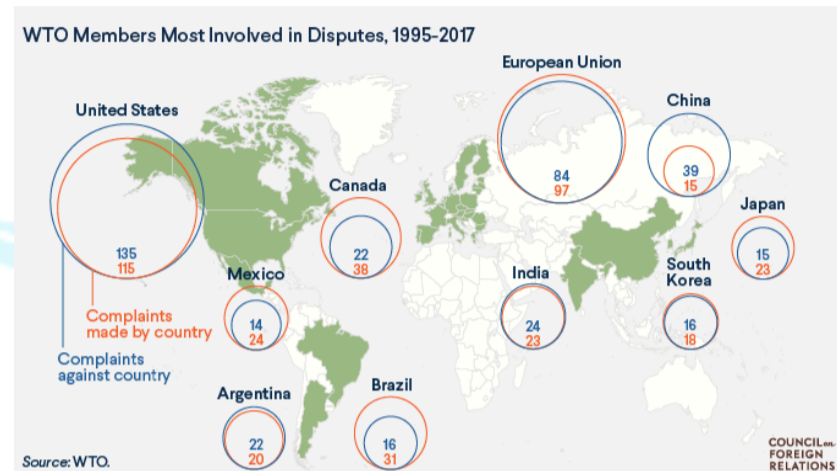
Introduction (Context & Significance)

The **United States** has publicly questioned whether the **World Trade Organization (WTO)** can continue as the **primary forum for resolving global trade disputes**. Arguing that the WTO has contributed to **structural imbalances** in global trade, the U.S. contends that its existing rules—particularly the principle of **Most-Favoured Nation (MFN)**—are ill-suited to address contemporary economic realities. This critique reflects deeper tensions within the multilateral trading system amid **geopolitical rivalry, protectionism, and evolving trade agendas**.

U.S. Critique of the WTO Framework

1 Challenge to the MFN Principle

- MFN requires members to apply **uniform tariff rates** to all trading partners for a given product.
- The U.S. argues MFN:
 - Limits countries' ability to **optimise bilateral trade relationships**
 - Fails to account for **asymmetric market practices** and strategic behaviour
- This marks a shift away from **non-discrimination** toward **conditional and strategic trade arrangements**.



Structural Challenges Confronting the WTO

1 Regulatory Lag in a Changing Trade Landscape

- WTO rules were crafted for **20th-century trade** and struggle with:
 - **Economic security** concerns
 - **Supply chain resilience**
 - **Digital trade governance**
 - Climate-linked trade tools like the **Carbon Border Adjustment Mechanism (CBAM)**

➡ These gaps have encouraged unilateral or regional responses outside the WTO.

2 Growing Global Trade Imbalances

- **Non-market policies** and heavy state intervention have led to: **Over-capacity** and **production concentration** in select economies, notably **China**
- Resultant dependencies create **systemic vulnerabilities** for importing countries and fuel trade frictions.

3 Dispute Settlement Crisis

- The WTO's **Appellate Body** remains **non-functional** due to the U.S. blocking appointments.
- Consequences:
 - Absence of a binding appellate mechanism
 - Erosion of **rule-based dispute resolution**
 - Increased reliance on **unilateral retaliation**

4 Geopolitical Fragmentation of Trade

- Rise of **economic nationalism** and **trade wars**—particularly U.S.–China tensions—
 - Has expanded protectionist measures
 - Encouraged bypassing WTO disciplines
- Trade is increasingly linked to **strategic and security considerations**.

5 Consensus Deadlock

- WTO's requirement of **unanimous agreement** has stalled reforms.
- The **Doha Development Round** has remained unresolved for decades.
- Members have pivoted to **plurilateral agreements** among subsets of countries, diluting multilateralism.

Implications for the Global Trading System

For Multilateralism

- Risk of **fragmentation into competing trade blocs**
- Weakening of **predictability and legal certainty**

For Developing Countries

- Reduced negotiating leverage
- Marginalisation from rule-making in plurilateral forums

For India

- WTO remains crucial to:
 - Defend **special and differential treatment**
 - Challenge trade-restrictive measures (e.g., CBAM)
- Yet reforms are essential to address **digital trade, subsidies, and dispute resolution**.

Way Forward: Reforming the WTO

- **Restore the Dispute Settlement System**, including a functional Appellate Body
- Update rules to cover:
 - Digital trade
 - Climate-linked measures
 - Supply-chain resilience
- Introduce **flexible decision-making** while preserving inclusivity
- Balance **economic security concerns** with **non-discrimination principles**

Conclusion (Keywords Highlighted)

The U.S. challenge to the WTO underscores a broader crisis of **multilateral trade governance**. While the WTO faces undeniable **institutional and regulatory deficits**, sidelining it risks accelerating **global trade fragmentation**. Meaningful reform—rather than abandonment—is essential to preserve a **rules-based, predictable, and inclusive trading system** in an era of geopolitical and economic transition.

Keywords: *WTO reform, MFN principle, Trade fragmentation, Dispute settlement, Global governance*



Mains Practice Question

“Critically examine the challenges confronting the World Trade Organization in the context of the United States questioning its role as the primary forum for global trade dispute resolution. Suggest reforms required to restore the WTO’s relevance in contemporary global trade.”

Indian Diaspora Overseas

📌 Syllabus Mapping:

- ✅ **GS Paper II – International Relations:** Indian diaspora, foreign policy, consular services
- ✅ **GS Paper II – Governance:** Parliamentary committees, executive accountability

Introduction (Context & Relevance)

The **Action Taken Report (ATR)** on the **Sixth Report of the Parliamentary Committee on External Affairs** titled “*Indian Diaspora Overseas*” was released in December 2025. The ATR evaluates the **government’s response to the Committee’s recommendations** concerning the **welfare, protection, and engagement of the Indian diaspora**, reflecting Parliament’s role in ensuring **accountability in diaspora-related foreign policy and governance**.

Indian Diaspora: Profile and Significance

Who Constitutes the Indian Diaspora?

The **Indian Diaspora** refers to people who have migrated from present-day India and their descendants. It includes:

- **Non-Resident Indians (NRIs)**
- **Persons of Indian Origin (PIOs)**
- **Overseas Citizens of India (OCIs)**
- **Migrant workers**

As of **January 2024**, the Indian diaspora numbered **approximately 35.42 million**, making it the **largest diaspora population globally**.



Key Issues Highlighted in the Committee's Report

The Committee examined the **conditions and vulnerabilities** faced by different segments of the diaspora:

1 Migrant Workers

- Exploitation by recruitment agents
- Unsafe working and living conditions
- Contract substitution and wage theft
- Limited access to grievance redressal abroad

2 NRIs and OCIs

- Consular delays and documentation challenges
- Property and inheritance disputes in India
- Legal vulnerabilities in host countries

3 Crisis Situations

- Evacuation during conflicts, pandemics, and disasters
- Need for proactive consular preparedness

Action Taken Report: Key Themes

A. Welfare and Protection Measures

- Strengthening of **consular services** through Indian missions
- Enhanced use of **digital grievance redressal platforms**
- Improved registration and tracking of migrant workers

B. Labour and Migration Governance

- Bilateral agreements with destination countries
- Regulation of recruitment agencies
- Skill mapping to align Indian workers with overseas labour demand

C. Diaspora Engagement

- Leveraging diaspora for:
 - **Economic investment**
 - **Technology transfer**
 - **Cultural diplomacy**
- Institutional platforms for regular dialogue

Analytical Dimensions

Foreign Policy Perspective

- Diaspora acts as a **soft power asset**
- Influences host-country policies through remittances, lobbying, and cultural outreach
- Strengthens India's image as a **responsible state** caring for its overseas citizens

Economic Perspective

- Diaspora contributes significantly through:
 - **Remittances**
 - Trade facilitation
 - Entrepreneurship and innovation networks

Governance Perspective

- ATR reflects **parliamentary scrutiny** over executive action
- Highlights the need for **whole-of-government coordination** involving MEA, Labour Ministry, and State governments

Way Forward

- Strengthen **legal aid and social security portability** for migrant workers
- Expand **bilateral labour agreements** with enforceable safeguards

- Improve **real-time crisis response mechanisms**
- Institutionalise diaspora feedback in policy formulation
- Enhance **data-driven diaspora management**

Conclusion (Keywords Highlighted)

The Action Taken Report on *Indian Diaspora Overseas* underscores that diaspora welfare is not merely a consular responsibility but a **strategic foreign policy and governance priority**. Ensuring **protection, dignity, and engagement** of overseas Indians enhances India's **global standing, economic interests, and constitutional commitment to citizen welfare**, irrespective of geography.

Keywords: *Indian diaspora, Migrant workers, Consular services, Soft power, Parliamentary accountability*



Mains Practice Question

“The welfare of the Indian diaspora has emerged as an integral component of India’s foreign policy.” In light of the Parliamentary Committee on External Affairs’ report and its Action Taken Report, examine the challenges faced by the Indian diaspora overseas and evaluate the measures required to strengthen India’s diaspora governance framework.”

India–Bangladesh Relations at a Crossroads: Strategic Reset Ahead

Syllabus Mapping:

- ✓ **GS Paper II – International Relations:** Neighbourhood policy, bilateral relations
- ✓ **GS Paper II – Governance:** Border management, diplomacy
- ✓ **GS Paper III – Security & Environment:** Internal security, climate change, water sharing

Introduction (Context & Relevance)

The Committee on External Affairs has presented its report titled “**Future of India–Bangladesh Relationship**” in the **Lok Sabha**, at a time when bilateral ties face **strategic uncertainty and evolving regional dynamics**. The report assumes importance against the backdrop of **political instability in Bangladesh since August 2024**, intensifying **security concerns**, and **unresolved structural issues** in trade, water-sharing, and regional geopolitics.

Key Challenges Highlighted in the Report

1 Strategic Realignment in Bangladesh

- The **collapse of the government in August 2024** has generated political uncertainty in Dhaka.
- Raises apprehensions of a **potential strategic drift away from India**, impacting long-standing cooperation.

➡ Undermines the stability achieved through India’s **Neighbourhood First Policy**.

2 Security Threats Along the Border

- India–Bangladesh border stretches **4,096 km**, of which **~864 km remain unfenced**.
- Terrain challenges:
 - Riverine belts
 - Hills and forests
- Security concerns include:
 - **Illegal migration**
 - **Cross-border terrorism**
 - Smuggling and trafficking

3 Economic Barriers and Trade Imbalances

- Bilateral trade stood at **USD 13.46 billion (2024–25)**, heavily **skewed in India’s favour**.
- Structural bottlenecks:
 - Congested land ports
 - Inadequate logistics infrastructure
- Abuse of **preferential trade provisions** through third-country goods (e.g., Chinese fabrics routed via Bangladesh).

4 Water Sharing and Environmental Stress

- **Ganga Water Treaty** expires in **December 2026**, with **no formal renewal talks initiated**.
- Agreements on **53 shared rivers**, including **Teesta**, remain unresolved.
- **Sundarbans** faces:
 - Sea-level rise
 - Salinity ingress



- Cyclone intensification due to climate change

5 External Geopolitical Pressures

- Expanding Chinese footprint in Bangladesh:
 - **Mongla Port** upgradation
 - Submarine base at **Pekua**
- Strategic implications for India's **Siliguri Corridor**.
- Report also flags **attacks on religious minorities in Bangladesh**, affecting people-to-people trust.

Strategic Recommendations for the Future

A. Sustained Diplomatic Engagement

- Intensify **Track II and Track 1.5 diplomacy**.
- Encourage **free, fair, and inclusive elections** in Bangladesh.
- Maintain engagement irrespective of political transitions.

B. Modernising Border Management

- Complete border fencing using **smart technologies**:
 - Drones
 - Motion sensors
 - Laser intrusion detection
- Enhance coordination between **border guarding forces**.

C. Economic Safeguards and Deeper Integration

- Accelerate negotiations for a **Comprehensive Economic Partnership Agreement (CEPA)**.
- Introduce **strict rules-of-origin verification** to curb third-country misuse.
- Upgrade **land ports and multimodal connectivity**.

D. Proactive Water and Climate Diplomacy

- Initiate renewal talks for the **Ganga Water Treaty**, factoring in:
 - Updated hydrological data
 - Climate variability
- Joint **adaptation and conservation measures** for the Sundarbans.
- Revive dialogue on **Teesta and other shared rivers**.

E. Regional and Soft Power Measures

- Leverage **BIMSTEC** as a functional alternative to SAARC.
- Establish a **Strategic Communication and Perception Management Unit** within the MEA.
- Restore **normal visa operations** to strengthen people-to-people ties.

Analytical Dimensions

Foreign Policy Perspective

- Bangladesh remains central to India's **Act East** and **Neighbourhood First** strategies.
- Stability in Bangladesh directly affects India's **eastern security architecture**.

Security Perspective

- Border management is integral to **internal security**.
- External power penetration heightens strategic vulnerability.

Environmental Perspective

- Shared river basins necessitate **cooperative ecological governance**.
- Climate change adds urgency to water diplomacy.

Conclusion (Keywords Highlighted)

The Committee's report underscores that **India–Bangladesh relations are at a critical inflection point**. Navigating political uncertainty, security challenges, economic asymmetries, and climate vulnerabilities requires **patient diplomacy, strategic foresight, and cooperative regionalism**. A calibrated blend of **hard security measures and soft power engagement** will be essential to safeguard India's interests while ensuring a **stable, mutually beneficial neighbourhood**.

Keywords: *Neighbourhood First, Border security, Water diplomacy, CEPA, Strategic autonomy*



Mains Practice Question

“India–Bangladesh relations are facing renewed challenges amid political transitions, security concerns, and environmental stresses.” Examine the key issues highlighted by the Parliamentary Committee on External Affairs and suggest a strategic roadmap for strengthening India–Bangladesh relations in the evolving regional context.

Biosecurity and National Security

Syllabus Mapping:

- ✓ **GS Paper III – Internal Security:** Emerging security threats, WMDs, disaster management
- ✓ **GS Paper II – Governance & International Relations:** Global treaties, institutional coordination
- ✓ **GS Paper III – Science & Technology:** Biotechnology, dual-use technologies

Introduction (Contextual Background)

Biosecurity encompasses the **policies, practices, and systems** designed to prevent the **intentional misuse, accidental release, or cross-border spread of biological agents, toxins, and sensitive biotechnologies**. In an era marked by **pandemics, biotechnology proliferation, and non-traditional security threats**, India’s biosecurity preparedness has emerged as a **strategic necessity**—integral to national security, public health resilience, and food security.

Why Biosecurity Is Critical for India

1 Agriculture and Food Security Vulnerability

- India’s economy and livelihoods remain heavily dependent on **agriculture and livestock**.
- This creates exposure to:
 - **Agro-terrorism**
 - **Bio-sabotage** targeting crops or animal populations
- Even limited biological disruptions can have **cascading impacts on food prices, farmer incomes, and nutrition security**.

2 Geographical and Border-Related Risks

- **Porous land borders** and an extensive **maritime coastline** increase the risk of:
 - Cross-border transmission of **pathogens**
 - Entry of **invasive alien species**
- Heightened trade and mobility further compound biosecurity challenges at **ports, airports, and land checkpoints**.

3 Non-State Actor and Asymmetric Threats

- Easy availability of **low-cost biological toxins** (e.g., ricin) raises concerns of **asymmetric biological warfare**.
- Non-state actors can exploit:
 - Limited detection capabilities
 - Delayed attribution mechanisms
- Such threats blur the line between **crime, terrorism, and warfare**.

4 Biotechnology Proliferation and Dual-Use Risks

- Advances in **synthetic biology, gene editing, and lab-scale biotechnology** lower entry barriers.
- The **dual-use dilemma**—where legitimate research can be misused—poses:
 - Risks of **intentional misuse**
 - Possibility of **accidental laboratory leaks**
- Calls for **ethics-based oversight and real-time regulation**.

5 Public Health System Stress

- Biosecurity breaches can rapidly **overwhelm healthcare systems**.



Lab Safety Rules

Science labs offer great opportunities for learning, teaching, and research. They also pose hazards that require proper safety precautions.



Stay safe when conducting your labs by maintaining social distancing.



Dress appropriately

Tie back long hair, and wear suitable gloves, goggles, and other personal protective equipment. Avoid touching your eyes, nose, and mouth.

Proper supervision

Don't perform lab experiments without instructor supervision unless given permission to do so.



Know location of emergency numbers & safety equipment

Know the location of safety equipment and emergency phone numbers (such as poison control) so you can access them quickly if necessary.



No food

Don't eat or drink in the lab, and never taste chemicals.



ID hazards

Identify hazardous materials before beginning labs.

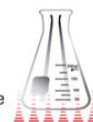


Be attentive

Be attentive while in the lab. Don't leave lit Bunsen burners unattended or leave an experiment in progress.

Be careful when handling hot glassware

Turn off all heating appliances when not in use. Keep flammable objects away from your work space.



Keep a clean work space

Don't obstruct work areas, floors, or exits. Keep coats, bags, and other personal items stored in designated areas away from the lab. Don't block sink drains with debris.



Handle glassware carefully

Properly dispose of anything that breaks. Report cuts, spills, and broken glass to your instructor immediately.



Clean up

After completing the lab, carefully clean your work space and the equipment, and wash your hands with soap and warm water for at least 20 seconds.

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Sources: Carolina Biological Supply Company. "Lab Safety Dos and Don'ts for Students."
https://www.carolina.com/teacher-resources/Interactive/lab-safety-instructions/tr35303.tr.



- **Zoonotic spill-over events** underline the linkage between:
 - Human health
 - Animal health
 - Environmental health (*One Health approach*)
- The COVID-19 experience demonstrated how biological threats can **paralyse economies and governance**.

Way Forward: Strengthening India's Biosecurity Architecture

A. Legislative and Regulatory Reforms

- India requires a **dedicated Biosecurity Law** addressing:
 - Emerging biological threats
 - Dual-use research oversight
 - Accountability across the research–industry–defence spectrum
- Global best practices:
 - **United States National Biodefense Strategy**
 - **Australia Biosecurity Act**
- These models integrate **health, defence, agriculture, and biotechnology governance**.

B. Creation of a Nodal Biosecurity Agency

- Establish a **centralised nodal authority** to:
 - Coordinate across **health, agriculture, environment, and defence ministries**
 - Ensure real-time information sharing and rapid response
- Addresses current **inter-agency silos**.

C. Research and Development Focus

- Invest in **defence-oriented biosciences**, including:
 - Advanced virology
 - Rapid vaccine platforms
 - Bio-threat detection and mitigation
- Promote **secure research ecosystems** with strong biosafety protocols.

D. Adoption of New-Age Biodefence Technologies

- **Microbial forensics** for source attribution
- **Genomic surveillance** for early threat detection
- **Digital and social media surveillance** to identify misinformation and panic during bio-events

Existing Initiatives and Frameworks

Global Frameworks

- **Biological Weapons Convention (1975):**
 - Prohibits development, production, and stockpiling of biological weapons
 - Lacks a strong verification mechanism, placing greater onus on national implementation
- **Australia Group:**
 - Coordinates export controls to prevent proliferation of chemical and biological weapons

Indian Legal and Institutional Measures

- **Environment (Protection) Act, 1986** – Regulation of hazardous microorganisms and GMOs
- **Weapons of Mass Destruction and their Delivery Systems Act, 2005** – Criminalises biological weapons
- **Biosafety Rules, 1989** – Governance of genetically engineered organisms
- **National Disaster Management Authority Guidelines** on biological disasters

➡ While comprehensive, these instruments remain **fragmented and reactive**, necessitating integration.

Broader Analytical Dimensions

- **Security Perspective:** Biosecurity is a **non-traditional security threat** with strategic implications akin to cyber warfare.
- **Governance Perspective:** Requires **anticipatory regulation**, not post-crisis response.
- **Ethical Perspective:** Balancing **scientific freedom with societal safety** is essential to prevent misuse.

Conclusion (Keywords Highlighted)

Biosecurity is no longer a niche scientific concern but a **core national security and governance challenge**. For India, strengthening biosecurity demands **integrated legislation, institutional coordination, scientific preparedness, and international cooperation**. A **proactive, One Health-oriented biosecurity framework** will be critical to safeguarding **public health, food systems, and national resilience** in the 21st century.

Keywords: *Biosecurity, Dual-use dilemma, One Health, Biodefence, National resilience*



Mains Practice Question

“Biosecurity has emerged as a critical component of national security in the 21st century.” Discuss the major biosecurity challenges faced by India and evaluate the measures required to strengthen its biosecurity framework in the context of emerging biological threats.

ECONOMY

Employment, Skilling and MSMEs

Syllabus Mapping:

- ✓ **GS Paper III – Indian Economy:** Growth, employment, inclusive development
- ✓ **GS Paper II – Governance:** Government policies, skill development, labour reforms
- ✓ **GS Paper I – Society:** Demographic dividend, workforce transition

Introduction (Context & Relevance)

The report “**India’s Employment Prospects: Pathways to Jobs**” released by National Council of Applied Economic Research (December 2025) provides a **data-driven diagnosis** of India’s employment structure. It highlights that while employment numbers have increased, the **quality, sustainability, and productivity of jobs remain major concerns**, particularly in the context of India’s **demographic dividend**.

Core Findings of the Report

1 Nature of Employment Growth

- The recent rise in employment is **largely driven by self-employment**, not wage employment.
- This self-employment is **necessity-based**, not opportunity-driven entrepreneurship.
- Most small enterprises operate at **subsistence levels**, characterised by:
 - **Low capital intensity**
 - **Poor productivity**
 - **Limited technology adoption**

➡ This reflects what economist **Arthur Lewis** described as the “*disguised employment*” phase in dual economies.

2 Skill Composition of the Workforce

- Transition towards a **skilled labour force has been slow**, despite multiple policy interventions.
- **Medium-skilled jobs**, especially in the **services sector**, account for most employment growth.
- **Manufacturing remains predominantly low-skill intensive**, limiting its role as a mass employment generator—contrary to the East Asian development experience.

3 Structural Weaknesses in Vocational Education and Training (VET)

India’s **VET ecosystem** continues to suffer from deep-rooted challenges:


- **Under-utilised training capacity** (vacant seats)
- **Low placement outcomes**
- **Vacancies in instructor positions**
- **Weak industry linkage**
- Persistent **social stigma**, treating vocational education as a *fallback option*

➡ This undermines the objectives of initiatives such as **Skill India Mission** and **PM Kaushal Vikas Yojana**.

Policy Recommendations for Meaningful Job Creation

A. Demand-Side Interventions


The report stresses that employment generation cannot occur without **robust demand conditions**:

- **Boost domestic consumption** to stimulate labour demand
- **Reorient Production Linked Incentive (PLI) schemes** towards **labour-intensive sectors**:
 - Textiles
 - Footwear
 - Leather
 - Food processing
- **Improve access to institutional credit**, especially for MSMEs
 -  *A 1% increase in access to credit can raise the expected number of hired workers by 45%*
- **Simplify labour regulations** to reduce compliance burden while ensuring worker protection

B. Supply-Side Reforms

To improve employability and productivity:

- **Integrate vocational education into early schooling**, reducing academic–vocational divide
- **Align curricula with industry needs**, reflecting technological change
- **Strengthen public–private partnerships (PPP)** in skilling
- **Increase public investment in skilling**, to match global benchmarks

 *Raising the share of the skilled workforce by 12 percentage points through formal skilling could increase employment in labour-intensive sectors by over 13% by 2030.*

Broader Analytical Dimensions

Economic Perspective

- Reinforces the need to move from **informality-driven employment** to **productivity-led growth**
- Aligns with the **World Bank's emphasis on "good jobs"** over mere job numbers

Social Perspective

- Poor-quality self-employment increases **working poverty**
- Weak skilling limits **social mobility**, especially for rural youth and women

Governance Perspective

- Highlights coordination gaps between **education policy, industrial policy, and labour reforms**
- Calls for outcome-based monitoring of skilling schemes

Way Forward

- Shift policy focus from **job quantity to job quality**
- Make **manufacturing genuinely labour-absorbing**
- Treat **skill development as a long-term investment**, not a welfare measure
- Strengthen **MSMEs as employment multipliers**, not survival units

Conclusion (Keywords Highlighted)

India's employment challenge is not merely about creating jobs but about generating **productive, skilled, and sustainable employment**. Strengthening **vocational education**, revitalising **labour-intensive manufacturing**, and enabling **small enterprises through credit and demand support** are critical to converting India's **demographic dividend** into an **economic dividend**.

Keywords: *Skilling, Labour-intensive growth, MSMEs, Vocational education, Employment quality*



Mains Practice Question

“Despite an increase in employment numbers, India continues to face a crisis of job quality. In this context, examine the role of skilling and small enterprises in generating meaningful employment in India.”

IBC Reform, 2025

✦ Syllabus Mapping:

- ✓ **GS Paper III – Indian Economy:** Corporate sector reforms, insolvency resolution, banking & finance
- ✓ **GS Paper II – Polity & Governance:** Parliamentary committees, tribunals, regulatory capacity

Introduction (Context & Rationale)

The **Parliamentary Select Committee** has submitted its report on the **Insolvency and Bankruptcy Code (Amendment) Bill, 2025**, acknowledging that while the IBC transformed India's credit culture, **implementation bottlenecks** persist. These include **delays at admission**, uncertainty around **finality of resolution plans**, **erosion of asset value**, and the **absence of modern frameworks** for **group and cross-border insolvency**—all of which weaken creditor confidence and recovery outcomes.

Why Reform Is Needed: Core Implementation Gaps

- **Protracted admissions** dilute time-bound resolution.
- **Litigation post-approval** undermines certainty for successful bidders.
- **Value destruction** due to delay reduces recoveries.
- **Complex corporate groups** lack coordinated resolution tools.
- **Cross-border cases** face legal vacuum where assets/creditors span jurisdictions.

Key Features of the IBC (Amendment) Bill, 2025

1 Creditor Initiated Insolvency Resolution Process (CIIRP)

- Introduces a **creditor-driven, out-of-court initiation** pathway.
- Targeted at **genuine business failures** to reduce friction and speed up entry.
- Expected to **decongest tribunals** and preserve enterprise value.

2 Group Insolvency Framework

- Enables **coordinated resolution** for interconnected corporate groups.
- Addresses **inter-company guarantees, shared assets, and cash flows**.
- Aligns India with **global best practices** (EU/UK approaches).

3 Cross-Border Insolvency Framework

- Provides legal tools where **debtors/assets span multiple countries**.
- Facilitates **recognition, cooperation, and coordination** with foreign courts.
- Critical for multinational operations and foreign investment confidence.

Select Committee's Key Recommendations

A. Codify the Clean Slate Principle

- **Statutory extinguishment of all prior claims** upon plan approval.
- Protects the **successful resolution applicant** from legacy liabilities.
- Enhances **finality and bid confidence**, boosting recoveries.

B. Prevent Conflict of Interest

- The **Resolution Professional (RP)** who conducted CIRP should be **ineligible as Liquidator** if resolution fails.
- Ensures **procedural neutrality** and public trust.

C. Time-Bound Appellate Disposal

- Prescribe a **3-month statutory timeline** for appeals before **National Company Law Appellate Tribunal (NCLAT)**.
- Addresses appellate delays that negate IBC timelines.

D. Clarify "Corporate Debtor" for Cross-Border Reach

- Include **foreign entities with limited liability** connected to India.
- Ensures cross-border provisions apply where **assets, creditors, or operations** touch India.

Institutional & Governance Dimensions

Economic Impact

- Faster resolution → **higher recovery rates** → **lower cost of capital**.
- Improves **bank balance sheets** and credit flow to MSMEs/corporates.

Governance & Rule of Law

- Clean slate codification reduces **post-resolution litigation**.
- Conflict-free roles enhance **procedural fairness**.

Global Integration

- Cross-border tools align India with **UNCITRAL-style cooperation norms**, aiding FDI.

Concerns & Safeguards

- CIIRP must avoid **coercive creditor behaviour**—robust checks needed.
- Group insolvency requires **capacity building** for tribunals and professionals.
- Cross-border cooperation hinges on **reciprocity and treaties**.

Way Forward

- Notify **clear regulations** for CIIRP safeguards and thresholds.
- Build **specialised benches and training** for group/cross-border cases.
- Digitise case management to enforce **strict timelines**.
- Periodic review of outcomes to refine the framework.

Conclusion (Keywords Highlighted)

The Select Committee's recommendations seek to restore the IBC's founding promise of **speed, certainty, and value maximisation**. By enabling **out-of-court initiation**, codifying the **clean slate**, tightening **appellate timelines**, and operationalising **group and cross-border insolvency**, the 2025 amendments can significantly strengthen **credit discipline, investor confidence, and economic efficiency**—provided implementation capacity keeps pace.

Keywords: IBC reform, Clean slate principle, Group insolvency, Cross-border insolvency, Time-bound resolution



Mains Practice Question

“The Parliamentary Select Committee's recommendations on the Insolvency and Bankruptcy Code (Amendment) Bill, 2025 aim to restore speed and certainty to India's insolvency regime.” Critically examine the proposed reforms, with special reference to CIIRP, the clean slate principle, and cross-border insolvency.

Risk-Based Deposit Insurance

📌 Syllabus Mapping:

- ✓ **GS Paper III – Indian Economy:** Banking sector reforms, financial stability
- ✓ **GS Paper II – Governance:** Regulatory institutions, risk management

Introduction (Context & Relevance)

The **Reserve Bank of India (RBI)** has approved the transition to a **Risk-Based Deposit Insurance Premium Framework**, marking a significant reform in India's banking safety net. This framework replaces the long-standing **flat-rate premium of 12 paise per ₹100 of deposits**, aligning deposit insurance with **bank-specific risk profiles**. The reform aims to strengthen depositor confidence while promoting **prudence and discipline within the banking system**.

What Is Risk-Based Deposit Insurance?

Under a **risk-based deposit insurance framework**:

- **Insurance premiums vary with a bank's risk profile**
- **Well-capitalised, well-managed banks pay lower premiums**
- **Riskier banks with weaker financial metrics pay higher premiums**

➡ This contrasts with a flat-rate system where all banks pay the same premium regardless of risk.

Objectives of the New Framework

1 Incentivising Prudent Banking

- Rewards **sound risk management** and strong governance
- Encourages banks to maintain:
 - Adequate capital
 - Asset quality
 - Robust internal controls

2 Reducing Moral Hazard

- Discourages excessive risk-taking by increasing costs for risky behaviour
- Prevents banks from relying on deposit insurance as a safety cushion for imprudence

3 Enhancing Financial Stability

- Aligns insurance pricing with systemic risk
- Contributes to **early corrective discipline** in weaker banks

Deposit Insurance Framework in India: An Overview

Institutional Mechanism

- Deposit insurance is administered by the **Deposit Insurance and Credit Guarantee Corporation (DICGC)**
- DICGC operates under the **Deposit Insurance and Credit Guarantee Corporation Act, 1961**
- It is a **wholly owned subsidiary of the RBI**

Coverage and Key Features

- **Maximum insurance cover: ₹5 lakh per depositor per bank**
- **Premium payment:** Paid by **banks**, not depositors
- **Types of deposits insured:**
 - Savings
 - Fixed
 - Current
 - Recurring deposits
- **Institutions covered:**
 - All commercial banks (including foreign bank branches in India)
 - Regional Rural Banks (RRBs)
 - Local Area Banks
 - State, Central, and Primary Cooperative Banks
- **Exclusions:**
 - Deposits of Central and State Governments
 - Deposits of foreign governments
 - Primary cooperative societies

Why the Shift Was Necessary

Limitations of the Flat-Rate System

- Did not distinguish between **strong and weak banks**
- Imposed **uniform costs**, creating:
 - Cross-subsidisation
 - Weaker incentives for risk discipline

Global Best Practices

- Risk-based premiums are standard in:
 - The United States (FDIC)
 - Several European jurisdictions
- India's move aligns with **international financial stability norms**

Broader Analytical Dimensions

Economic Perspective

- Encourages **efficient allocation of capital**

- Reduces probability and cost of bank failures
- Strengthens trust in the formal banking system

Regulatory Perspective

- Complements RBI's **Prompt Corrective Action (PCA)** framework
- Enhances **risk-sensitive supervision**

Depositor Protection Perspective

- Maintains depositor confidence without raising depositor costs
- Reinforces the credibility of the **₹5 lakh insurance guarantee**

Potential Challenges

- Accurate and transparent **risk assessment metrics** needed
- Smaller or cooperative banks may face higher costs if governance is weak
- Requires strong **data quality and supervisory capacity**

Way Forward

- Ensure **transparent criteria** for risk categorisation
- Gradual implementation to avoid stress on vulnerable banks
- Capacity building in cooperative and regional banks
- Periodic review of premium bands and coverage adequacy

Conclusion (Keywords Highlighted)

The RBI's approval of **Risk-Based Deposit Insurance** marks a transition from **uniform protection to differentiated accountability** in India's banking sector. By linking premiums to risk, the reform strengthens **financial stability**, reduces **moral hazard**, and rewards **prudent banking practices**, while continuing to safeguard depositor interests. It represents a mature evolution of India's **banking safety architecture**.

Keywords: *Deposit insurance, Risk-based premium, Financial stability, Moral hazard, Depositor protection*



Mains Practice Question

“The introduction of a risk-based deposit insurance premium framework marks a shift towards risk-sensitive banking regulation in India.” Examine

SOCIETY AND SOCIAL ISSUES

Women in Unorganised Sector

📌 Syllabus Mapping:

- ✓ **GS Paper I – Society:** Women, labour, vulnerable sections
- ✓ **GS Paper II – Governance & Social Justice:** Welfare schemes, institutional mechanisms
- ✓ **GS Paper IV – Ethics:** Dignity of labour, social justice, equity

Introduction (Context & Significance)

The **Parliamentary Committee on Empowerment of Women** has released its report titled “**Safety and Protection of Women in the Unorganised Sector**”, highlighting the **systemic vulnerabilities faced by women workers** engaged in informal employment. The findings assume critical importance as **over 90% of India's workforce operates in the unorganised sector**, with women disproportionately represented in **low-paid, insecure, and unregulated occupations**.

Women in the Unorganised Sector: The Ground Reality

Major Sectors Employing Women

- **Building and construction**
- **Beedi and home-based work**
- **Domestic work**
- **Gig and platform-based services**
- **Agriculture and allied activities**

These sectors are marked by:

- Informality of employment
- Absence of written contracts
- Weak regulatory oversight

Key Safety and Protection Concerns Highlighted

1 Workplace Safety Deficits

- Exposure to **unsafe working conditions**
- Lack of protective equipment at construction and industrial sites
- High incidence of **workplace injuries** and occupational diseases

2 Vulnerability to Harassment and Exploitation

- **Sexual harassment**, especially for domestic and gig workers
- Limited awareness and access to **complaint redressal mechanisms**
- Power asymmetry between employer and worker

3 Absence of Social Security

- Poor coverage under:
 - Health insurance
 - Maternity benefits
 - Old-age and disability protection
- Irregular wages and delayed payments

4 Legal and Institutional Gaps

- Inadequate enforcement of labour laws
- Fragmented registration and identification of women workers
- Limited portability of benefits for migrant women



Analytical Dimensions

Social Justice Perspective

- Violates principles of **gender equality and dignity of labour**
- Reinforces **feminisation of poverty**

Constitutional Perspective

- Undermines:
 - **Article 14** (Equality before law)
 - **Article 15** (Non-discrimination)
 - **Article 21** (Right to life with dignity)
- Contravenes **Directive Principles** relating to humane working conditions

Economic Perspective

- Unsafe and insecure work reduces:
 - Labour productivity
 - Workforce participation
- Hampers India's demographic dividend

Existing Legal and Policy Framework (Brief Context)

- **Unorganised Workers' Social Security Act, 2008**
- **Code on Social Security, 2020** (yet to be fully operationalised)
- **Sexual Harassment of Women at Workplace Act, 2013 (PoSH)** – limited reach in informal settings
- Welfare schemes for construction workers, domestic workers, and gig workers (uneven implementation)

Way Forward: Key Policy Imperatives

- **Universal registration** of women unorganised workers on digital platforms
- Extend **PoSH Act mechanisms** to informal and gig workplaces
- Strengthen **labour inspection and enforcement capacity**

- Ensure **portable and contributory social security**
- Promote **worker collectives and self-help groups**
- Targeted awareness campaigns on **rights and entitlements**

Conclusion (Keywords Highlighted)

Ensuring the **safety and protection of women in the unorganised sector** is central to achieving **inclusive growth, gender justice, and constitutional morality**. The Parliamentary Committee's report underscores that welfare measures must move beyond symbolism towards **effective enforcement, institutional accountability, and worker empowerment**, particularly for women at the margins of the labour market.

Keywords: *Unorganised sector, Women workers, Workplace safety, Social security, Gender justice*



Mains Practice Question

“Women workers in the unorganised sector face multidimensional vulnerabilities that go beyond economic insecurity.” In light of the Parliamentary Committee on Empowerment of Women's report, examine the challenges related to safety and protection of women in the unorganised sector and suggest measures to address them.

ETHICS

Anti-Doping and Sports Ethics

📌 Syllabus Mapping:

- ✓ **GS Paper I – Society:** Sports, ethics, youth issues
- ✓ **GS Paper II – Governance:** Statutory bodies, public policy implementation
- ✓ **GS Paper IV – Ethics:** Integrity, fairness, ethical conduct in public life

Introduction (Context & Significance)

India has reported the **highest number of Anti-Doping Rule Violations (ADRVs)** for the **third consecutive year**, as per the **2024 Testing Figures Report** released by the **World Anti-Doping Agency (WADA)**. The data highlights a **systemic challenge in India's sporting ecosystem**, raising concerns over **athlete awareness, governance effectiveness, and ethical standards** in competitive sports.

Key Findings from WADA's 2024 Report

- **260 Indian athletes** tested positive in **2024**
- **7,113 samples** analysed by the **National Anti-Doping Agency (NADA)**
- **Positivity rate: 3.6%**, among the highest globally
- **In-competition testing concern:**
 - Nearly **1 in 5 Indian athletes** tested during competitions returned **positive results**

➡ Indicates not merely inadvertent consumption but **possible deliberate misuse and weak deterrence**.

Understanding Doping

Definition: Doping refers to the **use of prohibited substances or methods** by athletes to enhance performance, as defined under the **World Anti-Doping Code**.

Common Forms of Doping Substances and Methods

1 Androgenic Agents

- **Anabolic steroids**
- Enhance **muscle mass and strength**

2 Stimulants

- Increase **alertness, heart rate, and endurance**

3 Diuretics and Masking Agents

- Dilute urine or **mask the presence of banned substances**



4 Peptide Hormones

- Examples: **Erythropoietin (EPO)**
- Increase **red blood cell count** and **endurance**

5 Glucocorticoids

- Misused to **suppress pain** and **mask injuries**

6 Beta Blockers

- Reduce **heart rate** and **hand tremors**
- Commonly misused in **precision sports**

Why Is Doping Prevalent in India? (Analytical Perspective)

Structural Factors

- Limited access to **qualified sports medicine professionals**
- Over-reliance on **unverified supplements**

Governance and Awareness Gaps

- Inadequate grassroots-level **anti-doping education**
- Poor understanding of **Therapeutic Use Exemptions (TUEs)**

Socio-Economic Pressures

- High **performance pressure** due to limited career security
- Incentive-driven sports culture focused on **results over process**

Anti-Doping Framework in India

1 Statutory Backing

- **National Anti-Doping Act, 2022**
 - Provides legal authority to NADA
 - Aligns India's framework with **WADA Code**

2 Digital Interventions

- **Know Your Medicine (KYM) App**
 - Enables athletes to verify whether medicines are prohibited
 - Reduces risk of **inadvertent doping**

3 Institutional Capacity Building

- Expansion of **testing and sample collection**
- Awareness workshops for:
 - Athletes
 - Coaches
 - Support personnel

About the World Anti-Doping Agency (WADA)

- **Headquarters:** Montreal, Canada
- **Established:** 1999, following the Lausanne Declaration
- **Nature:** Independent international agency
- **Mandate:**
 - Promote and coordinate global fight against doping
 - Publish the **World Anti-Doping Code**
 - Release the **annual Prohibited List**

Ethical and Governance Dimensions

Ethical Perspective

- Doping violates principles of:
 - **Fair play**
 - **Integrity**
 - **Equality of opportunity**

Governance Perspective

- Persistent violations undermine:
 - Credibility of Indian sport
 - Public trust in institutions
 - India's **soft power** in global sporting forums

Way Forward

- **Mandatory anti-doping education** at junior and grassroots levels
- Integration of **sports science and nutrition** support
- Stronger **accountability of coaches and support staff**
- Shift from punitive approach to **preventive and behavioural correction**
- Independent audits of **supplement supply chains**

Conclusion (Keywords Highlighted)

India's continued lead in **Anti-Doping Rule Violations** highlights the need for a **cultural, institutional, and ethical reset** in sports governance. While legal frameworks and testing mechanisms exist, lasting solutions lie in **education, awareness, scientific support, and ethical conditioning**, ensuring that sporting excellence is achieved through **fair, transparent, and rule-based competition**.

Keywords: *Doping, Sports integrity, Ethical conduct, Anti-doping governance, Fair play*



Mains Practice Question

“India's repeated ranking as the highest contributor to Anti-Doping Rule Violations reflects deeper systemic issues in sports governance.” Examine the causes of doping in India and assess the effectiveness of existing anti-doping measures in promoting ethical and fair sports practices.

BIOTECHNOLOGY & HEALTH

NCDs and Mental Health – UN Declaration

Syllabus Mapping:

- ✓ **GS Paper II – International Relations & Governance:** United Nations, global health governance
- ✓ **GS Paper II – Social Justice:** Health, vulnerable sections, public health systems
- ✓ **GS Paper III – Environment & Development:** Pollution, sustainable development, human capital

Introduction (Context & Background)

At its **80th session**, the **United Nations General Assembly (UNGA)** adopted the **first-ever political declaration** that **jointly addresses Non-Communicable Diseases (NCDs) and Mental Health**, setting **time-bound targets up to 2030**. This marks a significant shift in global health governance by recognising the **interlinked nature of physical and mental health** and the need for **integrated policy responses**.

About the Global Declaration

1 Expanded Scope of Non-Communicable Diseases

- Inclusion of **previously under-emphasised NCD areas**, such as:
 - **Oral health**
 - **Lung health**
 - **Childhood cancers**
- Acknowledges the **changing epidemiological profile** of diseases worldwide.

2 Recognition of New Determinants of Health

The declaration broadens the understanding of disease causation by including:

- **Air pollution**

- Clean cooking fuel access
- Lead exposure
- Hazardous chemical exposure

➡ Reinforces the linkage between **environmental degradation** and **public health**.

3 Addressing Digital Health Risks

- For the **first time**, the declaration highlights risks arising from:
 - Excessive screen time
 - Harmful social media exposure
 - Misinformation and disinformation
- Especially relevant for **children and adolescents**, reflecting evolving social realities.

4 Stronger Regulatory Commitments

- Calls for enhanced regulation of:
 - Tobacco products
 - Unhealthy foods and trans fats
 - E-cigarettes and novel nicotine products
- Aligns with the **WHO “Best Buys”** for NCD prevention.

5 Whole-of-Government and Whole-of-Society Approach

- Encourages coordinated action involving:
 - Health, environment, education, urban development ministries
 - Civil society
 - Youth and persons with disabilities
 - Private sector stakeholders

➡ Moves beyond health ministries to a **multi-sectoral governance model**.

6 Accountability and Monitoring

- The **UN Secretary-General** will periodically report on progress.
- Technical support and monitoring to be provided by the **World Health Organization (WHO)**.

Significance of the Declaration

Global Health Burden

- **NCDs cause nearly 18 million premature deaths annually**
- Characterised by:
 - Long duration
 - Interaction of **genetic, behavioural, environmental, and physiological factors**
- **Mental health conditions affect over 1 billion people worldwide**

Common Preventable Risk Factors

Both NCDs and mental health disorders are driven by:

- Tobacco use
- Unhealthy diets
- Harmful alcohol consumption
- Physical inactivity
- Air pollution

➡ Justifies an **integrated prevention strategy** rather than siloed interventions.

India's Initiatives Aligned with the Declaration

Measures Addressing NCDs

- **AMRIT (Affordable Medicines and Reliable Implants for Treatment):**
Improves access to affordable drugs and devices for **cancer, cardiovascular diseases**, and other NCDs.
- **Eat Right India Movement** (by ****Food Safety and Standards Authority of India – FSSAI**):
Promotes safe, healthy, and sustainable diets.

- **Fit India Movement (2019):**
Encourages **physical activity** as part of daily life to combat lifestyle diseases.

Mental Health Interventions

- **National Mental Health Programme (NMHP), 1982:**
Aims to ensure **accessible and affordable mental healthcare** nationwide.
- **Tele-MANAS:**
24×7 tele-mental health support system.
- **Manodarpan:**
Counselling support for **students and youth**, particularly post-pandemic.

Broader Analytical Dimensions

Public Health Perspective

- Shifts focus from **curative care to prevention**
- Integrates **mental health into mainstream health policy**

Economic Perspective

- Reduced NCD burden improves **labour productivity**
- Lowers long-term healthcare costs

Equity Perspective

- Addresses disproportionate impact on:
 - Urban poor
 - Elderly
 - Persons with disabilities
- Supports **SDG 3 (Good Health and Well-being)**

Way Forward

- Translate political commitment into **national action plans**
- Strengthen **primary healthcare systems**
- Invest in **behaviour change communication**
- Regulate commercial determinants of health
- Integrate **digital well-being norms** into education policy

Conclusion (Keywords Highlighted)

The UNGA declaration represents a **paradigm shift in global health policy**, recognising that **Non-Communicable Diseases and Mental Health** are **interconnected, preventable, and development-critical challenges**. Its emphasis on **environmental determinants, digital risks, strong regulation, and accountability** provides a robust framework for countries like India to pursue **holistic, inclusive, and sustainable health systems** by 2030.

Keywords: *NCDs, Mental health, Preventive healthcare, Environmental determinants, Whole-of-society approach*



Mains Practice Question

“The recent UN General Assembly declaration on Non-Communicable Diseases and Mental Health marks a shift towards integrated and preventive global health governance.” Discuss its key features and examine how India’s public health initiatives align with the goals of this declaration.

Traditional Medicine and WHO Summit

✦ Syllabus Mapping:

- ✓ **GS Paper II – International Relations & Governance:** WHO, global health governance
- ✓ **GS Paper II – Social Justice:** Health systems, traditional knowledge
- ✓ **GS Paper III – Science & Technology:** Research, standardisation, digital public infrastructure

Introduction (Context & Relevance)

The **Second WHO Global Summit on Traditional Medicine**, held in **New Delhi**, concluded with a set of landmark initiatives that elevate **traditional medicine** from the margins to the **mainstream of global health governance**. The summit—hosted in India—signals a convergence of **evidence-based validation, digital access, quality assurance, and multilateral cooperation**, aligning traditional systems with the **World Health Organization’s** long-term strategy.

Key Developments at the Summit

1 Traditional Medicine Global Library

- A **global, open-access repository** of:
 - Scientific evidence
 - Policy resources
 - Validated traditional medicine knowledge
- Objective: **Equitable global access** and reduction of knowledge asymmetries.

2 Inauguration of WHO SEARO Building

- The **WHO South-East Asia Regional Office (SEARO)** building was inaugurated in New Delhi.
- Reinforces India's role as a **regional health hub** and knowledge partner for the Global South.

3 My AYUSH Integrated Services Portal (MAISP)

- A **single, master digital portal** for the AYUSH ecosystem.
- Integrates:
 - Practitioner services
 - Education and research
 - Citizen-facing offerings
- Advances **Digital Public Infrastructure (DPI)** for traditional medicine.

4 Launch of 'AYUSH Mark'

- Proposed as a **global quality benchmark** for AYUSH products and services.
- Focus on:
 - Standardisation
 - Safety
 - International credibility
- Aims to counter concerns around **quality variability** in traditional products.

5 Adoption of the Delhi Declaration

- Recognises **traditional medicine as a shared biocultural heritage** of humanity.
- Aligns with the **WHO Global Traditional Medicine Strategy 2025–2034**.
- Calls for:
 - Evidence-based integration
 - Sustainability
 - Respect for indigenous knowledge systems

Understanding Traditional Medicine

Definition: Traditional medicine includes **codified and non-codified healthcare systems** rooted in historical and cultural traditions that predate modern biomedicine.

India's Traditional Medicine Landscape

- India's **AYUSH** systems—**Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homoeopathy**—form a robust ecosystem.
- Sector value: **USD 43.4 billion**
- Growth: **Nearly eight-fold expansion in the last decade**
- Significance: Health, wellness tourism, exports, and livelihoods.

India's Initiatives in Traditional Medicine

1 National AYUSH Mission (NAM), 2014

- Centrally Sponsored Scheme to:
 - Strengthen infrastructure
 - Improve service delivery
 - Promote **co-location** with allopathic facilities

2 Ayurgyan

- Focus areas:
 - Research & capacity building
 - Drug standardisation

- Medicinal plant research

3 AOGUSY

- **AYUSH Oushadhi Gunvatta evum Uttapadan Samvardhan Yojana**
- Emphasises:
 - Drug quality
 - Standardisation
 - Pharmacovigilance

4 Enablers and Platforms

- **IEC campaigns** for awareness
- **Medical Value Travel (MVT)** to position India as a wellness destination
- **Digitisation initiatives:**
 - Ayush Grid
 - **Traditional Knowledge Digital Library (TKDL)** to prevent biopiracy

Broader Analytical Dimensions

Global Health Perspective

- Integrates prevention and wellness into **primary healthcare**.
- Complements UHC goals by expanding **affordable care options**.

Science & Regulation Perspective

- Shift from anecdotal use to **evidence-informed validation**.
- Quality benchmarks (AYUSH Mark) address **safety and trust deficits**.

Cultural & Ethical Perspective

- Protects **indigenous knowledge** and ensures benefit-sharing.
- Recognises traditional medicine as **biocultural heritage**, not merely commodities.

Way Forward

- Strengthen **clinical research and outcome studies**
- Ensure **global harmonisation of standards**
- Build **capacity of regulators and practitioners**
- Integrate traditional medicine with **public health delivery**, without dilution of scientific rigor

Conclusion (Keywords Highlighted)

The New Delhi summit marks a **turning point in global health governance**, positioning **traditional medicine as evidence-informed, digitally enabled, and quality-assured**. Through initiatives like the **Global Library**, **AYUSH Mark**, and the **Delhi Declaration**, India has emerged as a **norm-setter**—bridging ancient wisdom with modern science to advance **inclusive, sustainable, and culturally rooted healthcare systems** worldwide.

Keywords: *Traditional medicine, Global health governance, Evidence-based integration, AYUSH, Biocultural heritage*



Mains Practice Question

“The Second WHO Global Summit on Traditional Medicine reflects a shift towards integrating traditional knowledge systems into global health governance.” Discuss the significance of the summit’s outcomes and evaluate India’s role in shaping the future of traditional medicine worldwide.

ENVIRONMENT & ECOLOGY

Ramsar Wetlands Expansion

📌 Syllabus Mapping:

- ✅ **GS Paper III – Environment & Ecology:** Conservation, biodiversity, international environmental conventions
- ✅ **GS Paper I – Geography:** Physical geography, water bodies, ecological regions

Introduction (Context & Significance)

In December 2025, India added **two new wetlands**—**Siliserh Lake (Rajasthan)** and **Kopra Jalashay (Chhattisgarh)**—to the **List of Wetlands of International Importance**, commonly known as the **Ramsar List**. With this, India's total Ramsar sites increased to **96**, reinforcing its commitment to **wetland conservation, biodiversity protection, and global environmental governance**.

Newly Designated Ramsar Sites

1 Siliserh Lake, Rajasthan

Location & Setting

- Situated at **Paitpur village, Alwar district, Rajasthan**
- Lies in a **semi-arid ecological zone**
- Falls within the **buffer area of the Sariska Tiger Reserve**

Origin & Hydrology

- A **human-made wetland**, constructed in **1845 AD**
- Created by **Maharaja Vinay Singh** by building a bund across a tributary of the **Ruparel River**
- Illustrates the historical role of **traditional water management** in arid landscapes

Biodiversity Significance

- Avifauna: **Egyptian Vulture, Black Stork**
- Mammals: **Tiger, Indian Pangolin, Leopard, Sambar**
- Acts as a critical **water and habitat refuge** in a dry region

2 Kopra Jalashay, Chhattisgarh

Location & Landscape

- Located in **Bilaspur district, Chhattisgarh**
- A reservoir in the **upper catchment of the Mahanadi River**

Ecological Characteristics

- Features **extensive open water**
- Contains **shallow, nutrient-rich backwaters**
- Supports high **primary productivity**, benefiting aquatic food chains

Biodiversity Value

- Key bird species:
 - **Bar-headed Goose**
 - **Egyptian Vulture**
 - **River Tern**
 - **Greater Spotted Eagle**
- Functions as an important **migratory bird habitat**

Key Threats

- **Siltation**, reducing water-holding capacity
- **Invasive non-native species**



- **Intensive agriculture** in surrounding areas leading to nutrient runoff

About the Ramsar Convention and Ramsar List

Genesis and Global Framework

- Established under the **Ramsar Convention**
- Adopted in **1971 at Ramsar, Iran**
- Recognised as the **world's largest network of protected areas**

Membership and India's Role

- Nearly **90% of UN member states** are Contracting Parties
- India's growing Ramsar portfolio reflects:
 - Alignment with **sustainable development goals**
 - Integration of **local conservation with global commitments**

Significance of Ramsar Listing

- Confers **international recognition**
- Enhances **national-level protection status**
- Promotes **wise use of wetlands** for present and future generations

Designation Criteria

- A site must satisfy **at least one of nine Ramsar criteria**, which include:
 - Support to vulnerable or endangered species
 - Importance for waterbirds
 - Representation of unique wetland types

Broader Analytical Dimensions

Environmental Perspective

- Wetlands act as **carbon sinks, flood buffers, and biodiversity hotspots**
- Crucial for **climate change adaptation**, especially in semi-arid and riverine regions

Economic & Social Perspective

- Support **livelihoods** through fisheries, agriculture, and eco-tourism
- Strengthen **water security** in drought-prone areas

Governance Perspective

- Calls for **integrated wetland management**
- Necessitates coordination among **state governments, local communities, and environmental agencies**

Way Forward

- Implement **site-specific management plans** post-Ramsar designation
- Control **invasive species** and reduce **agricultural runoff**
- Promote **community participation** in conservation
- Strengthen **monitoring and ecological data collection**

Conclusion (Keywords Highlighted)

The addition of **Siliserh Lake** and **Kopra Jalashay** to the Ramsar List underscores India's evolving approach towards **ecosystem-based conservation**. However, long-term success depends on moving beyond symbolic recognition to **effective management, threat mitigation, and community stewardship**, ensuring wetlands continue to deliver **ecological, economic, and climate resilience benefits**.

Keywords: *Wetland conservation, Ramsar Convention, Biodiversity, Climate resilience, Wise use*



Mains Practice Question

“Discuss the ecological and governance significance of Ramsar wetland designation in India. In this context, examine the importance and conservation challenges of newly added Ramsar sites.”

Methane and Waste-Free Cities

✦ Syllabus Mapping:

- ✓ **GS Paper III – Environment & Ecology:** Climate change, waste management, pollution
- ✓ **GS Paper II – Governance:** Urban governance, public policy, sustainable development

Introduction (Context & Significance)

India is the **third-largest methane emitter globally**, contributing nearly **9% of global methane emissions**. Around **15% of India's methane emissions originate from the waste sector**, making urban waste management a **high-impact, short-gestation lever** for climate action. Unlike agriculture or energy—where reforms are complex and long-term—**municipal solid waste (MSW)** offers **quick and cost-effective mitigation pathways** with co-benefits for urban cleanliness, public health, and energy generation.



Methane Emissions: Sources and Characteristics

Major Sources in India

- **Waste sector:** Landfills and open dumps (anaerobic decomposition of organic waste)
- **Agriculture:** Enteric fermentation, manure management, rice cultivation
- **Energy:** Coal mining, fossil fuel use, leaks from oil and gas systems

Why Methane Matters

- **84 times more potent than CO₂** over a 20-year horizon
- Second only to CO₂ in **anthropogenic warming contribution**
- A **Short-Lived Climate Pollutant (SLCP)** (≈12 years atmospheric life)
- A major **precursor to ground-level ozone**, affecting health and crops

➡ **Rapid methane cuts are essential** to keep the **1.5°C** warming target within reach.

Why Focus on Waste for Rapid Methane Reduction?

- **Immediate measurability and controllability**
- Clear technological solutions available
- Strong alignment with **Swachh Bharat Mission** goals
- Co-benefits: **energy recovery, reduced landfill fires, better air quality**

Targeted Interventions for Methane Management in Waste

1 Monitoring and Hotspot Identification

- **Satellite-based methane monitoring** enables:
 - Regional trend tracking
 - High-resolution detection of emission hotspots
- A **2023 satellite study by Indian Space Research Organisation** identified major landfill emitters such as:
 - **Pirana** (Gujarat)
 - **Deonar** and **Kanjurmarg** (Maharashtra)
 - **Ghazipur** (Delhi)

➡ Enables **evidence-based prioritisation** and accountability.

2 Strengthening Source Segregation

- Enforce **wet–dry–hazardous segregation at source** under **SBM–Urban & Gramin**
- Reduces organic waste entering landfills, thereby **cutting methane formation**
- Improves efficiency of recycling and bio-treatment systems

3 Waste-to-Energy and Bio-CNG Expansion

- Scale up **biogas and Bio-CNG plants** under the **GOBARdhan** initiative
- Convert wet waste into:
 - **Clean cooking fuel**

- **Transport-grade Bio-CNG**
- Turns methane from a **liability** into an **asset**

4 Transition to Scientific Landfills

- Implement **Solid Waste Management Rules, 2016**:
 - Replace open dumps with **engineered landfills**
 - Install **landfill gas capture** and **leachate management systems**
- Prevents uncontrolled emissions and groundwater contamination

5 Aligning Waste Policy with Climate Commitments

- Integrate waste-sector methane mitigation into **India's Nationally Determined Contributions (NDCs)**
- Enables:
 - Climate finance access
 - Measurable mitigation outcomes
 - Inter-ministerial coordination

Broader Analytical Dimensions

Environmental Perspective

- Reduces **urban air pollution** and landfill fires
- Limits **ozone formation**, benefiting ecosystems and agriculture

Economic Perspective

- Generates **green jobs** in waste processing and bioenergy
- Reduces health and remediation costs
- Enhances **energy security** through indigenous biofuels

Governance Perspective

- Strengthens **urban local bodies (ULBs)** capacity
- Promotes **data-driven governance** using satellite and digital tools

Way Forward

- Universalise **100% source segregation**
- Mainstream **methane accounting** in city climate action plans
- Incentivise **private participation** in bioenergy and landfill remediation
- Link **waste reforms with climate finance** and carbon markets

Conclusion (Keywords Highlighted)

Methane management in the waste sector offers India a **low-hanging fruit** for climate mitigation. By combining **monitoring, segregation, bioenergy recovery, scientific landfills, and NDC alignment**, India can move towards **waste-free cities**, deliver **rapid emission reductions**, and achieve **urban sustainability with climate co-benefits**.

Keywords: *Methane mitigation, Waste management, SLCPs, Bio-CNG, Urban climate action*



Mains Practice Question

“Methane mitigation in the waste sector presents India with a unique opportunity for rapid climate gains and urban transformation.” Examine the strategies required to manage methane emissions from municipal waste and their role in achieving waste-free cities.”

Bioenergy Transition

✦ Syllabus Mapping:

- ✓ **GS Paper III – Indian Economy:** Energy security, renewable energy, infrastructure
- ✓ **GS Paper III – Environment & Ecology:** Climate change mitigation, sustainable development
- ✓ **GS Paper II – Governance:** Government policies and interventions

Introduction (Context & Significance)

Over the last decade, India has added **2,362 MW of biomass power capacity** and **228 MW of waste-to-energy capacity**, alongside the installation of **2.88 lakh biogas plants** across the country. This expansion underscores India's growing emphasis on **bioenergy** as a decentralised, climate-friendly, and rural-inclusive energy source. The efforts are primarily supported by the **Ministry of New and Renewable Energy (MNRE)** under the **National Bioenergy Programme (NBP)**.

National Bioenergy Programme (NBP): An Overview

Programme Timeline

- **Phase-I:** 2021–22 to 2025–26
- Notified in **2022**

Core Objective

- Productive utilisation of **surplus biomass**, largely from rural areas
- Generation of renewable energy while **augmenting rural household incomes**
- Reduction in **open burning of agricultural residues** and urban waste

Key Components of the National Bioenergy Programme

1 Waste-to-Energy Programme

- Focuses on energy generation from:
 - **Urban solid waste**
 - **Industrial waste**
 - **Agricultural residues**
- Addresses the dual challenge of **waste management and clean energy generation**

2 Biomass Programme

- Promotes:
 - Manufacturing of **biomass briquettes and pellets**
 - **Non-bagasse biomass-based cogeneration** in industries
- Supports industrial decarbonisation and reduces dependence on fossil fuels

3 Biogas Programme

- Supports household, community, and industrial-scale biogas plants
- **Biogas composition:**
 - Primarily **Methane (CH₄)** and **Carbon dioxide (CO₂)**
 - Trace gases: **N₂, H₂, H₂S, O₂**
- Biogas serves as:
 - Cooking fuel
 - Electricity source
 - Feedstock for **Bio-CNG**

Bioenergy: Concept and Status in India

Understanding Bioenergy

- Derived from **biomass**, i.e., organic matter such as:
 - Agricultural residues
 - Animal dung
 - Forestry waste
- **Modern bioenergy** uses advanced technologies to produce:
 - **Biogas**
 - **Liquid biofuels**
 - **Bio-CNG**
- Cleaner and more efficient than traditional biomass burning

Current Status

- **Total installed bioenergy capacity: 11.6 GW** (as of November 2025)
- **Modern bioenergy contribution:**
 - Accounts for **~13% of India's total final energy consumption**
 - Projected to grow by **up to 45% between 2023 and 2030**

Broader Significance of Bioenergy for India

Economic Dimension

- Provides **supplementary income to farmers** through biomass supply
- Generates **rural employment** in collection, processing, and plant operations
- Reduces import dependence on fossil fuels

Environmental Dimension

- Mitigates **greenhouse gas emissions**
- Reduces **stubble burning** and landfill methane
- Supports India's **Net Zero commitments**

Energy Security Dimension

- Promotes **decentralised energy generation**
- Enhances reliability in **rural and remote areas**

Complementary Initiatives for Bioenergy Promotion

National Policy on Biofuels (2018, revised 2022)

- **20% ethanol blending (E20)** in petrol by 2025–26
- **5% biodiesel blending** target by 2030

Pradhan Mantri JI-VAN Yojana

- Financial support for **advanced biofuel projects**, especially 2G ethanol

SATAT Initiative

- Promotes **Compressed Biogas (CBG)** as a transport fuel

GOBAR-Dhan Scheme

- Converts **organic waste and cattle dung** into biogas and manure
- Enhances rural sanitation and circular economy

Challenges and Limitations

- Feedstock collection and logistics
- Financial viability of waste-to-energy projects
- Technology adoption and skilled manpower gaps
- Need for assured biomass supply chains

Way Forward

- Strengthen **biomass aggregation and storage infrastructure**
- Integrate bioenergy with **carbon markets**
- Encourage **private sector participation**
- Promote research in **advanced bioenergy technologies**

Conclusion (Keywords Highlighted)

India's steady expansion of **biomass, waste-to-energy, and biogas capacity** reflects a strategic push towards **clean, decentralised, and inclusive energy systems**. With supportive policies like the **National Bioenergy Programme** and allied initiatives, bioenergy can emerge as a **cornerstone of India's renewable energy transition**, contributing simultaneously to **energy security, rural livelihoods, and climate mitigation**.

Keywords: *Bioenergy, Biomass, Waste-to-energy, Rural livelihoods, Renewable energy transition*



Mains Practice Question

“Bioenergy offers India a unique opportunity to combine renewable energy generation with rural income enhancement and waste management.” Discuss the role of the National Bioenergy Programme in advancing India's bioenergy sector and examine the challenges associated with its large-scale deployment.

CSR and Environmental Responsibility

✦ Syllabus Mapping:

- ✓ **GS Paper II – Polity & Governance:** Judiciary, constitutional provisions, corporate regulation
- ✓ **GS Paper III – Environment & Economy:** Environmental conservation, sustainable development
- ✓ **GS Paper IV – Ethics:** Corporate ethics, responsibility, environmental morality

Introduction (Context & Importance)

In a significant constitutional and environmental jurisprudence development, the **Supreme Court of India** has ruled that **Corporate Social Responsibility (CSR) necessarily includes environmental responsibility**. Delivered in *MK Ranjitsinh & Others v. Union of India*, the judgment explicitly links **CSR obligations with constitutional duties and biodiversity conservation**, marking a shift from a **voluntary, charity-based understanding of CSR to a duty-based constitutional mandate**.

Key Observations of the Supreme Court

1 Corporations as Constitutional Actors

- The Court held that corporations, as **legal persons and powerful socio-economic institutions**, are not outside the constitutional framework.
- They are bound by **Article 51A(g)**, which imposes a **Fundamental Duty** on all citizens—including juristic persons—to:
 - **Protect and improve the natural environment**
 - **Safeguard forests, rivers, lakes, and wildlife**
 - **Show compassion for living creatures**

➡ This interpretation expands constitutional environmental responsibility beyond the State and individuals to the **corporate sector**.

2 CSR Is a Constitutional Obligation, Not Charity

- The Court clarified that **CSR spending on environmental protection is not discretionary philanthropy**.
- Instead, it is a **constitutional obligation flowing from Fundamental Duties**, particularly where corporate activities intersect with environmental harm.

➡ This redefines CSR as **accountability-based governance**, not image-driven benevolence.

3 Polluter Pays Principle for Species Protection

- Applying the **Polluter Pays Principle**, the Court held that:
 - Where corporate actions threaten **endangered or vulnerable species**, companies must bear the cost of:
 - **In-situ conservation** (within natural habitats)
 - **Ex-situ conservation** (outside natural habitats, such as breeding centres)
- Environmental restoration and biodiversity recovery cannot be externalised to the State alone.

Corporate Social Responsibility: Legal Framework in India

Statutory Basis

- CSR is mandated under **Section 135 of the Companies Act, 2013**.
- Applicable to companies meeting prescribed thresholds of:
 - Net worth
 - Turnover
 - Net profit

Financial Requirement

- Companies must allocate **at least 2% of the average net profits of the preceding three years** towards CSR activities.

Permissible CSR Activities

CSR activities include:

- Eradication of poverty and malnutrition
- Promotion of education and gender equality
- **Ensuring environmental sustainability**
- Conservation of natural resources and biodiversity

Why This Judgment Matters (Multi-Dimensional Analysis)

Constitutional Perspective

- Integrates **Part IVA (Fundamental Duties)** with economic governance.
- Reinforces the idea of **constitutional morality** extending to corporate conduct.

Environmental Governance Perspective

- Strengthens **environmental accountability** of the private sector.
- Aligns with principles like:
 - **Sustainable development**
 - **Intergenerational equity**
 - **Precautionary principle**

Economic & Corporate Governance Perspective

- Encourages **responsible business practices**.
- Pushes companies towards **long-term sustainability**, not short-term profit maximisation.

Ethical Perspective

- Reflects Gandhian thought on **trusteeship**, where wealth holders act as trustees of societal and environmental resources.
- Reinforces **environmental ethics** as integral to corporate citizenship.

Implications for Corporate India

- CSR portfolios must increasingly prioritise:
 - Biodiversity protection
 - Habitat restoration
 - Climate adaptation and mitigation
- Boards and CSR committees must align decisions with **constitutional and environmental jurisprudence**.
- Greenwashing without genuine ecological impact may invite **judicial scrutiny**.

Way Forward

- Develop **clear environmental CSR guidelines** linked with national biodiversity and climate goals
- Strengthen **impact assessment** of CSR-funded environmental projects
- Integrate CSR with:
 - National Biodiversity Action Plan
 - Climate commitments (NDCs)
- Enhance transparency through **environmental disclosures**

Conclusion (Keywords Highlighted)

The Supreme Court's ruling firmly establishes that **Corporate Social Responsibility is inseparable from environmental responsibility**. By anchoring CSR within **Article 51A(g)** and applying the **Polluter Pays Principle**, the judgment elevates environmental protection from a **voluntary corporate choice to a constitutional obligation**. This marks a decisive step towards **sustainable development, ethical corporate governance, and biodiversity conservation** in India.

Keywords: CSR, Environmental responsibility, Article 51A(g), Polluter Pays Principle, Sustainable development



Mains Practice Question

“The Supreme Court's interpretation of Corporate Social Responsibility marks a shift from philanthropy to constitutional accountability.” Examine the implications of this judgment for environmental governance and corporate ethics in India.

SCIENCE & TECHNOLOGY

Public R&D Ecosystem in India

📌 Syllabus Mapping:

- ✓ **GS Paper III – Science & Technology:** R&D, innovation, technology transfer
- ✓ **GS Paper III – Indian Economy:** Productivity, industrial competitiveness
- ✓ **GS Paper II – Governance:** Public institutions, policy reform

Introduction (Context & Significance)

A recent report by NITI Aayog comprehensively maps India's **public Research & Development (R&D) ecosystem**, identifying structural gaps and proposing reforms to enhance **innovation outcomes, industry linkages, and regional balance**. The report is timely as India seeks to move from **scale in inputs** to **impact in outputs** within its innovation system.



Status of R&D in India: Key Findings

1 Gross Expenditure on R&D (GERD)

- GERD stood at **~₹2 lakh crore in 2020–21**, an **eightfold increase** over two decades.
- However, R&D intensity remains **~0.6–0.7% of GDP**, below innovation leaders.

2 Funding Pattern

- **Government sector contributes 63.6%** of total R&D spending.
- Private sector participation remains comparatively modest, affecting commercialization.

3 Sectoral Distribution

- **Agriculture & allied sectors** dominate public R&D (**~51%**).
- Followed by **health** and **IT & telecom**.
- Indicates strong public-good focus but limited diversification into frontier technologies.

4 Spatial Concentration

- **Southern region** hosts **~36%** of public R&D institutes.
- **Northeast** accounts for **only 1.8%**, highlighting regional imbalance.
- **Urban clustering:** **~48%** of Central R&D institutions are located in the **10 most populous cities**, raising concerns of congestion and uneven access.

Core Challenges Identified

- **Weak academia–industry linkages** and low technology commercialization
- **Administrative rigidities** and slow procurement/approval processes
- **Infrastructure gaps** in labs and shared facilities
- **Unclear IP pathways** discouraging private collaboration
- **Regional underrepresentation**, limiting inclusive innovation

Key Recommendations of the Report

A. Align R&D with Industry Geography

- **Proximity to industry clusters** for new institutes to enable co-creation, faster pilots, and uptake.
- Sectoral clustering to reduce time-to-market.

B. Create Centralised Research Hubs

- Shared infrastructure to **pool expertise, equipment, and data** across locations.
- Encourages **cross-industry collaboration** and economies of scale.

C. Build Collaborative Innovation Spaces

- Dedicated spaces for **researchers, industry professionals, and entrepreneurs** to interact.
- Global best practice cited: **Industrial Liaison Program (ILP)** at MIT.

D. Establish Technology Transfer Offices (TTOs)

- Professionalise **IP management, licensing, and spin-offs**.
- Bridge the lab-to-market gap and incentivise researchers.

E. Enabling Reforms

- **Streamline administrative procedures** and procurement
- **Partner with private enterprises** via co-funded projects
- **Clear IP guidelines** to de-risk collaboration
- **Address infrastructure gaps** and upgrade facilities

Broader Analytical Dimensions

Economic Perspective

- Strong public R&D boosts **productivity, exports, and strategic autonomy**.
- Commercialisation converts public spending into **growth dividends**.

Governance Perspective

- Outcome-oriented funding and **institutional autonomy** improve accountability.
- Regional dispersal supports **balanced development**.

Science & Technology Perspective

- Hubs and TTOs catalyse **deep-tech translation** (health, agri-tech, clean tech).

Way Forward

- Raise R&D intensity with **crowding-in of private capital**
- Incentivise **mission-mode, problem-driven research**
- Expand R&D presence in **underserved regions**
- Track outcomes via **patents, licenses, start-ups, and adoption metrics**

Conclusion (Keywords Highlighted)

The NITI Aayog report charts a pathway to transform India's public R&D from **fragmented and input-heavy** to **collaborative, regionally balanced, and market-linked**. By aligning institutes with industry clusters, operationalising **TTOs**, and easing governance bottlenecks, India can unlock **innovation-led growth** and enhance **global competitiveness**.

Keywords: *Public R&D, Innovation ecosystem, Technology transfer, Industry-academia collaboration, Regional balance*



Mains Practice Question

“India's public R&D ecosystem has expanded in scale but lags in innovation outcomes.” In light of the NITI Aayog report, examine the structural challenges facing public R&D institutes and evaluate the proposed reforms to improve industry linkage and technology commercialization.