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GENERAL STUDIES 1

1.1. INDIAN SOCIETY

1.1.1. SUSTAINING INDIA'S LOW-FERTILITY FUTURE

Why in News?

According to the latest Sample Registration System (SRS) data, India's **Total Fertility Rate (TFR)** has declined to **1.9 children per woman**, falling below the **replacement level fertility of 2.1** for the first time at the national level.

This marks India's transition from concerns of population explosion to challenges associated with **population ageing, labour shortages, social security, and healthcare sustainability**.



Key Demographic Trends

Indicator	Status
1. India's TFR	1.9
2. Replacement Fertility Rate	2.1
3. Global Average TFR	2.2
4. Urban TFR	1.5
5. Rural TFR Around	2.1

State-wise Variation in Fertility

A. Very Low Fertility States

- **Delhi (TFR 1.2):** High urbanisation, rising living costs, delayed marriages, and career-oriented lifestyles have significantly reduced family size.
- **Kerala (TFR 1.3):** High female literacy, better healthcare, and greater awareness of family planning have led to sustained low fertility.
- **Tamil Nadu (TFR 1.3):** Early success in population stabilisation, urban growth, and women's empowerment have contributed to very low birth rates.
- **West Bengal (TFR 1.3):** Higher education levels, urbanisation, and changing social preferences towards smaller families have lowered fertility.

B. High Fertility States

- **Bihar (TFR 2.9):** Lower female education, early marriage, poverty, and limited access to reproductive healthcare continue to keep fertility high.
- **Uttar Pradesh (TFR 2.6):** Large rural population, socio-cultural preferences for bigger families, and uneven development contribute to higher fertility.

- **Madhya Pradesh (TFR 2.4):** Improvements are occurring, but lower educational attainment and rural dependence still sustain relatively high fertility.
- **Rajasthan (TFR 2.3):** Traditional family norms, early marriages, and regional disparities in social development maintain fertility above replacement level.

Understanding India's Demographic Transition

1. **Declining Birth Rates:** India's Total Fertility Rate has fallen below replacement level, resulting in fewer children being born per family.
2. **Sustained Low Death Rates:** Improvements in healthcare, sanitation, nutrition, and medical technology have significantly increased life expectancy.
3. **Slowing Population Growth:** With births declining and deaths remaining low, the overall pace of population growth is gradually slowing.
4. **Rapid Population Ageing:** A growing share of the population is entering older age groups, increasing the proportion of elderly citizens.
5. **Expanding Elderly Population:** India's population aged 60 years and above is expected to rise from about 150 million today to nearly 347 million by 2050.
6. **Changing Dependency Structure:** By 2050, around one-fifth of Indians will be elderly, increasing the demand for pensions, healthcare, and social support systems

Challenges of India's Low-Fertility Future

1. Ageing Before Becoming Rich

India is entering an ageing phase before achieving high levels of industrialisation, formal employment, and universal social security.

This may lead to a higher dependency ratio, increasing pension obligations and fiscal pressures on the government.

2. Weak Social Security Architecture

A narrow tax base and a predominantly informal workforce limit the effectiveness of contribution-based pension systems.

Existing schemes such as APY and NSAP provide inadequate coverage and income support for a dignified old age.

3. Erosion of Traditional Family Support System

Urbanisation, migration, nuclear families, and rising female workforce participation are weakening traditional caregiving arrangements.

As a result, many elderly people face loneliness, mental health issues, and reduced family-based support.

4. Growing Healthcare Burden

An ageing population is shifting healthcare demand from maternal and infectious diseases to chronic and geriatric illnesses.

India's health system currently lacks sufficient geriatric specialists, long-term care facilities, and elderly-friendly healthcare services.

5. Rising Fiscal Pressures on Governments

Population ageing requires greater expenditure on pensions, healthcare, and social welfare programmes.

However, low per-capita income, limited tax revenues, and fiscally stressed states constrain the government's capacity to respond.

6. Inter-State Demographic Imbalance

Low-fertility states such as Kerala and Tamil Nadu are ageing rapidly and will increasingly depend on migrant workers from younger states.

Without adequate investments in education and skills, migration may perpetuate low-wage informal employment rather than productive growth.

Opportunities Emerging from Demographic Transition

1. Demographic Dividend in Lagging States

- **Large Working-Age Populations:** States such as Bihar and Uttar Pradesh have a high proportion of young people who can contribute to economic growth.
- **Future Labour Reserves:** These states will continue to supply workers to India's economy even as many other states experience ageing.
- **Support National Growth:** A skilled and productive workforce can boost industrial output, services, and overall economic development.
- **Offset Ageing Elsewhere:** Young workers from high-fertility states can help address labour shortages in ageing states and sustain economic activity.

2. Internal Migration as a Growth Engine

- **Reduce Regional Disparities:** Migration enables workers from less-developed regions to access better employment and income opportunities.
- **Fill Labour Shortages:** Migrant workers can meet the growing demand for labour in ageing and economically advanced states.
- **Enhance Productivity:** Efficient movement of labour to areas of higher demand improves resource allocation and economic efficiency.
- **Welfare Portability as a Precondition:** Portable social security and welfare benefits are essential to ensure secure and productive labour mobility.

3. Silver Economy

- **Healthcare Services:** An ageing population increases demand for hospitals, geriatric care, and home healthcare services.
- **Assisted Living:** The need for senior housing and assisted living facilities will grow as family-based care systems weaken.
- **Insurance:** Rising life expectancy creates greater demand for health, life, and long-term care insurance products.
- **Medical Devices:** Demand for mobility aids, diagnostic tools, and elderly-care technologies will expand significantly.
- **Wellness Industries:** Fitness, nutrition, preventive healthcare, and mental wellness services for senior citizens will emerge as major markets.

- **New Growth Sector:** The expanding elderly population can create a vibrant silver economy that generates jobs, investment, and innovation.

Way Forward for Sustaining India's Low-Fertility Future

1. Establish Universal Minimum Pension Floor

- **Inflation-Indexed Social Pension:** Provide a minimum pension linked to inflation to ensure basic income security for all elderly citizens.
- **Reduce Old-Age Vulnerability:** A universal pension floor can reduce poverty, dependence, and financial insecurity among senior citizens.

2. Strengthen Pension Ecosystem

- **Expand Pension Coverage:** Broaden schemes such as APY and increase government support to cover more workers.
- **Design Flexible Pension Products:** Develop pension models suitable for informal workers with irregular and seasonal incomes.

3. Build a Geriatric Healthcare System

- **Strengthen Elderly Healthcare Infrastructure:** Establish geriatric wards, home-care services, and community-based elderly care systems.
- **Integrate Ageing into Health Policies:** Incorporate geriatric care into programmes such as Ayushman Bharat and Health & Wellness Centres.

4. Invest in Human Capital of Younger States

- **Improve Education and Skills:** Invest in quality education, nutrition, and skill development to create a productive workforce.
- **Promote Women's Empowerment:** Enhance female education and workforce participation to strengthen human capital formation.

5. Create Portable Welfare Architecture

- **Ensure Welfare Portability:** Allow migrant workers to access food security, healthcare, pensions, and insurance across states.
- **Strengthen National Platforms:** Expand initiatives such as ONORC and e-Shram to support a seamless national labour market.

6. Promote Active and Healthy Ageing

- **Encourage Economic Participation:** Provide flexible retirement options and suitable employment opportunities for senior citizens.
- **Enhance Social and Mental Well-being:** Promote lifelong learning and community engagement to ensure healthy and active ageing.

Conclusion

India's below-replacement fertility marks a demographic success, but the focus must now shift from population control to population care. Strengthening pensions, geriatric healthcare, welfare portability, and labour mobility will determine whether ageing becomes a demographic dividend or a demographic burden.

Q. India has entered a low-fertility era. Examine the socio-economic and governance challenges associated with population ageing and suggest policy measures for ensuring a sustainable demographic transition. 15 Marks

1.2. GEOGRAPHY

1.2.1. INDIA AND THE SOUTHWEST MONSOON: A SEASON OF CONCERN

Context

- The **southwest monsoon reached Kerala on June 4, 2026**, three days past its normal onset date and four days behind the India Meteorological Department's (IMD) own forecast. This is the **first onset misjudgement since 2015**.
- The northwest, central India, the peninsula and the **monsoon core zone** that sustains the bulk of India's rain-fed farmland are all forecast to fall short; only the northeast is expected to see normal rain.



About the Southwest Monsoon

- The **southwest monsoon**, active from June to September, is India's primary freshwater source, accounting for **70 to 80 percent of the country's annual rainfall**.
- With India receiving approximately **1,187 mm** of average annual precipitation, season determines **crop output, drinking water supply, reservoir levels, groundwater recharge and hydropower generation**. It is not merely a weather event but a **civilisational lifeline** for over a billion people.

Mechanism Associated with Southwest Monsoon

- **Differential heating:** India's landmass heats up faster than the Indian Ocean during summer, creating an intense **low-pressure zone** over the subcontinent that draws in warm, moisture-laden winds from the sea.
- **ITCZ migration:** The northward shift of the **Intertropical Convergence Zone (ITCZ)** around June 1 triggers monsoon onset over Kerala. Its arrival marks the official beginning of the **kharif growing season**.
- **Two branches:** The monsoon splits into the **Arabian Sea branch**, entering through **Kerala and the Western Ghats**, and the **Bay of Bengal branch**, advancing **westward across the Indo-Gangetic plains from the northeast**.
- **El Nino and ENSO:** Anomalously warm sea surface temperatures in the central Pacific, known as **El Nino**, weaken the pressure gradient between land and ocean, suppressing the moisture-transporting winds that feed the monsoon.
- **Indian Ocean Dipole (IOD):** A **positive IOD**, with **warmer western Indian Ocean waters**, can partly offset **El Nino's suppressive effect**. A neutral or negative IOD removes this safety valve entirely.

- **Long Period Average (LPA):** The LPA, currently **87 cm** for June-September, is calculated over a 50-year reference period. Rainfall below **90 percent of LPA** is classified as deficient and carries serious consequences for food production and water availability.

Causes Behind the Expected Deficient Monsoon

- **El Nino Near-certain through Peak Season:** Around **60 percent of El Nino years since 1951** have delivered deficient or below-normal rainfall over India. The droughts of **2002 and 2009** were the century's worst, with major shortfalls also in 2014 and 2015. With El Nino confirmed for 2026, the government must not count on a late redeeming swing of the IOD.
- **Weakened Walker Circulation:** El Nino disrupts the **Walker Circulation**, the large-scale convection system over the tropical Pacific. Its weakening reduces the wind-driven flow of water vapour into the subcontinent, directly suppressing convective rainfall over India.
- **Intra-seasonal Dry Spells:** Total seasonal rainfall conceals the critical issue of **distribution**. Prolonged dry spells within the season devastate crops sown on time that are then left unwatered at critical growth stages, making the pattern of rainfall as consequential as its volume.
- **Climate Change Intensifying Variability:** Research by the **Indian Institute of Tropical Meteorology (IITM)** confirms that warming is increasing the frequency and intensity of monsoon breaks. Even years with adequate total rainfall are recording more severe dry intervals, raising crop and water stress across the rain-fed belt.

Effects of a Deficient Monsoon

1. Agricultural Distress and Crop Failure

- **Lower Kharif Production:** Deficient rainfall in the **Monsoon Core Zone** can reduce the production of **paddy, cotton, soybean, pulses, and oilseeds**, adversely affecting agricultural output.
- **Livelihood Risks:** Reduced crop yields can threaten the livelihoods of nearly **600 million people** dependent on **agriculture and allied activities**.

2. Food Security and Inflationary Pressures

1. **Rising Food Prices:** Lower agricultural production can reduce the supply of essential food commodities, leading to higher prices of **cereals, pulses, vegetables, and edible oils**.
2. **Pressure on Household Budgets:** Rising food prices, coupled with higher **energy and import costs**, can significantly affect poor and vulnerable households.

3. Water Resource Stress

- **Groundwater Depletion:** A weak monsoon reduces **groundwater recharge** while increasing dependence on extraction, worsening existing **water scarcity**.
- **Reservoir Stress:** Lower reservoir inflows can affect **irrigation, drinking water supply, and hydropower generation**, with impacts extending beyond the monsoon season.

4. Intensification of Heatwaves

- **Higher Heat Stress:** Dry soil conditions and reduced moisture availability can intensify **heatwaves** and increase **surface temperatures**.
- **Socio Economic Impacts:** Severe heat can reduce **labour productivity**, affect **livestock health**, increase **electricity demand**, and create significant **public health challenges**.

5. Farmer Vulnerability and Rural Distress

- **Financial Hardship:** Crop losses and rising **cultivation costs** can increase **indebtedness** among small and marginal farmers.
- **Distress Migration:** Reduced agricultural incomes may force rural households to resort to **distress migration** in search of alternative livelihoods.

6. Greater Fiscal Burden on the State

- **Higher Relief Expenditure:** Governments may need to increase spending on **drought relief, crop compensation, drinking water support, and welfare measures**.
- **Pressure on Welfare Systems:** Greater demand for **credit support, relief assistance, and social protection measures** can strain administrative and financial resources.

Government Initiatives

- **Pradhan Mantri Fasal Bima Yojana (PMFBY):** Offers crop insurance at premiums of **1.5 to 2 percent** for kharif crops, with the actuarial balance shared between Centre and states. Satellite-assisted yield assessment must be accelerated for timely claim settlement during a drought year.
- **Per Drop More Crop under PMKSY:** Promotes drip and sprinkler systems that reduce water use by **40 to 50 percent per unit output**, providing a structural pathway to sustain productivity even under reduced monsoon rainfall.
- **Jal Shakti Abhiyan and Atal Bhujal Yojana:** These schemes promote decentralised **water conservation and community-level groundwater governance** across water-stressed districts, improving aquifer recharge and demand-side regulation during drought periods.
- **National Food Security Act and Price Stabilisation Fund:** The PDS backed by **FCI buffer stocks** covers over 800 million beneficiaries. The Price Stabilisation Fund enables procurement and release of pulses and onions to contain price spikes during monsoon-induced supply shocks.
- **NDMA Drought Management Manual:** Mandates **early warning triggers and pre-drought declarations** based on **district-level rainfall deviation data**, ensuring states act before seasonal assessments complete rather than after crop damage has already occurred.
- **Promotion of millets:** The push for **Shree Anna or millets**, which need far less water and are climate resilient, was strengthened during the **International Year of Millets in 2023** and builds long term resilience by reducing pressure on water heavy crops.

Way Forward

- **Coordinated Institutional Response:** The **Agriculture Ministry, Jal Shakti Ministry, Consumer Affairs Ministry, and National Disaster Management Authority (NDMA)** must work in a coordinated manner by activating contingency crop plans, monitoring fertiliser availability, and preparing relief mechanisms well before the peak sowing season.
- **Promote Low Water Intensive Crops:** Farmers should be encouraged to shift towards **short duration pulses, oilseeds, and millets** instead of water intensive paddy, supported by assured **Minimum Support Price (MSP)** procurement and timely availability of quality seeds.
- **Ensure Efficient Use of Water Resources:** Reservoir operations should be recalibrated to account for lower inflows, while groundwater extraction in over exploited regions must be strictly regulated to prioritise drinking water and essential irrigation needs.

- **Ensure Timely Relief and Insurance Support:** Crop insurance coverage, institutional credit, and drought relief measures should be strengthened and made readily accessible so that affected farmers receive assistance without delays.
- **Expand Micro Irrigation and Forecasting Capacity:** Rapid expansion of **drip and sprinkler irrigation systems**, along with strengthening **IMD's forecasting infrastructure and climate modelling capabilities**, can improve water use efficiency and enhance preparedness against future monsoon variability.

Conclusion

A deficient monsoon in 2026 would fall on a farm economy whose **nutrients and fuel are both already scarce and costly**, so the government must hope for the best while it firmly prepares for the worst. With **timely planning, prudent water management and strong relief systems**, India can blunt the impact of a weak season and protect the food security and livelihoods of millions of its people.

Q. The vulnerability of India's economy to monsoon variability reflects the continued dependence of agriculture and water resources on seasonal rainfall. Examine the challenges posed by a deficient monsoon and suggest a suitable policy response. 15 Marks

1.2.2. INDIA'S URBAN WATER CRISIS

Context

Urban India's summer water crisis is no longer a seasonal anomaly or a future threat, it has degenerated into a chronic, structural emergency. Major metropolitan hubs including New Delhi, Chennai, Bengaluru, and Hyderabad face severe seasonal deficits, characterized by dry taps, heavily depleted groundwater, and an over-reliance on private water tankers.



Core Manifestations of the Urban Water Crisis

- **Severe Supply Deficits:** Large families in urban pockets are forced to subsist on highly inadequate resources (e.g., a single 20-liter can per day).
- **High Intermittent Vulnerability:** Informal settlements and low-income wards face acute structural inequity, resulting in long queues at standposts and public friction.
- **The "Water Quality" Challenge:** Intermittent supply, broken/leaky distribution lines, and substandard storage lead to cross-contamination. This manifests as a public health crisis (waterborne illnesses, lost workdays, and mounting medical bills).
- **Administrative Myopia:** The state apparatus largely treats the systemic crisis as a temporary, seasonal inconvenience to be endured until the monsoon arrives.

Structural Causes of Urban Water Insecurity

The crisis is not merely a consequence of meteorological droughts, but a reflection of flawed urban planning and governance over decades:

- **Asymmetrical Urban Growth:** Cities have expanded exponentially faster than the carrying capacity of their underlying water infrastructure.
- **Destruction of Natural Infrastructure:** Ecological buffers like urban lakes, wetlands, ponds, and stormwater channels have been systematically encroached upon or built over.
- **The "Flood-Drought" Paradox:** Because natural drainage channels are destroyed, a few hours of intense rainfall cause severe urban flooding, yet the same city faces severe water scarcity just weeks later due to a lack of local retention.
- **Sourcing Mismanagement & Supply-Side Bias:** Cities ignore local conservation, choosing instead to pump water from distant rivers/reservoirs through long, expensive, and energy-intensive pipelines.
- **Unregulated Groundwater Extraction:** Deep borewells are sinking rapidly, extracting groundwater far quicker than natural recharge rates can replenish it.

Government Initiatives

- **Jal Jeevan Mission (Urban) [JJM-U]:** Aims to provide universal water supply coverage through functional tap connections in all statutory towns and rejuvenate local water bodies.
- **AMRUT 2.0 (Atal Mission for Rejuvenation and Urban Transformation):** Focuses on making cities 'water secure' by promoting circular economy of water through recycled wastewater management and reduced non-revenue water (leaks).
- **Jal Shakti Abhiyan (Catch the Rain Campaign):** Drives time-bound, citizen-led interventions for rainwater harvesting and groundwater recharge under the theme "*Catch the rain, where it falls, when it falls.*"
- **National Water Mission (NWM):** Operates under the NAPCC to optimize water-use efficiency by **20%** through conservation, minimization of wastage, and equitable distribution across states.
- **Model Groundwater Bill & Atal Bhujal Yojana:** Provides a regulatory framework for states to control unrestricted groundwater extraction while incentivizing community-led water budgeting in stressed blocks.

Way Forward

Addressing this chronic condition requires moving beyond temporary coping mechanisms toward a structured, short-to-medium-term action plan:

A. Information Symmetry & Public Accountability

- **Emergency Water Plans:** Municipal corporations must publish transparent, public-facing emergency allocation plans.
- **Equity in Distribution:** Plans must identify vulnerable wards and prioritize tail-end distribution (fixing the duration and frequency of supply) to manage expectations and minimize public grievances.

B. Plug the Leaks (Addressing Non-Revenue Water)

- **Time-Bound 'Leak Hunts:** Instead of investing heavily in distant new supply lines, focus on physical audits of existing networks.
- **High-Yield Reductions:** In cities where nearly **30%** of water is lost to distribution leaks, repairing high-loss zones effectively "creates" a massive new water source instantly without added ecological footprints.

C. Demand-Side Management & Decentralized Audits

- **Institutional Auditing:** Large consumers (government buildings, commercial hubs, large residential campuses) must conduct mandatory, immediate water audits and fix internal leakages.
- **Community-Led Governance:** Resident Welfare Associations (RWAs) and local neighborhood leaders must set strict conservation norms during peak summer months, limit non-essential use, and monitor tanker supply sources.

D. Integrated Water-Waste Management

- **Dual Network Repair:** Efforts to fix water supply pipelines must be coupled with fixing sewer networks to prevent **sewage exfiltration** and subsequent groundwater contamination.
- **Optimizing Used-Water Treatment:** Upgrade existing Sewage Treatment Plants (STPs) via low-cost, quick measures like optimized aeration, de-weeding, and desludging. This treated wastewater can safely augment local groundwater recharge and non-potable surface needs.

Conclusion

No single silver-bullet policy can resolve India's urban water crisis. The solution lies in shifting the paradigm from "**finding new water**" to "**managing existing systems with equity and efficiency.**" By directly targeting unpredictability, infrastructure waste, structural inequity, and contamination, Indian cities can transform a seasonal emergency into resilient, water-secure urban ecosystems.

Q. India's recurring urban water crises are symptoms of deeper governance and planning failures rather than mere seasonal shortages. Examine the causes of urban water scarcity in India and suggest measures to achieve sustainable urban water security. 15 Marks

Scan to attempt more questions...



GENERAL STUDIES 2

2.1. POLITY & GOVERNANCE

2.1.1. LANGUAGE DECORUM & THREE-LANGUAGE FORMULA

Context:

The Supreme Court of India issued notices to the Union Government, the Central Board of Secondary Education, and the National Council of Educational Research and Training seeking a report on preparedness for implementing the three-language formula in CBSE schools for Class 9 from July 1, 2026. Petitioners challenged the policy citing constitutional, administrative, and educational concerns.



Evolution of the Three-Language Policy in India

- **Constitutional Basis (Article 351):** Assigns the Union responsibility to encourage the development and wider use of Hindi while respecting India's linguistic diversity.
- **Kothari Commission (1964–66):** Recommended the three-language approach to promote national integration and multilingual learning, later influencing education policy.
- **National Education Policy, 1968:** Emphasised regional languages as the medium of instruction at school level and encouraged their wider use in higher education.
- **Programme of Action, 1992:** Stressed the use of mother tongue or regional language during early childhood and pre-school education.
- **Right to Education Act, 2009:** Recommended mother tongue-based instruction in schools, wherever feasible, to improve learning outcomes.
- **National Education Policy, 2020:** Advocates teaching in home, local, or regional language preferably up to Grade 8 to strengthen foundational learning and multilingualism.

Constitutional & Legal Concerns

- **Individual liberty & cultural freedom:** Language choice is tied to personal identity and cultural expression.
- **Autonomy & pluralism concerns:** Mandatory language learning may undermine individual choice and India's linguistic diversity.
- **NEP flexibility promise:** The policy appears inconsistent with NEP 2020's assurance that no language will be imposed.
- **CBSE's legal authority:** Questions arise whether CBSE can enforce such a major reform without parliamentary backing.
- **Article 21A (Right to Education):** Educational policies should ensure accessible and student-friendly learning.
- **Article 29 (Cultural & linguistic rights):** Protects citizens' right to preserve their language and cultural identity.

- **Federal structure** – Education lies in the Concurrent List; states have stakes in language policy

Arguments in Favour of the Policy

- **Promotes multilingual competence:** Helps students develop proficiency in multiple languages and improves communication across regions and cultures. It enhances linguistic adaptability in a diverse society.
- **Enhances cognitive skills:** Learning multiple languages strengthens memory, analytical thinking, and problem-solving abilities. It also improves mental flexibility and learning capacity.
- **Preserves linguistic diversity:** Encourages students to appreciate India's multilingual and cultural heritage. It helps protect regional languages and strengthens cultural identity.
- **Strengthens national integration:** Promotes understanding among people from different linguistic backgrounds and regions. This reinforces unity in diversity and social cohesion.
- **Boosts global competitiveness:** Multilingual skills improve employability and communication in an interconnected global economy. They also enhance adaptability in education, business, and diplomacy.

Key Challenges, Criticisms & Broader Issues

- **Administrative and infrastructural gaps:** Shortage of teachers, textbooks, and uneven school preparedness may hinder effective implementation.
- **Increased academic burden:** Additional language requirements could increase pressure on students and affect learning outcomes.
- **Federal and linguistic sensitivities:** Language politics and perceived imposition may trigger Centre–State tensions and regional resistance.
- **Imposition and over-centralisation concerns:** Mandatory implementation may restrict choice and undermine state autonomy in education.
- **Policy inconsistency and politicisation:** Abrupt policy shifts risk reducing trust and turning education into a cultural battleground.

Global Best Practices in Language Education

- **Flexible multilingual model (Canada/Switzerland):** Language education balances national cohesion with regional autonomy, allowing provinces/cantons flexibility in language choice while preserving linguistic diversity.
- **Mother-tongue based multilingual education (Finland/Singapore):** Early education prioritises the mother tongue alongside additional languages to improve learning outcomes, cultural identity, and cognitive development.
- **Phased and consultative implementation (European Union countries):** Language reforms are introduced gradually with trained teachers, curriculum readiness, and stakeholder consultation to avoid academic burden and resistance.

Way Forward

- **Flexible implementation & Choice-based approach:** States and schools should have contextual flexibility in language selection, offering a wider basket of Indian, classical, and foreign languages instead of a rigid formula. This would respect linguistic diversity, local realities, and student preferences.

- **No coercive imposition & voluntary multilingualism:** The policy should align with the spirit of NEP 2020 by encouraging language learning through choice rather than compulsion. Multilingualism should emerge as an educational opportunity, not an imposed obligation.
- **3C Framework for implementation (Consensus–Choice–Capacity):** Reforms should be built on **Consensus** through bodies like the Inter-State Council (Article 263) or CABE, **Choice** through flexible language options, and **Capacity** through teacher training, digital content, and institutional readiness before enforcement.
- **Phased rollout with institutional preparedness:** Implementation should be gradual after ensuring adequate teachers, textbooks, and digital learning resources. A calibrated transition can minimise disruption and improve policy effectiveness.
- **Stakeholder consultation & cooperative federalism:** Parents, teachers, states, and linguistic experts should be involved in policy design to build trust and reduce Centre–State tensions. Consensus-based implementation would improve legitimacy and acceptance.
- **Reduce student burden through flexible pedagogy:** Flexible assessment mechanisms, lighter curricular integration, and activity-based language learning should prevent excessive academic pressure. Language education must support learning outcomes rather than burden students.
- **Digital & AI-led multilingualism:** Tools such as the Bhashini and digital platforms can enable real-time translation, language learning, and teacher training. Technology-driven multilingualism can transform language acquisition into an accessible and future-ready skill rather than an administrative burden.

Conclusion

India's language policy must balance **multilingual aspirations with constitutional freedom, federal sensitivity, and educational practicality**. A future-ready approach lies in **flexible, consultative, and student-centric implementation rather than linguistic imposition**. If designed inclusively, multilingual education can become a tool for **national integration, cognitive growth, and global competitiveness**. The goal should be to build **linguistically empowered citizens for a diverse and knowledge-driven India**.

Q. "Language policy in education should promote inclusion rather than imposition." Discuss in the context of the three-language formula under the National Education Policy. 15 Marks

2.1.2. FCRA (AMENDMENT) BILL, 2026 – EXPANDING STATE CONTROL OVER CIVIL SOCIETY

Context

- The FCRA (Amendment) Bill, 2026 was introduced in the Lok Sabha on March 25, 2026, to strengthen regulation of foreign-funded organisations.
- The Bill follows the stricter regulatory framework created by the FCRA Amendment Act, 2020. Critics argue that the proposed changes move beyond regulation and significantly increase executive control over civil society institutions.



Introduction

- The Foreign Contribution (Regulation) Act (FCRA) regulates the receipt and utilisation of foreign contributions by NGOs, charitable trusts, educational institutions and religious organisations.
- The stated objectives are ensuring transparency, accountability and protection of national interests.
- The 2026 amendment seeks to expand government oversight but has raised concerns regarding civil society autonomy, minority institutions and constitutional freedoms.

Major Provisions of the Bill

1. Introduction of Chapter IIIA

- The Bill introduces a new chapter dealing with the management and vesting of assets of organisations that lose their FCRA registration.
- It creates a legal framework through which the government can assume control over foreign-funded assets through a Designated Authority.

2. Automatic Cessation of Registration (Section 14B)

- FCRA registration may automatically cease if renewal is denied, delayed, surrendered, or not applied for within the prescribed period.
- This allows organisations to lose their legal status due to procedural issues even without a finding of serious wrongdoing.

3. Provisional Vesting of Assets (Section 16A)

- Upon cancellation, surrender, or cessation of registration, foreign contributions and assets derived from them automatically vest in a Designated Authority.
- The transfer occurs without prior judicial review, significantly increasing executive control over organisational resources.

4. Broad Powers of Designated Authority

- The Designated Authority can take possession of assets, manage institutions, supervise finances, and oversee operations.
- It may also transfer, administer, or dispose of assets in the name of public interest, giving it extensive discretionary powers.

5. Permanent Vesting of Assets

- If an organisation fails to regain registration within the prescribed period, the provisional vesting becomes permanent.
- The government may then transfer or sell the assets, with proceeds credited to the Consolidated Fund of India.

6. Restrictions During Suspension

- Organisations whose FCRA registration is suspended cannot manage or utilise their assets without prior government approval.
- This can severely disrupt day-to-day functioning and the delivery of welfare and charitable services.

7. Centralisation of Enforcement

- The amended provisions require State agencies to obtain prior approval from the Union Government before initiating investigations.
- This strengthens central control over FCRA enforcement and reduces the autonomy of State-level authorities.

8. Expanded Liability of Functionaries

- The Bill broadens the scope of accountability for office-bearers and key functionaries of organisations.
- Individuals may face greater personal responsibility and legal consequences for compliance failures or alleged violations.

9. Removal of Existing Asset Disposal Provisions

- The Bill removes Section 22, which previously governed the disposal of assets of defunct or non-operational organisations.
- Asset management will instead be governed by the new vesting mechanism under Chapter IIIA, giving the executive greater control over such assets.

Impact of the Bill

1. On Civil Society Organisations

- NGOs may face stricter compliance requirements and greater scrutiny from regulatory authorities.
- The increased risk of suspension, cancellation, and asset takeover may constrain their autonomy and functioning.

2. On Welfare Service Delivery

- Educational, healthcare, and charitable institutions dependent on foreign funding may experience operational disruptions.
- Beneficiaries, particularly vulnerable communities, could lose access to essential social services.

3. On Minority Institutions

- Minority-run schools, colleges, hospitals, and charitable trusts may become vulnerable to government intervention due to registration-related issues.
- Delayed renewals or cancellations could potentially affect institutions that have been serving communities for decades.

4. On Donor Confidence

- Foreign donors may become hesitant to contribute if donated funds and assets face the possibility of government control.
- Reduced donor confidence could lead to a decline in foreign funding for developmental and humanitarian activities.

5. On Democratic Participation

- Increased regulatory control may discourage organisations from engaging in advocacy and public-interest activities.

- The resulting chilling effect could weaken citizen participation and democratic engagement.

6. On Employment and Economy

- The NGO sector, which generates substantial employment and volunteer opportunities, may face financial instability.
- Reduced operations and funding could negatively affect livelihoods and local economic development.

Challenges and Concerns

1. Excessive Executive Discretion

- Broad terms such as "public interest" and "national interest" provide significant interpretative power to the executive.
- Such ambiguity may increase the possibility of arbitrary or selective enforcement.

2. Weak Due Process

- Asset vesting can occur through administrative action without prior judicial scrutiny or independent review.
- This raises concerns regarding fairness, natural justice, and procedural safeguards.

3. Risk of Asset Expropriation

- Organisations may lose control over their assets because of procedural lapses, delayed renewals, or disputed violations.
- Critics argue that this resembles indirect confiscation without adequate legal protections.

4. Lack of Transparency

- Reasons for suspension or cancellation of FCRA registration are often not fully disclosed to affected organisations.
- Limited transparency makes it difficult for institutions to challenge or rectify adverse decisions.

5. Administrative Delays

- The Bill does not establish clear timelines for registration, renewal, or approval processes.
- Prolonged delays can create uncertainty and disrupt projects dependent on foreign funding.

6. Constitutional Concerns

- The provisions raise questions regarding equality (Article 14), freedom of association (Article 19), religious freedom (Articles 25–26), minority rights (Articles 29–30), and property rights (Article 300A).
- Critics argue that the concentration of powers in the executive may upset the balance between regulation and fundamental rights.

7. Shrinking Civic Space

- Fear of investigation, cancellation, or asset takeover may discourage organisations from undertaking rights-based advocacy.
- This could reduce the independence and vibrancy of civil society, which is essential for a healthy democracy.

Way Forward

1. Establish Independent Oversight

- A quasi-judicial body should be created to adjudicate disputes related to registration cancellation and asset vesting.
- Independent oversight would reduce excessive executive discretion and strengthen institutional accountability.

2. Strengthen Due Process Safeguards

- Mandatory hearings and opportunities for representation should be provided before any adverse action is taken.
- Asset takeover should occur only after judicial or independent review to ensure procedural fairness.

3. Define "Public Interest" Clearly

- Ambiguous terms such as "public interest" should be precisely defined in the legislation.
- Clear definitions would minimise arbitrary interpretation and promote legal certainty.

4. Prescribe Fixed Timelines

- Statutory deadlines should be established for registration, renewal, suspension, and approval decisions.
- Time-bound procedures would reduce uncertainty and prevent organisations from suffering due to administrative delays.

5. Adopt Proportionate Penalties

1. Minor procedural or technical violations should attract corrective measures rather than severe punitive action.
2. Penalties should be proportionate to the nature and seriousness of the violation.

6. Protect Essential Services

- Schools, hospitals, orphanages, and welfare institutions should be allowed to continue functioning during regulatory proceedings.
- This would ensure that vulnerable communities do not suffer because of disputes involving organisational compliance.

7. Enhance Transparency

- The government should publicly disclose reasons for suspension, cancellation, or other regulatory actions, subject to legitimate security concerns.
- Greater transparency would improve trust, accountability, and the ability of organisations to seek legal remedies.

Conclusion

India's regulatory framework must strike a careful balance between national security and transparency on one hand, and constitutional freedoms and civil society autonomy on the other, ensuring that accountability strengthens rather than stifles democratic participation and inclusive development.

Q. *Civil society organisations play a critical role in governance and service delivery. Evaluate how the FCRA (Amendment) Bill, 2026 may affect their functioning.* 15 Marks

2.1.3. THE ORDINANCE QUESTION BEFORE THE SUPREME COURT

Context:

The Union Government recently promulgated an Ordinance increasing the sanctioned strength of the Supreme Court from 34 to 38 judges. Based on this Ordinance, five new judges were appointed, of whom three occupied posts created solely through the Ordinance. The development has triggered concerns regarding judicial independence, security of tenure and the judiciary's relationship with the executive.



Introduction

Judicial independence forms part of the Basic Structure of the Constitution and is essential for maintaining the separation of powers. While the Constitution permits Ordinances to have the force of law, the appointment of judges to Ordinance-created posts raises important questions regarding the judiciary's institutional autonomy and its perceived distance from executive influence.

Why Has the Issue Become Controversial?

The controversy does not concern the merit of the appointed judges but the constitutional mechanism through which the additional posts were created.

• Ordinance-Created Judicial Posts

- The President promulgated an Ordinance under Article 123 increasing Supreme Court strength from 34 to 38.
- Three of the newly appointed judges occupy posts that exist solely because of the Ordinance.
- Unlike a parliamentary statute, an Ordinance is temporary and may lapse if not approved by Parliament.

• Constitutional Provisions Involved

- **Article 124(1):** Provides that the number of Supreme Court judges shall be determined by Parliament through law.
- **Article 123:** Empowers the President to promulgate Ordinances when Parliament is not in session.
- **Basic Structure Doctrine:** Judicial independence is recognised as a part of the Constitution's Basic Structure. Any action that potentially compromises institutional autonomy attracts constitutional scrutiny.

Concerns About Judicial Independence?

1. Concerns Regarding Security of Tenure

- The continuation of Ordinance-created posts depends upon parliamentary approval.
- If the Ordinance lapses, questions arise regarding the legal status of those positions.

2. Concerns Regarding Institutional Perception

- The executive that created the posts may appear before the same judges in future cases.

- This could create a perception that judges occupy positions dependent upon executive goodwill.

3. Concerns Regarding Separation of Powers

- The judiciary may appear dependent on temporary executive action rather than permanent legislative sanction.

Why Does the Issue Appear Contradictory to Earlier Judicial Positions?

1. NJAC Judgment (2015): In **Supreme Court Advocates-on-Record Association v. Union of India (2015)**:

- The Supreme Court struck down the National Judicial Appointments Commission (NJAC).
- The Court held that judicial primacy in appointments is essential for independence.
- Even limited executive influence was considered problematic.

2. **D.C. Wadhwa Case (1986)**

- The Court criticised repeated use of Ordinances.
- It termed re-promulgation of Ordinances a "fraud on the Constitution."

3. **Krishna Kumar Singh Case (2017)**

- The Court held that Ordinance-making power cannot become an alternative legislative route.

Arguments in Favour of the Ordinance

1. **Addressing Judicial Pendency:** Increasing the Supreme Court's strength helps reduce mounting case backlogs and improves the efficiency of justice delivery.
2. **Constitutional Legitimacy:** Article 123 authorises the President to promulgate Ordinances, which enjoy the same force and effect as an Act of Parliament during their operation.
3. **Preventing Administrative Delays:** Immediate appointments ensure that critical judicial vacancies do not remain unfilled while awaiting the legislative process.
4. **Supporting Judicial Capacity Expansion:** The additional posts respond to the growing workload of the Supreme Court and the increasing complexity of constitutional and public interest litigation.
5. **Pragmatic Institutional Calculation:** The Collegium appears to have assumed that Parliament would soon regularise the Ordinance through legislation and that upcoming retirements would absorb judges appointed against Ordinance-created posts, thereby avoiding long-term legal uncertainty.

Way Forward

1. **Enact a Permanent Legislative Framework:** Parliament should promptly replace the Ordinance with a regular law to provide a stable legal basis for the increased judicial strength. This would eliminate uncertainty regarding the status of judges appointed against Ordinance-created posts.
2. **Safeguard Judicial Independence in Appointments:** Judicial appointments should be insulated from temporary executive measures to avoid any perception of institutional dependence. This would strengthen public confidence in the autonomy of the judiciary.

3. **Enhance Transparency and Institutional Accountability:** Greater transparency in decisions relating to judicial appointments and court administration can improve institutional credibility. Clear and predictable procedures also help reinforce trust in the judicial system.
4. **Develop a Long-Term Judicial Manpower Policy:** India needs a comprehensive assessment of judicial workload, vacancies and future requirements across all levels of the judiciary. Such planning can ensure timely expansion of judicial capacity without ad hoc measures.
5. **Balance Judicial Efficiency with Constitutional Principles:** Efforts to reduce pendency and strengthen judicial capacity must remain consistent with judicial independence, separation of powers and security of tenure. Administrative efficiency should complement, not compromise, constitutional safeguards.

Conclusion

The controversy is not about the competence of the appointed judges but about the constitutional principles underlying their appointments. Judicial independence requires not only freedom from executive influence but also the appearance of such freedom. Going forward, strengthening judicial capacity must be pursued through constitutionally stable mechanisms that preserve both institutional autonomy and public confidence in the judiciary.

Q. Judicial independence is not merely about freedom from executive interference but also about maintaining the appearance of institutional autonomy. Examine in the context of the recent debate over Supreme Court judges appointed against Ordinance-created posts. 15 Marks

2.1.4. FACULTY VACANCIES IN INDIA'S PREMIER TECHNICAL INSTITUTIONS

Context

RTI data obtained from 79 Centrally Funded Technical Institutes (CFTIs) reveal that **35.2% of sanctioned faculty positions remain vacant**, raising concerns about the quality of higher education despite India's expanding technical education ecosystem.



Introduction

India's premier institutions such as the IITs, NITs, IIMs, IIITs, and IISERs play a crucial role in producing skilled human capital, driving innovation, and supporting economic growth. However, persistent faculty shortages threaten teaching quality, research output, and India's aspirations of becoming a global knowledge hub.

Key Findings from RTI Data

- **Overall Vacancy Situation**
 - Out of **20,279 sanctioned faculty posts, 7,132 posts (35.2%)** remain vacant.
 - Nearly **one in every three teaching positions** is unfilled.
 - **16 institutions** reported vacancy levels above 50%.
- **Indian Institutes of Technology (IITs)**

- **35% of 11,019 sanctioned posts** remain vacant.
- **9 out of 20 IITs** reported vacancies exceeding 35%.
- **IIT Kharagpur** recorded the highest vacancy level:
 - 824 vacancies out of 1,600 sanctioned posts (over 50%).
- **National Institutes of Technology (NITs)**
 1. **27.9% of 5,432 sanctioned posts** remain vacant.
 2. **NIT Andhra Pradesh** reported the highest vacancy rate (68%).
 3. High vacancies also observed in:
 1. NIT Srinagar
 2. NIT Sikkim
 3. NIT Tiruchirappalli
- **Indian Institutes of Management (IIMs)**
 - **32.3% of 1,741 sanctioned posts** remain vacant.
 - Four IIMs reported vacancies above 50%.
 - **IIM Mumbai** reported nearly 59% vacancies.
- **Indian Institutes of Information Technology (IIITs)**
 - Highest vacancy ratio among all institutions.
 - **53.5% of sanctioned faculty posts** remain vacant.
 - Eight IIITs reported vacancy levels above 50%.
- **Indian Institutes of Science Education and Research (IISERs)**
 - Around **32% of sanctioned posts** remain vacant.

Significance of Faculty Availability in Higher Education

1. Quality of Teaching and Learning

- Adequate faculty availability ensures effective classroom instruction, academic mentoring, and personalized guidance for students.
- Persistent vacancies increase the teacher-student ratio, reducing learning outcomes and overall educational quality.

2. Research and Innovation

- Faculty members are the primary drivers of research, innovation, patents, publications, and technological advancement.
- Shortages of qualified faculty weaken research productivity and limit India's capacity for knowledge creation.

3. Achieving NEP 2020 Objectives

- The National Education Policy (NEP) 2020 aims to build world-class multidisciplinary institutions and a vibrant research ecosystem.

- Faculty shortages undermine these goals by affecting academic excellence, innovation, and institutional capacity.

4. Global Competitiveness

- Strong faculty strength is essential for improving university rankings, attracting international collaborations, and enhancing academic reputation.
- Large vacancies reduce institutional competitiveness and limit India's emergence as a global education hub.

5. Human Capital Development

- Premier technical institutions play a crucial role in producing skilled engineers, scientists, managers, and entrepreneurs.
- Inadequate faculty strength can compromise the quality of graduates, affecting employability and economic productivity.

Causes of Persistent Faculty Vacancies

1. Lengthy Recruitment Processes

- Faculty recruitment often faces delays due to lengthy procedures involving advertisements, screening, interviews, and administrative approvals.
- Bureaucratic bottlenecks result in prolonged vacancies and slow replacement of retiring or departing faculty members.

2. Shortage of Qualified Candidates

- The supply of highly qualified PhD holders, particularly in emerging and interdisciplinary fields, remains inadequate.
- Increasing global demand for skilled academics has intensified competition for talent across universities and research institutions.

3. Attractive Private and Overseas Opportunities

- Better salaries, superior research facilities, and greater career prospects in the private sector and foreign universities attract talented academics.
- This brain drain reduces the pool of qualified candidates available for recruitment in Indian institutions.

4. Rapid Expansion of Institutions

- The establishment of new IITs, NITs, IIITs, and IISERs has significantly increased the demand for qualified faculty.
- Recruitment efforts have not kept pace with institutional expansion, leading to persistent staffing shortages.

5. Research Infrastructure Constraints

- Limited research funding, inadequate laboratory facilities, and insufficient institutional support discourage top academic talent.
- Heavy administrative responsibilities often reduce the attractiveness of academic careers and affect faculty retention.

6. Geographical Challenges

- Institutions located in remote or less-developed regions face difficulties in attracting and retaining quality faculty.
- Concerns related to housing, schooling for children, healthcare facilities, and overall quality of life discourage potential recruits.

Implications of Faculty Vacancies in Higher Education

1. Academic Implications

- Faculty shortages increase the teaching workload on existing staff, affecting the quality of instruction and mentoring.
- Reduced faculty availability limits individual attention to students and slows curriculum revision, pedagogical reforms, and academic innovation.

2. Research Implications

- A shortage of faculty adversely affects research productivity, resulting in fewer publications, patents, and technological innovations.
- It also reduces participation in international collaborations, interdisciplinary research, and global academic networks.

3. Institutional Implications

- Persistent vacancies make it difficult for institutions to maintain accreditation standards and prescribed faculty-student ratios.
- They also hinder efforts to improve institutional reputation, attract talent, and achieve higher global rankings.

4. Economic Implications

- Weak research and academic ecosystems can undermine India's innovation capacity and long-term knowledge economy goals.
- Poor-quality human capital formation may reduce competitiveness in technology-driven and knowledge-intensive sectors.

Government Initiatives

1. Mission Mode Recruitment Drive

- The Ministry of Education launched special **Mission Mode recruitment drives in September 2022 and October 2025** to accelerate the filling of vacant faculty positions in Central Higher Educational Institutions (CHEIs).
- These drives aim to streamline recruitment processes and reduce long-pending vacancies across premier institutions.

2. Continuous Recruitment Process

- The Ministry has emphasized that faculty recruitment is a **continuous and ongoing exercise**, undertaken regularly as vacancies arise.

- Institutions are encouraged to initiate timely recruitment to ensure minimal disruption to teaching and research activities.

3. Faculty–Student Ratio Norms

- To maintain academic quality, the government prescribes a **faculty-student ratio of 1:10 for IITs and 1:12 for NITs**.
- These norms are periodically reviewed to align faculty strength with institutional expansion and student enrolment.

4. Recruitment Progress

1. As of **January 2026**, around **17,878 faculty positions** had reportedly been filled across Central Higher Educational Institutions under the Mission Mode recruitment initiative.
2. This reflects the government's efforts to strengthen teaching capacity and improve the quality of higher education in India.

Way Forward to Address Faculty Vacancies

1. Fast-Track Faculty Recruitment

- Recruitment procedures should be simplified, digitised, and made more transparent to reduce delays in appointments.
- Establishing fixed timelines for each stage of recruitment can ensure timely filling of vacant positions.

2. Improve Faculty Incentives

- Competitive salaries, adequate research grants, housing support, and other benefits can help attract and retain quality faculty.
- Performance-linked incentives can encourage excellence in teaching, research, innovation, and academic leadership.

3. Strengthen the Research Ecosystem

- Greater investment in laboratories, research infrastructure, innovation hubs, and interdisciplinary studies is essential to attract top talent.
- Stronger industry-academia collaboration can enhance research opportunities, funding, and practical relevance of academic work.

4. Develop a Robust Academic Talent Pipeline

- Expanding doctoral and post-doctoral fellowships can increase the pool of qualified candidates for academic positions.
- Encouraging young researchers to pursue academic careers can help meet the growing demand for faculty in higher education institutions.

5. Address Regional Imbalances

- Special incentives should be provided to attract faculty to institutions located in remote and underserved regions.
- Improving housing, healthcare, schooling, and other welfare facilities can enhance faculty retention in such areas.

6. Leverage Global Talent and Expertise

- India should facilitate the recruitment of overseas Indian scholars and distinguished foreign faculty members.
- Promoting international academic exchanges and collaborative research can enrich the quality and global outlook of higher education institutions.

Conclusion

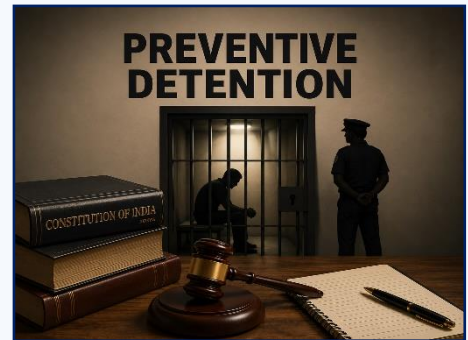
Faculty are the backbone of higher education. Addressing faculty vacancies is essential for improving educational quality, advancing research, achieving NEP 2020 goals, and strengthening India's knowledge-driven economy and global competitiveness.

Q. The quality of higher education depends not only on infrastructure but also on the availability of qualified faculty. Evaluate the challenges associated with faculty recruitment in India's premier institutions and suggest reforms. 15 Marks

2.1.5. PREVENTIVE DETENTION IN INDIA

Context

- In the Chander Pal Singh case, the Allahabad High Court addressed the routine and arbitrary use of preventive detention laws by the state apparatus.
- The Court highlighted that between May 2025 and April 2026, around 2,500 individuals were subjected to preventive detention in Ghaziabad over minor disputes, calling it a "highly irresponsible" deprivation of personal liberties.



Introduction

- State-mandated imprisonment is classified into two distinct legal categories: punitive detention, which serves as punishment after a court trial and conviction, and preventive detention, which is anticipatory incarceration without a trial. Originating from colonial-era laws such as the Bengal State Prisoners Regulation (1818) and the Defence of India Act (1915), the sole objective of preventive detention is not to punish past offences, but rather to proactively stop an individual from committing a future crime or endangering society.

Constitutional Framework and Legal Dynamics

1. Constitutional Safeguards under Article 22

- **Procedural Limitations:** The state cannot hold an individual in preventive custody for more than three months unless an Advisory Board—comprising individuals qualified to be High Court judges—finds sufficient cause for an extension.
- **Right to Representation:** The detaining authority must communicate the grounds of detention at the earliest opportunity (unless withholding facts serves public interest) and grant the detainee the right to legally challenge the order.

2. Legislative Jurisdiction (Seventh Schedule)

- **Union List (Entry 9):** Parliament holds exclusive power to enact preventive detention laws concerning defence, foreign affairs, or the security of India.
- **Concurrent & State Lists:** Both Parliament and State Legislatures can enact laws pertaining to the maintenance of public order and essential community supplies.

3. The Jurisdictional Divide: Law & Order vs. Public Order

- **Conceptual Distinction:** The Supreme Court (*Ram Manohar Lohia Case, 1965*) clearly separated the two. 'Law and order' involves localized disputes affecting a few individuals, manageable by ordinary criminal laws. 'Public order' involves severe disruptions influencing the wider community or nation.
- **Detention Validity:** Preventive detention is legally invalid when invoked as a shortcut to manage ordinary 'law and order' disturbances.

4. Supreme Court on Preventive Detention

The apex court has consistently attempted to rein in administrative overreach through landmark rulings:

- **Ameena Begum Case (2023):** The Court categorically ruled that preventive detention is an exceptional measure strictly meant for emergency situations and explicitly forbade its routine use by local administrations.
- **Ankul Chandra Pradhan Case (1997):** The bench emphasized that the fundamental objective of preventive detention is solely to prevent harm to state security, barring its use as a mechanism to impose extrajudicial punishment.
- **Ram Manohar Lohia Case (1965):** The Court established a critical legal boundary, stating that ordinary 'law and order' issues (affecting only a few individuals) cannot justify preventive detention. It is constitutionally valid only for grave 'public order' threats that disrupt the wider community or nation.

Significance

- **Establishes Financial Accountability:** Judicial directives introduce a strong deterrent by allowing compensation for unlawful detentions to be recovered directly from the salaries of the erring executive magistrates or police officers.
- **Curtails Administrative Overreach:** Prevents local administrations from escalating petty neighborhood, property, or localized disputes into matters requiring anticipatory incarceration.
- **Safeguards Democratic Dissent:** Critiques the weaponization of "maintaining peace" to arbitrarily jail activists, workers, and protesters under stringent security acts.
- **Enforces Executive Justification:** Removes administrative opacity, mandating that executive magistrates formally and legally justify their decisions rather than citing vague "communal tensions."
- **Strengthens Appellate Oversight:** Ensures the compensation framework and detention grounds continuously face rigorous, independent judicial evaluation.

Challenges

- **The Democratic Contradiction:** India stands uniquely as a major democratic republic that retains preventive detention as an integral peacetime constitutional mechanism, inherently conflicting with absolute civil liberties.
- **Deliberate Structural Ambiguity:** Authorities frequently manipulate the doctrinal line between localized "law & order" and broader "public order" to validate arbitrary arrests.
- **Misuse of Extraordinary Statutes:** Laws such as the National Security Act (NSA) and Public Safety Act (PSA) are heavily leveraged to bypass the procedural safeguards of the standard criminal justice system.
- **Executive Reluctance to Penalize:** The state apparatus remains deeply resistant to initiating disciplinary hearings or financially penalizing its own policing personnel.
- **Compromised Magisterial Independence:** Executive magistrates remain part of the State administration; their career trajectories often depend on maintaining 'peace' as defined by political superiors, compromising impartiality.

Way Forward

- **Implement NCRWC Directives:** Enforce the National Commission to Review the Working of the Constitution (NCRWC) recommendation to cap the absolute maximum detention period under Article 22 at six months.
- **Restructure Advisory Boards:** Amend legislation to mandate that Advisory Boards consist exclusively of a chairman and two *servant* High Court judges to guarantee absolute impartiality.
- **Formulate Strict State SOPs:** State governments must issue definitive Standard Operating Procedures detailing the exact evidentiary thresholds and threat assessments required before invoking these powers.
- **Separate Executive Functions Locally:** Create a strict functional firewall between the local police apparatus generating threat reports and the executive magistrates adjudicating them.
- **Impose Financial Deterrence:** Systematically institutionalize the judicial directive to dock the salaries of officials who authorize blatantly unlawful detentions.
- **Mandate Data Transparency:** Require the National Crime Records Bureau (NCRB) to publish granular, district-wise data on preventive detentions and the success rates of Advisory Board confirmations to enable parliamentary oversight.

Conclusion

Preventive detention is a colonial-era legacy embedded into the Constitution as an extraordinary necessity to safeguard national sovereignty. However, its gradual degradation into a routine policing shortcut represents a severe democratic regression. Upholding the sanctity of Article 21 requires the executive to internalize that preventive detention must be strictly reserved for genuine, grave emergencies, balancing state security imperatives with the inviolable rights of the citizen.

Q. "The routine application of preventive detention laws in peacetime is increasingly viewed as a threat to personal liberty. Evaluate the constitutional safeguards and judicial pronouncements designed to prevent its misuse." 15 Marks

2.1.6. LOPSIDED SOLUTION: NEED FOR STRONGER PHARMACEUTICAL REGULATION IN INDIA

Why in News?

The Union Health Ministry has amended the Drugs Rules, 1945 by removing "syrup" from Schedule K, making cough syrups prescription-only medicines. The move comes in response to the deaths of over 300 children abroad due to contaminated India-made cough syrups, WHO warnings on drug quality, and growing concerns over weaknesses in India's pharmaceutical regulatory framework.



Introduction

India, often called the "**Pharmacy of the World**", is a leading supplier of affordable medicines globally. However, recent deaths linked to contaminated India-made cough syrups have exposed gaps in drug quality control and regulatory oversight, highlighting the need for stronger pharmaceutical governance beyond merely restricting OTC sales.

Significance of the Pharmaceutical Industry in India

- **Economic Significance**
- **Largest supplier of generic medicines:** India meets a significant share of the world's demand for affordable generic drugs.
- **20% of global generic exports:** India accounts for nearly one-fifth of global generic medicine exports by volume.
- **Boosts exports and employment:** The sector is a major contributor to foreign exchange earnings and provides employment across the value chain.
- **Public Health Significance**
- **Affordable healthcare worldwide:** India exports affordable medicines to over **200 countries**, making essential healthcare accessible globally and reinforcing its role as a major supplier of generic drugs. The top importers of Indian pharmaceuticals include the **USA, UK, Brazil, France, and South Africa**.
- **Critical during COVID-19:** Through the **Vaccine Maitri** initiative, India supplied over **300 million vaccine doses to more than 100 countries**, strengthening global health security and India's health diplomacy.
- **Strategic Significance**
- **Enhances health diplomacy:** Pharmaceutical exports strengthen India's relations with partner countries through medical assistance.
- **Supports healthcare hub ambitions:** A strong pharma sector is vital for India's goal of becoming a global healthcare and biotechnology leader.
- **Global Reputation**
- **"Pharmacy of the Global South":** India is trusted by many developing nations as a reliable source of affordable medicines.

- **Impacts global health security:** The quality and safety of Indian medicines have direct implications for public health across the world.

Core Issues in Pharmaceutical Safety and Rationale Behind Restricting Cough Syrups

1. Contaminated Raw Materials

The presence of toxic substances such as ethylene glycol (EG) and diethylene glycol (DEG) in drug ingredients has caused fatal health consequences.

2. Weak Manufacturing Practices

Poor compliance with Good Manufacturing Practices (GMP) and cost-cutting measures compromise drug quality and safety.

3. Inadequate Quality Testing

Failure to rigorously test raw materials and finished products allows contaminated medicines to enter the market.

4. Regulatory Oversight Deficit

Weak inspections, poor enforcement, and limited accountability reduce the effectiveness of drug regulation.

5. Health Risks from OTC Cough Syrups

Many cough syrups contain antihistamines, bronchodilators, and decongestants that can cause sedation, tremors, and cardiovascular side effects.

6. Irrational Use and Self-Medication

Prescription-only sales can reduce misuse of cough syrups, discourage self-medication, and promote consultation with qualified healthcare professionals.

Challenges in India's Pharmaceutical Regulatory Framework

1. Weak Regulatory Capacity

India's drug regulatory system suffers from inadequate manpower, limiting effective inspection, monitoring, and surveillance of pharmaceutical units.

2. Fragmented Governance

The division of regulatory responsibilities between the Centre and States leads to inconsistent enforcement and coordination gaps.

3. Inadequate Testing Infrastructure

A shortage of modern accredited laboratories hampers timely and accurate quality testing of medicines.

4. Industry Resistance

Concerns over higher compliance costs often lead some manufacturers to oppose stricter quality-control and testing requirements.

5. Poor Enforcement

Weak inspections and lenient penalties reduce deterrence and allow regulatory violations to persist.

6. Prevalence of OTC Culture

Widespread self-medication and reliance on pharmacists for primary healthcare contribute to irrational drug use and misuse of medicines.

Implications of Weak Pharmaceutical Regulation

A. Domestic Implications

1. Public Health Risks

The circulation of substandard or contaminated medicines can result in serious adverse reactions, treatment failures, and even fatalities. This increases the overall disease burden and undermines public health outcomes.

2. Erosion of Public Trust

Repeated incidents of poor-quality medicines weaken citizens' confidence in healthcare systems and regulatory institutions. Such distrust may discourage patients from adhering to prescribed treatments.

3. Economic Costs

Drug safety failures increase healthcare expenditure due to additional treatment, hospitalization, and monitoring requirements. They also expose pharmaceutical companies and governments to legal liabilities and compensation claims.

B. International Implications

1. Damage to India's Reputation

Quality lapses tarnish India's image as the "**Pharmacy of the World**" and raise concerns about the reliability of its pharmaceutical products. For example, the **2023 contaminated eye-drop crisis** led to deaths and permanent vision loss, following which the **U.S. FDA** placed the Indian manufacturer on an import alert, affecting India's pharmaceutical credibility.

2. Threat to Pharmaceutical Exports

Importing countries may impose stricter quality checks, regulatory barriers, or product bans on Indian medicines. Such measures can reduce export earnings and adversely affect the pharmaceutical industry's growth.

3. Global Health Concerns

Since Indian medicines are supplied worldwide, quality failures can endanger public health across multiple countries. Weak regulation in a major drug-exporting nation can therefore become a global health security challenge.

Key Reform Recommendations by Various Committees and Policies

1. Mashelkar Committee (2003)

Recommended a professionally managed and centrally coordinated drug regulatory system to ensure uniform quality standards across India.

2. Ranjit Roy Chaudhury Expert Committee (2013)

Advocated greater autonomy, transparency, and scientific capacity for CDSCO to improve the efficiency and credibility of drug regulation.

3. Parliamentary Standing Committee on Health (59th Report, 2012)

Called for a comprehensive overhaul of the drug approval process by addressing conflicts of interest and strengthening regulatory oversight.

4. National Health Policy (2017)

Emphasised stronger regulatory mechanisms, modern testing infrastructure, and robust quality assurance to ensure safe and effective medicines.

Way Forward

1. Strengthen Quality Control Mechanisms

Mandatory testing of raw materials, adoption of advanced analytical technologies, and independent third-party audits can help ensure the safety and quality of medicines before they reach consumers.

2. Enhance Regulatory Capacity

Recruiting more drug inspectors, improving technical training, and strengthening State Drug Control Departments will enable more effective monitoring and enforcement of pharmaceutical standards.

3. Modernise Testing Infrastructure

Establishing well-equipped laboratories across states and implementing digital batch-tracking systems can improve the speed, accuracy, and traceability of quality assessments.

4. Improve Enforcement

Risk-based inspections, stringent penalties for violations, and criminal liability in cases of serious negligence can create a strong deterrent against non-compliance.

5. Strengthen Pharmacovigilance

Robust adverse drug reaction reporting systems and real-time surveillance mechanisms can help detect and address drug safety issues at an early stage.

6. Undertake Regulatory Reforms

Better coordination between CDSCO and State regulators, along with a more integrated regulatory framework, can ensure uniform standards and greater accountability.

7. Promote Responsible Drug Use

Public awareness campaigns against self-medication and stricter enforcement of prescription norms can encourage rational and safe use of medicines.

Conclusion

For a nation that supplies medicines to the world, drug safety is not merely a regulatory obligation but a strategic imperative. India's pharmaceutical success must rest not only on affordability and scale but equally on quality, trust and accountability.

Q. India's status as the 'Pharmacy of the World' depends not only on affordable medicines but also on robust regulatory oversight. Discuss the challenges facing pharmaceutical regulation in India and the reforms required to address them. 15 Marks

2.1.7. INDIA'S DIGITAL & TECHNOLOGICAL SOVEREIGNTY

Context

Recent incidents have exposed critical vulnerabilities in India's digital infrastructure, signaling that "software-defined" networks are the new frontiers of national security:

- **The CCTV Breach (April 2026):** Hostile entities compromised Indian closed-circuit television (CCTV) networks to spy on strategic defense assets. The vulnerability was traced back to the use of a Chinese software platform (**EseeCloud**) embedded in the hardware.
- **The Cloud Access Denial (July 2025):** Nayara Energy was abruptly cut off from its corporate emails, cloud data, and collaboration tools. This happened because Microsoft unilaterally enforced EU sanctions against Nayara due to its partial ownership by Russian energy giant Rosneft.



Core Security Concerns & Vulnerabilities

- **Extraterritorial Jurisdiction of Data:** Even if data is physically stored within India, global data governance regimes allow foreign home governments to compel their tech giants to hand over data or restrict services.
- **Shift of Effective Control:** Control over critical infrastructure (authentication systems, productivity suites, cloud platforms) shifts away from Indian entities to overseas corporations and foreign sovereigns.
- **Weaponization of Code in Warfare:** Modern defense systems (fighter jets, missiles, radars) rely heavily on embedded software code rather than hardware. Foreign manufacturers can remotely:
 - Degrade targeting accuracy.
 - Reduce operational ranges.
 - Redirect battlefield intelligence to adversaries via software updates.
- **Historical Precedent:** During the **1999 Kargil conflict**, India was denied precise GPS access by the US at an operationally decisive moment in mountainous terrain.

Global Trends: The Move Toward Sovereign Tech

Major global powers are actively trying to reduce dependence on US-dominated digital ecosystems:

- **France:** Transitioning government departments from Microsoft Teams and Zoom to a sovereign video-conferencing platform by 2027.
- **EU & Others:** The Netherlands, Denmark, and German states are exploring domestic alternatives to Microsoft Word, Excel, and Outlook.
- **Türkiye:** Actively reducing reliance on foreign technologies to preserve strategic autonomy.

India's Unique Geo-Political Challenge

India's situation is uniquely precarious when viewed through the lens of **Power Transition Theory**:

- **The Theory:** When a rising power approaches parity with an established hegemon, the hegemon invariably acts to constrain or co-opt the competitor (as seen currently between the U.S. and China).
- **The Indian Dilemma:** As an accelerating economy approaching this "critical zone," India faces the daunting task of building its economic and military future on technology infrastructure that is currently vulnerable to foreign influence.

Way Forward

A. Restructuring the Defense Production Model

- **Shift from Public to Private Sector:** India's heavy reliance on the public sector has delayed critical projects (e.g., the indigenous fighter aircraft program running since the 1980s).
- **Adopt the US Model:** Emulate a system where private corporations develop cutting-edge capabilities through government research funding and assured procurement.
- *Recent Progress:* Inviting private-sector participation in developing the **Advanced Medium Combat Aircraft (AMCA)** under a competitive framework.

B. Strategic Technological Partnerships

Instead of total isolation (like China), India should pursue **interdependence** through trusted bilateral ties to avoid unilateral service denials:

- **Co-development:** Emulate the success of the **BrahMos missile programme** (India-Russia joint venture).
- **Supply Chain Security:** Deepen engagement with initiatives like **Pax Silica** (a U.S.-led initiative on AI and supply-chain security) to reduce dependence on hostile tech ecosystems.

C. Plugging the R&D Deficit

- **The Problem:** India's Gross Expenditure on R&D (GERD) averaged just **0.74% of GDP** (2000–2020), vastly underperforming against the global average of **2.07%**.
- **The Solution:** Urgently scale up public and private R&D spending to match global leaders to secure future technological sovereignty.

Conclusion

For a nation with India's demographic scale and global ambitions, achieving comprehensive technological sovereignty is no longer an optional luxury but a strategic necessity. Mitigating foreign digital dependencies will ultimately dictate India's economic competitiveness, national security, and strategic autonomy in an increasingly fragmented international order.

Q. Recent incidents involving foreign-controlled software and cloud services have exposed vulnerabilities in India's digital ecosystem. Critically analyse the implications of such dependence for governance, economy, and national security. 15 Marks

2.1.8. DNA TESTING IN PATERNITY DISPUTES: BALANCING TRUTH, PRIVACY AND JUSTICE

Context

The Supreme Court in **CP vs AP Judgment** held that DNA testing in paternity disputes should be ordered only as a **last resort**, when the issue cannot be resolved through other evidence. The judgment highlights the need to balance **scientific truth, privacy, dignity of the child, and the interests of justice**.

Core Constitutional Principles

1. **Right to Privacy (Article 21):** Recognized in K.S. Puttaswamy Judgment, it protects an individual's bodily autonomy, genetic information, and personal dignity from unwarranted intrusion.



2. **Right to Know One's Identity:** An individual has a legitimate interest in establishing biological parentage for identity, inheritance, and psychological well-being.
3. **Dignity and Best Interests of the Child:** The law seeks to protect children from the stigma of illegitimacy and safeguard their social and legal status.
4. **Interest of Justice:** Courts must ascertain the truth while ensuring that fundamental rights are not disproportionately violated.

Legal Framework

Bharatiya Sakshya Adhiniyam (BSA), 2023

(Earlier: Indian Evidence Act, 1872)

The law incorporates the **presumption of legitimacy**, which means that a child born during the subsistence of a valid marriage is presumed to be the legitimate child of the married couple. Consequently, the burden of proof rests on the person challenging or denying paternity, rather than on the child or the person seeking confirmation of paternity.

Objectives of this legal presumption:

- **Protection of children from social stigma:** Prevents children from being subjected to the social and psychological consequences of being labelled illegitimate.
- **Preservation of family stability:** Protects the sanctity of marriage and avoids unnecessary disruption of familial relationships.
- **Safeguarding privacy:** Discourages routine inquiries into intimate family matters and prevents unwarranted intrusion into private life.

Thus, the legal framework prioritizes the legitimacy and dignity of the child, and this presumption can be displaced only by strong and compelling evidence, including scientific evidence where necessary.

Evolution of Supreme Court Jurisprudence on DNA Testing in Paternity Disputes

Phase I: Protection of Legitimacy (Restrictive Approach)

Goutam Kundu Judgment

- DNA tests cannot be directed as a matter of routine.
- A strong prima facie case must exist before ordering a test.
- Courts must protect the legitimacy and dignity of children.
- Scientific inquiry should not override established legal presumptions.

Shri Banarsi Dass Judgment

- Reiterated the restrictive approach towards DNA testing.
- Courts should avoid ordering tests merely to satisfy curiosity.
- Social and familial consequences must be considered.
- Protection of legitimacy remained the primary concern.

Judicial Focus: Protection of legitimacy and family stability over scientific determination.

Phase II: Recognition of Scientific Truth

Rohit Shekhar–N.D. Tiwari Case

- Courts ordered DNA testing despite privacy objections.
- Recognized the evidentiary value of scientific techniques.
- Truth-finding became an important judicial objective.
- Marked a shift towards greater acceptance of DNA evidence.

Nandlal Wasudeo Badwaik Judgment

- Scientific evidence was given precedence over legal presumptions.
- DNA evidence was considered highly reliable and conclusive.
- Justice requires courts to consider scientific truth.
- Legal fictions cannot prevail against proven biological facts.

Dipanwita Roy Judgment

- DNA tests may be ordered when necessary for adjudication.
- Refusal to undergo testing can invite adverse inference.
- Scientific evidence can assist in resolving disputed facts.
- Courts recognized DNA testing as a legitimate evidentiary tool.

Judicial Focus: Truth discovery through reliable scientific evidence.

Phase III: Privacy-Centric Constitutional Approach

K.S. Puttaswamy Judgment

- Recognized privacy as a Fundamental Right under Article 21.
- Genetic information became part of informational privacy.
- Introduced the three-fold test of legality, legitimate aim, and proportionality.
- Established constitutional limits on compulsory DNA testing.

Judicial Focus: Protection of privacy, bodily autonomy, and genetic data.

Phase IV: Balancing Truth and Privacy

Aparna Ajinkya Firodia Judgment

- DNA testing should be ordered only when necessary.
- Courts must first assess the availability of alternative evidence.
- Proportionality must guide judicial decisions.
- Privacy concerns cannot be ignored while seeking truth.

Ivan Rathinam Judgment

- Neither privacy nor the right to know is absolute.
- Courts must balance competing constitutional interests.
- Child dignity and social consequences remain relevant.
- Necessity should determine whether testing is justified.

CP vs AP Judgment

- DNA testing is permissible when paternity is directly in dispute.
- Existing evidence must be insufficient to resolve the issue.
- Scientific determination must be necessary for justice.
- The test must satisfy the requirement of proportionality.

Current Position: DNA testing is a **measure of last resort**, permissible only when necessary, proportionate, and indispensable for achieving justice

Challenges and Issues

1. Privacy Concerns

Compelled DNA testing may lead to forced disclosure of sensitive genetic information, directly affecting bodily autonomy. It also raises risks of misuse, unauthorized access, or long-term storage of personal biological data.

2. Impact on Child's Dignity

DNA disputes can expose children to social stigma of illegitimacy and emotional trauma. It may also disturb family stability and long-standing parent-child relationships.

3. Conflict Between Legal Presumptions and Scientific Truth

The legal presumption of legitimacy under evidence law may sometimes conflict with conclusive forensic DNA results. This creates tension between protecting family stability and establishing biological truth.

4. Ethical Concerns

DNA testing raises issues of consent, especially when individuals are compelled by courts to undergo testing. It also risks misuse in personal disputes and unethical handling of genetic data.

5. Judicial Subjectivity

Terms like "necessity" and "proportionality" are open to interpretation, leading to inconsistency across judicial decisions. This may result in varied outcomes in similar factual situations.

Way Forward

1. Adopt DNA Testing as a Last Resort

DNA testing should be ordered only when no other available evidence can effectively resolve the question of paternity. This ensures minimal intrusion into privacy while preserving judicial truth-finding.

2. Strengthen Data Protection

Robust legal safeguards are needed for the collection, storage, and use of genetic information to prevent misuse and unauthorized access. This is essential to protect informational privacy and bodily autonomy.

3. Child-Centric Approach

Courts must prioritize the dignity, welfare, and psychological well-being of the child above all other competing interests. Protection from stigma and emotional harm should remain central.

4. Uniform Judicial Guidelines

Clear and standardized criteria should be developed to guide courts in deciding when DNA tests are necessary. This will reduce inconsistency and ensure judicial predictability.

5. Balance Rights Through Proportionality

The proportionality test laid down in K.S. Puttaswamy Judgment must be strictly applied to balance privacy with the need for truth. Courts should ensure that the least restrictive option is chosen.

6. Confidential Handling of Proceedings

Paternity-related DNA cases must be handled with strict confidentiality to protect the privacy and reputation of all parties involved. This prevents unnecessary public exposure and social stigma.

Conclusion

Indian jurisprudence has evolved from protecting legitimacy to balancing scientific truth with privacy and dignity. Post-Puttaswamy, DNA testing is permitted only as a **last resort**, ensuring that the pursuit of truth remains **necessary, proportionate, and consistent with constitutional rights and dignity**.

Q. The Supreme Court has evolved a nuanced approach in ordering DNA tests in paternity disputes, balancing scientific truth with privacy and dignity. Discuss in the context of post-Puttaswamy jurisprudence. 15 Marks

2.2. INTERNATIONAL RELATION

2.2.1. THE INDO-CANADIAN STRATEGIC PIVOT

Context:

The 2026 bilateral engagements between India and Canada mark a strategic transition from recent diplomatic frictions to pragmatic cooperation. For Canada, India is a critical anchor in its **Indo-Pacific Strategy** to diversify away from over-reliance on the US market. For India, Canada provides access to critical minerals, advanced technology, high-grade uranium, and substantial institutional capital required for its transition to a green economy and the *Viksit Bharat 2047* vision.



Pillars of India Canada Relations

1. Economic Cooperation and Bilateral Trade

- **CEPA Framework:** Both nations signed the Terms of Reference (ToR) to officially resume negotiations for a Comprehensive Economic Partnership Agreement (CEPA), targeting a **USD 50 billion bilateral trade goal by 2030**.
- **Investment Flows:** Canadian Pension Funds serve as a major pillar of foreign direct investment, cumulatively investing over **USD 75 billion** in India's infrastructure, logistics, and digital ventures.

2. Energy Security and Uranium Diplomacy

- **The Cameco Pact:** The Department of Atomic Energy (DAE) secured a **USD 2.6 billion contract** with Canada's Cameco for Uranium Ore Concentrates to fuel India's target of 100 GW of nuclear capacity by 2047.
- **Supply Chain Resilience:** A new MoU aligns both nations with the **G7 Critical Minerals Action Plan** to construct secure supply chains and bypass monopolistic market dominance.

3. Multilateral Integration and Minilateralism

- **Climate Alliances:** Canada expanding its environmental diplomacy by officially joining the India-led **International Solar Alliance (ISA)** and the **Global Biofuels Alliance (GBA)**.
- **Geopolitical Alignments:** India endorsed Canada's bid to join the **Indian Ocean Rim Association (IORA)** as a Dialogue Partner, while both established the trilateral **Australia-Canada-India Technology and Innovation (ACITI) Partnership**.

4. Innovation, Defence, and Institutional Frameworks

- **Strategic Security:** The establishment of the first-ever **India-Canada Defence Dialogue** formalizes institutional **military-to-military engagement**.
- **Food Security R&D:** A **Joint Pulse Protein Centre of Excellence** was announced at NIFTEM-Kundli (Haryana) to co-develop fortified foods addressing micronutrient deficiencies.

5. Cultural Relations and the Diaspora Bridge

- **Demographic Clout:** The **1.8 million-strong Indian diaspora** (roughly 4% of Canada's population) serves as a strategic asset driving soft power, capital flows, and bilateral trade.
- **Educational Linkages:** India remains Canada's largest source of international students, with nearly **400,000 Indian students** contributing significantly to Canada's services export revenue.

Significance of the Bilateral Partnership

- **Strategic Complementarity:** The relationship presents a economic synergy, pairing Canada's capital abundance, landmass, and resource wealth with India's demographic dividend, labor pool, and massive consumer market.
- **Middle-Power Diplomacy:** As two prominent democratic "middle powers," their alignment strengthens the rules-based international order, providing a necessary counterweight to authoritarian expansionism in the Indo-Pacific region.
- **Agricultural and Food Security:** Beyond high-tech and energy sectors, Canada is a critical global supplier of **potash fertilizers** and leguminous vegetables, which are fundamental to sustaining India's agricultural productivity and domestic nutritional security.
- **Frontier Domain Collaboration:** The partnership holds immense untapped potential in frontier areas, including space exploration (via the Indian Space Research Organisation and Canadian Space Agency) and **Arctic research**, where Canada is a core Council member and India holds an active observer status.

Challenges to India-Canada Relations

- **Khalistani Extremism:** The phenomenon of "long-distance nationalism," where certain diaspora elements use Canada's liberal rights to mobilize support for radical separatist activities against India, remains the most severe friction point. This led to unprecedented diplomatic downgrades in 2023–2024.

- **Trade Barriers:** Persistent differences over India's agricultural tariffs, Canada's stringent sanitary and phytosanitary (SPS) standards, and disputes regarding intellectual property rights continue to complicate trade negotiations.
- **Visa and Consular Delays:** Past diplomatic expulsions drastically reduced consular staff, resulting in severe visa processing backlogs that negatively impact student mobility, tourism, and business travel.
- **Systemic Discrimination:** Despite economic success, the South Asian diaspora continues to face underlying challenges related to systemic racism and hate crimes in certain regions of Canada.

Way Forward: Navigating Diplomatic Frictions

To insulate the economic partnership from political volatility, both nations must adopt a multi-pronged approach:

- **Security and Intelligence Coordination:** Strictly enforce the frameworks agreed upon during the 2026 NSA-level dialogues to counter violent extremism, organized crime, and terror-financing networks operating from Canadian soil.
- **Early Harvest Agreement:** Prioritize an interim, limited trade deal to immediately reduce tariffs in non-contentious sectors while complex CEPA negotiations continue.
- **Institutional Buffers:** Empower non-political mechanisms like the recently launched **Canada-India Trade and Investment Forum** and academic exchange programs to ensure people-to-people and B2B ties remain unaffected by diplomatic cycles.
- **Subnational Diplomacy:** Deepen direct trade and technology ties between Indian states and Canadian provinces to insulate functional cooperation from federal political friction.
- **Legal Framework Modernization:** Streamline the mechanics of existing **Mutual Legal Assistance (MLAT)** and Extradition Treaties via fast-tracked judicial channels for evidence-sharing, preventing legal disputes from escalating into public diplomatic standoffs.

Conclusion

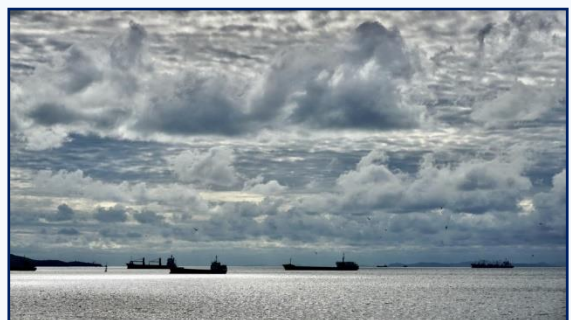
The 2026 India-Canada summit signifies a mature recalibration of bilateral ties, prioritizing shared economic and strategic imperatives over political differences. By deepening collaboration in clean energy, resilient supply chains, and Indo-Pacific maritime security, the partnership holds the potential to become one of the most defining democratic alliances of this decade.

Q. Discuss the core pillars of cooperation that define the strategic partnership between India and Canada. What are the major challenges currently affecting their bilateral ties? 10 marks

2.2.2. IMEC NAVIGATING THE CROSSROADS OF CONNECTIVITY AND GEOPOLITICS

Context:

- The ongoing **Iran conflict** has exposed vulnerabilities in the **global economic and security system**, showing that **military superiority** alone cannot ensure decisive outcomes and that disruptions in critical trade routes can significantly impact the global economy.



- The crisis has strengthened the case for the **India Middle East Europe Economic Corridor (IMEC)** as an **alternative connectivity network**, while also highlighting the **geopolitical and security challenges** that could affect its successful implementation.

About IMEC: Concept, Objectives, Structure and Strategic Significance

1. Understanding the Concept of IMEC

- The **India Middle East Europe Economic Corridor (IMEC)** was announced during the **G20 Summit held in New Delhi in 2023** as a **major multinational connectivity initiative** aimed at strengthening economic integration among **India, West Asia, and Europe**.
- **Objectives of IMEC:** It integrates **railways, ports, highways, energy pipelines, undersea high speed data cables, green hydrogen corridors, and transnational energy transmission grids** into a unified connectivity framework linking **India, the United Arab Emirates, Saudi Arabia, Jordan, Israel, and Europe**
- Unlike traditional transport corridors, IMEC is designed as a **comprehensive economic corridor** that simultaneously promotes **trade, investment, connectivity, regional cooperation, and long term economic growth**.

2. Structure of IMEC:

- **Eastern Section:** The Eastern Section connects **India** with the **United Arab Emirates (UAE)** through maritime links.
- **Central Section:** The Central Section comprises an **overland route** passing through the **UAE, Saudi Arabia, Jordan, and Israel**, culminating at the **Port of Haifa** on Israel's Mediterranean coast.
- **Western Section:** The **Western Section** is a **sea based route** linking **Haifa** with major **European ports**, from where Europe's existing transportation network facilitates further connectivity.

3. Strategic Significance of IMEC

- **Reducing Dependence on Strategic Choke Points:** IMEC provides an alternative connectivity route that reduces reliance on vulnerable trade routes such as the **Suez Canal**.
- **Complementing Global Connectivity Initiatives:** The corridor complements major projects such as the **International North South Transport Corridor (INSTC)** and the **Belt and Road Initiative (BRI)**, which also seek to diversify global trade networks.
- **Enhancing Resilience Against Geopolitical Disruptions:** The **Iran conflict** has reinforced the importance of developing **resilient and diversified trade corridors** that can minimise the impact of geopolitical tensions and disruptions on global commerce.

Why the Iran Conflict Has Increased the Relevance of IMEC

1. Evolving Nature of Modern Warfare

- The Iran conflict demonstrated that **military superiority** alone cannot guarantee victory, as resilience and sustained resistance can significantly challenge stronger adversaries.
- It highlighted the growing importance of **adaptability, strategic endurance, and asymmetric warfare**, where relatively weaker states can impose costs on stronger powers through innovative and unconventional tactics.

- The conflict reflects a shift in modern warfare, where **resilience, flexibility, and strategic innovation** are becoming as important as advanced weapons and military strength.

2. Critical Importance of Global Choke Points

- The disruption of the **Strait of Hormuz**, through which **nearly one third of global oil supplies** pass, highlighted the **strategic importance of global choke points** for **energy security** and **international trade**.
- The crisis exposed the vulnerability of oil importing countries such as **India** and underscored the need for **alternative trade corridors, diversified supply chains, and reduced dependence on sensitive maritime routes**.

Key Challenges Before IMEC

1. Regional Security and Conflict Related Risks

- The ongoing conflicts in **Gaza** and **Iran** have affected important segments of the proposed corridor, creating concerns regarding its smooth implementation.
- The **Port of Haifa**, a **crucial transit hub in IMEC**, has faced security challenges, while attacks on Gulf infrastructure have exposed vulnerabilities in the corridor's eastern segment.
- Such regional instability increases **operational risks, uncertainty, and implementation challenges**.

2. Political Differences Among Key Stakeholders

- Evolving **geopolitical dynamics** among participating countries present another major challenge for IMEC.
- Differences between **Saudi Arabia** and the **United Arab Emirates (UAE)** could affect the coordination required for seamless connectivity.
- Since IMEC depends on cooperation among multiple countries, **regional rivalries and strategic divergences** may hinder its successful execution.

Way Forward for Building a Resilient and Flexible IMEC

A. Develop Alternative Eastern Gateways

- Developing **Oman's ports** such as **Salalah, Duqm, and Muscat** can reduce dependence on the **Strait of Hormuz** and improve the corridor's resilience during regional conflicts.

B. Utilise Egypt as an Alternative Western Route

- **Egypt** can serve as a viable western alternative until the **Port of Haifa** becomes fully secure and operational.
- Its existing infrastructure, including the **Suez Canal Economic Zone**, ports, and industrial hubs, makes it a strong connectivity partner.

C. Enhance Diplomatic Coordination

- **India** should leverage its strong relations with **Saudi Arabia** and the **United Arab Emirates (UAE)** to promote regional cooperation and keep IMEC on track.
- **Italy** and **France** should support the corridor through **political engagement, investment, and strategic coordination**.

D. Build a Flexible Connectivity Framework

- IMEC should evolve into a **flexible and adaptive connectivity framework** with alternative routes and transit nodes.
- While exploring new options, the original **UAE–Saudi Arabia–Jordan–Israel–Haifa alignment** should remain the long term objective.

Conclusion

- The **Iran conflict** has highlighted that while **IMEC** is becoming increasingly important for global connectivity, its implementation has also become more challenging due to regional geopolitical tensions.
- Thus, the success of IMEC will depend not only on infrastructure development but also on **diplomacy, regional cooperation, and strategic flexibility**. With alternative routes, strong partnerships, and sustained multilateral support, IMEC can emerge as a major corridor connecting **India, West Asia, and Europe**.

Q. The Iran conflict has highlighted both the necessity and challenges of the India Middle East Europe Economic Corridor (IMEC). Discuss (15 Marks)

2.2.3. INDIA–BANGLADESH RELATIONS: ADDRESSING THE TRUST DEFICIT

Context:

The political transition in Bangladesh after the formation of the Tarique Rahman government has not translated into a corresponding improvement in India-Bangladesh relations. Persistent differences over trade, migration, water sharing, and evolving regional geopolitics continue to test mutual trust and strategic cooperation.



Introduction:

India and Bangladesh share deep historical, cultural, economic, and strategic ties. As immediate neighbours linked by geography and numerous transboundary rivers, stable bilateral relations are essential for regional peace and prosperity. However, political changes in Bangladesh following the 2024 uprising have introduced new uncertainties, leading to mutual mistrust and diplomatic friction. The current phase underscores the need for pragmatic engagement and confidence-building measures from both sides.

Historical Evolution of India–Bangladesh Relations

1. Shared Historical and Cultural Legacy

- India and Bangladesh share deep civilisational, linguistic, and cultural ties rooted in the history of undivided Bengal.
- The Bengali Language Movement (1952) became a cornerstone of Bangladeshi nationalism and identity.

2. Liberation War and Birth of Bangladesh (1971)

- India played a pivotal role in Bangladesh's Liberation War by supporting the Mukti Bahini, hosting millions of refugees, and providing military assistance.
- This laid the foundation of a special bilateral relationship often described as a "**Liberation Partnership.**"

3. Fluctuating Relations after 1975

- Following the assassination of Sheikh Mujibur Rahman, relations witnessed periods of mistrust due to military rule, border issues, migration concerns, and water-sharing disputes.
- Bangladesh also sought to diversify its foreign relations beyond India.

4. Divergent Trajectories under BNP and Sheikh Hasina

- During the BNP-Jamaat period (2001–06), bilateral ties were strained by security concerns, insurgency issues, and growing Chinese influence.
- Under Sheikh Hasina (2009–24), relations entered a "Golden Chapter" marked by enhanced security cooperation, the Land Boundary Agreement (2015), improved connectivity, and expanding trade.

5. Current Phase of Strategic Recalibration (2024–Present)

- Political changes following the 2024 uprising have created a trust deficit centred on migration, trade, water sharing, and geopolitical competition.
- Despite these challenges, both countries remain strategically interdependent, making cooperation essential for regional stability and prosperity.

Significance of Strong India-Bangladesh Relations

1. Strategic and Security Importance

- Bangladesh is India's largest neighbour in Eastern South Asia and shares a border of over 4,000 km.
- Cooperation is crucial for managing border security, terrorism, extremism, illegal migration, and cross-border crime.
- Stability in Bangladesh directly impacts security in India's Northeast.

2. Connectivity and Regional Integration

- Bangladesh serves as a gateway connecting mainland India with the Northeast.
- Vital for initiatives such as:
 - BBIN (Bangladesh-Bhutan-India-Nepal)
 - Act East Policy
 - Bay of Bengal regional connectivity projects

3. Economic and Trade Benefits

- Bangladesh is one of India's largest trading partners in South Asia.
- Improved connectivity can boost trade, investment, logistics, and supply chain integration.

4. Water and Environmental Cooperation

- The two countries share 54 transboundary rivers.
- Cooperation on water sharing, flood management, and climate resilience is essential for sustainable development.

5. Geopolitical Significance

- Strong ties help maintain strategic balance in the Bay of Bengal region.
- Prevents excessive dependence of Bangladesh on external powers, particularly China.

Areas of Cooperation Between India and Bangladesh

1. Trade and Economic Cooperation

- Bangladesh remains **India's largest trading partner in South Asia**.
- Bilateral trade stood at approximately **USD 14.01 billion in FY 2023–24**, with Indian exports worth USD 12.05 billion and Bangladeshi exports worth USD 1.97 billion.
- Bangladesh is also India's **largest export destination in the subcontinent**.

2. Development Partnership

- India has extended **over USD 8 billion through Lines of Credit (LoCs)** to Bangladesh, making it India's largest development partnership programme in the neighbourhood.
- These funds support railways, roads, ports, energy, and connectivity infrastructure.

3. Energy Cooperation

- Bangladesh currently has the capacity to import around **2,560 MW of electricity from India**.
- In 2025, nearly **17% of Bangladesh's electricity supply** came from India, underlining deep energy interdependence.
- India exported around **2.4 GW of electricity daily** to Bangladesh during 2025.
- Cross-border power trade continues despite periodic diplomatic tensions, highlighting the strategic nature of energy cooperation.

4. Connectivity Cooperation

Major connectivity initiatives include:

- Akhaura–Agartala Rail Link.
- Use of **Chattogram and Mongla Ports** by India for cargo movement.
- Revival of rail routes such as Haldibari–Chilahati and Petrapole–Benapole.
- Expansion of inland waterways under the Protocol on Inland Water Transit and Trade (PIWTT).
- Maitri Setu over the Feni River.

5. Regional Energy Connectivity

- In June 2025, Nepal began exporting **40 MW of electricity to Bangladesh through India's transmission grid**, demonstrating India's emergence as a regional energy hub connecting South Asian economies.

Challenges in India-Bangladesh Relations

1. Trust Deficit Following Political Transition

- Bangladesh perceives India's response to the new government as inadequate.
- Expected goodwill measures, such as restoration of visas and trade facilitation, have not materialised.

2. Illegal Immigration Issue

- Frequent references to illegal immigration in Indian political discourse create diplomatic sensitivities.
- Dhaka views such rhetoric as damaging to mutual trust and public perception.

3. Delay in Renewal of the Ganga Water Treaty

- The 1996 Ganga Water Treaty expires in December 2026.
- Delayed negotiations have generated concerns regarding water security and agricultural sustainability in Bangladesh.

4. Growing Chinese Influence

- Perceived stagnation in ties with India may push Bangladesh towards deeper engagement with China.
- Expanding Chinese investments and strategic presence could affect India's regional interests.

5. Domestic Instability in Bangladesh

- Economic stress due to energy shortages.
- Public health concerns, including disease outbreaks.
- Law and order challenges and political polarisation.
- Such instability can complicate bilateral cooperation.

6. Lack of Progress on Trade and Mobility Issues

- Restrictions on market access and limited visa services continue to affect business, tourism, and people-to-people exchanges.

Way Forward

1. Restore Mutual Confidence

- Increase high-level political engagement and diplomatic dialogue.
- Avoid rhetoric that may be perceived as hostile by either side.

2. Fast-Track Renewal of the Ganga Water Treaty

- Begin structured negotiations well before the treaty's expiry.
- Promote basin-wide and science-based water-sharing mechanisms.

3. Strengthen Economic Cooperation

- Restore trade facilitation measures and improve market access.
- Expand investment and connectivity projects.

4. Enhance People-to-People Relations

- Fully restore visa services, including business and medical visas.
- Promote academic, cultural, and tourism exchanges.

5. Deepen Regional Connectivity

- Accelerate BBIN and multimodal transport initiatives.
- Improve energy, digital, and logistics cooperation.

6. Adopt a Pragmatic Neighbourhood Policy

- Recognise that a stable and prosperous Bangladesh is in India's long-term strategic interest.
- Focus on shared developmental goals rather than short-term political differences.

Conclusion

As South Asia undergoes rapid geopolitical and economic transformation, India and Bangladesh have the opportunity to transform their relationship from one of proximity to one of strategic partnership. Renewed trust and deeper cooperation can make the two countries key drivers of regional connectivity, security, and shared prosperity in the Bay of Bengal region.

Q. The future of India's Neighbourhood First Policy will be significantly influenced by the trajectory of India-Bangladesh relations. Critically examine. 15 Marks

2.2.4. INDIA–NEPAL RELATIONS

Context

The political transition in Nepal following the emergence of a new generation of leadership has not translated into a corresponding improvement in India–Nepal relations. Persistent differences over border disputes, political perceptions, external influence, and evolving regional geopolitics continue to test mutual trust and strategic cooperation.



Introduction

India and Nepal share deep historical, cultural, and strategic ties. However, recent political developments and territorial disputes have strained relations, underscoring the need for sustained dialogue and trust-building to preserve regional stability and cooperation.

Historical Evolution of India–Nepal Relations

1. Ancient Civilisational and Cultural Ties

- India and Nepal have been connected for centuries through shared religious traditions, cultural heritage, pilgrimage networks, and people-to-people interactions.
- The Janakpur–Ayodhya connection symbolises the shared Ramayana heritage of both countries.

- Religious centres such as Pashupatinath Temple and the Buddhist Circuit (Lumbini–Kushinagar) reinforce civilisational bonds.

2. Treaty of Peace and Friendship (1950)

- The 1950 Treaty institutionalised close bilateral relations by facilitating open borders, economic cooperation, and security collaboration.

3. Democratic Transition and Political Flux

- Nepal's transition from monarchy to democracy introduced periods of political instability that periodically influenced bilateral relations.

4. Period of Enhanced Cooperation (2014–2024)

- The decade witnessed significant progress in connectivity, infrastructure development, energy cooperation, and economic engagement.

5. Strategic Recalibration after Political Transition

- The emergence of new political actors in Nepal has introduced fresh dynamics and sensitivities into bilateral relations.

Significance of Strong India–Nepal Relations

1. Strategic and Security Importance

- Nepal's location in the Himalayas makes it crucial for India's northern security and regional stability.

2. Importance for India's Neighbourhood First Policy

- Strong relations with Nepal are central to India's vision of a stable and cooperative South Asian neighbourhood.

3. Connectivity and Regional Integration

- Nepal serves as an important link for enhancing regional connectivity and economic integration in South Asia.

4. Water and Energy Security

- Cooperation in hydropower and river management contributes to energy security and sustainable development for both countries.

5. Economic Significance

- India is Nepal's largest trade and transit partner, making economic cooperation mutually beneficial.

7. People-to-People Relations

- Nearly 6 million Nepalis live and work in India.
- Nepali citizens enjoy unrestricted employment opportunities in India under the open-border framework.
- Deep kinship, educational, and labour linkages form the bedrock of bilateral ties.

Areas of Cooperation Between India and Nepal

1. Trade and Economic Cooperation

- Bilateral trade supports economic growth, employment generation, and market integration between the two countries.

2. Development Partnership

1. India assists Nepal through infrastructure projects, capacity-building programmes, and developmental assistance.

3. Energy Cooperation

1. Cross-border electricity trade and hydropower projects have emerged as major pillars of bilateral cooperation.
2. Nepal is increasingly exporting hydropower to India, strengthening regional energy security.

4. Connectivity Cooperation

1. Railways, roads, pipelines, and integrated check posts are strengthening physical and economic connectivity.
2. Major projects include:
 - Jaynagar–Kurtha Railway
 - Motihari–Amlekhgunj Petroleum Pipeline
 - Integrated Check Posts (Birgunj and Biratnagar)

5. Defence and Security Cooperation

- The two countries cooperate closely in military training, intelligence sharing, and border security management.
- The Surya Kiran Joint Military Exercise enhances defence interoperability.
- The tradition of conferring the title of Honorary General upon each other's Army Chiefs reflects strong military ties.

What are the Key Areas of Friction Between India–Nepal Relations?

1. Territorial Disputes and Rising Nationalism

- The unresolved Kalapani–Lipulekh–Limpiyadhura dispute remains the most contentious issue in bilateral relations.
- Nepal's revised maps and currency notes have strengthened territorial claims, while nationalist rhetoric in both countries often aggravates tensions.
- The issue contributes significantly to the trust deficit between the two neighbours.

2. Debate over the 1950 Treaty and Sovereignty Concerns

- Many political groups in Nepal view the 1950 India–Nepal Treaty as unequal and seek its revision.
- Demands for greater strategic autonomy and concerns over perceived Indian influence continue to shape political discourse in Nepal.

- The delay in acting upon the Eminent Persons Group (EPG) recommendations has added to dissatisfaction.

3. Constitutional and Political Sensitivities

- Nepal's 2015 Constitution triggered tensions over issues concerning Madhesi representation and inclusiveness.
- India's concerns regarding the interests of Madhesi communities were perceived by Nepal as interference in its domestic affairs.
- The episode contributed to a lasting trust deficit.

4. Expanding Chinese Influence and Geopolitical Competition

- Nepal's growing engagement with China under the Belt and Road Initiative (BRI) has increased strategic competition in the Himalayan region.
- Projects such as the Trans-Himalayan Multi-Dimensional Connectivity Network and the proposed Kathmandu–Kerung Railway have expanded China's footprint.
- India views China's growing presence as a challenge to its traditional influence in Nepal.

5. Economic Asymmetry and Developmental Concerns

- Nepal faces a large trade deficit with India and remains heavily dependent on Indian markets and transit routes.
- Delays in connectivity and development projects sometimes create frustration regarding the pace of cooperation.
- Economic imbalances are often portrayed as evidence of unequal bilateral relations.

6. Water, Energy and Resource-Sharing Disputes

- Differences over benefit-sharing in projects such as the Pancheshwar Multipurpose Project continue to hinder progress.
- Disagreements persist regarding the valuation of water resources, irrigation benefits, flood control, and hydropower generation.
- These issues prevent the full realization of bilateral water and energy potential.

7. Security, Political Instability and Institutional Challenges

- Suspension of Gorkha recruitment under the Agnipath Scheme has created a new source of friction.
- Around 32,000 Nepali Gorkhas currently serve in the Indian Army, making recruitment a sensitive socioeconomic issue.
- Nepal's frequent political instability affects policy continuity and delays implementation of bilateral agreements.
- Open-border challenges such as smuggling, trafficking, and cross-border crime require greater coordination and trust.

Way Forward for Strengthening India–Nepal Relations

1. Modernise Bilateral and Security Frameworks

- India should engage with the EPG report, review the 1950 Treaty, and develop a special mechanism for Gorkha recruitment under the Agnipath Scheme.
- A framework based on sovereign equality, mutual respect, and long-term defence cooperation can strengthen strategic trust.

2. Institutionalise Boundary and Political Dialogue

- A permanent joint boundary commission should address disputes such as Kalapani–Lipulekh–Limpiyadhura through technical and diplomatic mechanisms.
- Regular high-level engagement can prevent territorial and political issues from disrupting broader bilateral cooperation.

3. Deepen Economic, Digital and Connectivity Integration

- Both countries should expand Digital Public Infrastructure (DPI) interoperability, fintech cooperation, and cross-border payment systems.
- Faster implementation of BBIN initiatives, the Motor Vehicles Agreement, and regional energy grids can enhance connectivity and economic integration.

4. Strengthen Energy, Water and Climate Cooperation

- India and Nepal should accelerate hydropower projects, electricity trade, and the resolution of Pancheshwar-related issues.
- Joint efforts in climate-resilient infrastructure, glacier monitoring, flood management, and disaster preparedness can promote sustainable development.

5. Promote People-Centric and Sub-National Diplomacy

- Border states and Nepali provinces should collaborate on trade, tourism, disaster management, and local development.
- Greater educational, cultural, youth, and people-to-people exchanges can reinforce the civilisational foundations of the relationship.

6. Leverage Regional Platforms and Build a Partnership of Equals

- Cooperation through BBIN and BIMSTEC should be strengthened in areas such as connectivity, energy security, disaster management, and counter-terrorism.
- India and Nepal should follow the principles of mutual trust, non-interference, and respect for sovereignty to build a stable and future-oriented partnership.

Conclusion

While border disputes and political transitions may create temporary frictions, India and Nepal's shared interests make deeper cooperation imperative for regional stability, connectivity, and sustainable development.

Q. *India and Nepal share a unique relationship rooted in history, culture, geography, and economic interdependence. However, recent political developments have exposed several fault lines in bilateral ties. Discuss the major challenges in India–Nepal relations and suggest measures to strengthen the partnership. 15 Marks*

2.2.5. DECODING THE INDIA-RUSSIA RELOS PACT

Context

The Reciprocal Exchange of Logistics Agreement (RELOS) between India and Russia was fully operationalised in January this year. Official clarifications have dismissed social media claims of permanent troop stationing, confirming that the pact functions strictly as an administrative framework to streamline military replenishment and technical support.



Introduction

Logistics Support Agreements (LSAs) are foundational military pacts designed to enable reciprocal access to naval, air, and land bases for refuelling, repairs, and supplies during peacetime operations. RELOS formalizes this administrative framework between India and Russia, extending India's logistical capability into the Eurasian and Arctic zones without creating permanent military bases or alliances.

Structural Dimensions and Functional Dynamics

1. Core Structural Features of RELOS

- **Operational Mandate:** The pact establishes clear, non-bureaucratic procedures for the reciprocal use of airspace, airfields, and ports by military aircraft and warships.
- **Troop Caps and Timelines:** It stipulates a broad upper limit of 3,000 personnel to accommodate large-scale contingents during mutually agreed visits, featuring an initial validity period of five years.
- **Designated Occasions:** The logistics facilities can only be accessed during specific bilateral tasks, including joint exercises, training, port calls, and Humanitarian Assistance and Disaster Relief (HADR) missions.

2. Opening the Arctic and Eurasian Frontiers

- **Northern Sea Lanes:** RELOS uniquely provides the Indian Armed Forces reciprocal access to over 40 Russian naval and air bases, unlocking critical facilities in the Arctic and Pacific oceans such as Murmansk, Vladivostok, and Petropavlovsk-Kamchatsky.
- **Climate-Driven Navigation:** As global warming creates new navigability routes in the northern hemisphere, this access significantly scales up India's long-range maritime monitoring capabilities beyond its traditional Indo-Pacific boundaries.

3. Strategic Comparison: India's Multi-Aligned Logistics Matrix

India maintains logistics pacts with nine nations, including the US, UK, France, Japan, and Australia. While the basic administrative template remains identical, the geopolitical and technical functions vary:

Agreement	Signatory Country	Strategic Zone	Focus	Primary Functional Utility
RELOS	Russia	Arctic, Eurasia, and Indo-Pacific		Streamlines spare parts and technical repair chains for Russian-origin fleets (Su-30MKI, S-400, T-90).
LEMOA	United States	Indo-Pacific and Indian Ocean		Establishes a reciprocal baseline for refueling and replenishment during joint drills and HADR tasks.
COMCASA	United States	Global Interoperability		Authorizes encrypted military communications and secure network integration across advanced weapon platforms.
BECA	United States	Precision Targeting		Shares vital geospatial, satellite, and navigation data to enhance situational awareness and missile accuracy.

Significance of the Universal Logistics Pact

- Secures Critical Defense Supply Chains:** It drastically minimizes administrative delays in servicing, repairing, and maintaining India's expansive inventory of Russian-origin platforms, such as the S-400 systems and Sukhoi fleets.
- Extends Long-Range Maritime Reach:** It projects the Indian Navy's operational footprint directly into northern sea lanes, safeguarding maritime trade corridors that cover over 70% of India's trade volume.
- Boosts Tri-Service Interoperability:** It facilitates seamless logistical coordination during high-intensity bilateral maneuvers like the INDRA exercises, which require the synchronized deployment of multiple warships, ground units, and aircraft.
- Reinforces Strategic Bilateral Trust:** It complements major joint technology projects like the BrahMos cruise missile and submarine cooperation, anchoring a defense partnership worth over \$13 billion.
- Optimizes Deployment Economics:** Reciprocal access reduces the baseline deployment time, financial expenditure, and deep-sea vulnerabilities associated with executing long-range naval and aerial deployments.

Challenges in Operationalizing RELOS

- Managing Geopolitical Misperceptions:** Countering misleading international narratives that falsely frame routine, non-bureaucratic administrative logistics tools as aggressive, binding military alliances.
- Balancing Competing Partnerships:** Maintaining true strategic autonomy while simultaneously operationalizing overlapping logistics agreements with rival global superpowers like the United States and Russia.

- **Overcoming Geographical Disparities:** Navigating the massive physical distances required to actively utilize remote Arctic and Pacific infrastructure outside of standard, pre-planned exercise schedules.
- **Absence of Permanent Basing Options:** Because permanent or long-term stationing of personnel and assets is strictly prohibited, the utility of these bases remains entirely dependent on pre-negotiated, temporary visit windows.
- **Administrative Interoperability Gaps:** Standardizing technical aid, medical protocols, and resource delivery mechanisms across two militaries that operate under completely distinct organizational and administrative frameworks.

Way Forward

- **Formulate Strict Joint SOPs:** Establish specific, standardized operating procedures to execute smooth refueling, berthing, and aircraft servicing operations at designated bases.
- **Capitalize on Arctic Sea Lanes:** Actively utilize access to northern Russian airfields and ports to build operational familiarity with emerging global navigation routes.
- **Synchronize Maintenance Lifecycles:** Align the logistics benefits of RELOS directly with defense manufacturing requirements to prevent gaps in the supply of critical military hardware components.
- **Conduct High-Latitude Joint Exercises:** Utilize the 3,000-troop limit effectively by organizing specialized, long-range naval patrols and training drills in the Arctic and Pacific theaters.
- **Optimize Multi-Directional Logistics:** Balance the Eurasian advantages of RELOS with the Indo-Pacific capabilities of LEMOA to construct a resilient, multi-aligned maritime security strategy.
- **Utilize the Five-Year Review Window:** Leverage the agreement's built-in expiration clause to iteratively adjust technical support criteria and troop limits as operational requirements evolve.

Conclusion

The operationalisation of RELOS marks a vital administrative step forward in India-Russia defense ties, expanding India's strategic reach from the Indian Ocean to the Arctic frontier. By providing a structured, non-basing framework for reciprocal support, the agreement allows India to safeguard its critical defense supply chains and preserve its strategic autonomy within a rapidly evolving multipolar global order.

Q. Logistics Support Agreements (LSAs) serve as strategic force multipliers in expanding a nation's maritime footprint and global operational reach. Evaluate this statement in light of the recently operationalised Reciprocal Exchange of Logistics Agreement (RELOS) between India and Russia. 15 Marks

Q. What is the significance of Indo-US defence deals over Indo-Russian defence deals? Discuss with reference to stability in the Indo-Pacific region.

2.3. SOCIAL JUSTICE

2.3.1. NFHS-6: JOY AND PAIN IN INDIA'S PUBLIC HEALTH TRANSITION

Context:

The National Family Health Survey (NFHS)-6 (2023–24) reflects a mixed picture of India's healthcare system, showing major gains in maternal-child health while exposing rising challenges of lifestyle diseases and ageing. It highlights India's transition from undernutrition and infectious diseases to a dual burden of malnutrition and Non-Communicable Diseases (NCDs).



The "Joy": Key Health Gains (Structural Triumphs)

1. Surge in Institutional Deliveries

- Institutional deliveries increased from 88.6% to 90.6%.** This reflects deeper healthcare penetration and safer childbirth practices, helping reduce maternal mortality, neonatal deaths and pregnancy-related complications.

2. Expansion of Antenatal Care (ANC)

- ANC registration reached 95.9%; first-trimester registration rose from 70% to 76.2%; 4+ ANC visits increased to 65.2%.** Improved antenatal care strengthens maternal and child outcomes through early risk detection, nutritional support and better pregnancy monitoring.

3. Stability in Replacement Fertility

- Total Fertility Rate (TFR) remained stable at 2.0, below replacement level (2.1).** It signals demographic maturity driven by women's empowerment, education and reproductive awareness while indicating future ageing-related challenges.

4. Reduction in Child Malnutrition

- Stunting reduced from 35.5% to 29.3%; severe wasting declined from 7.7% to 5.2%.** This reflects improvements in nutrition delivery, maternal care and public welfare interventions, improving cognitive and physical development of children.

5. Strengthening Childhood Immunisation

- Fully vaccinated children (12–23 months) increased from 83.8% to 87.1%.** Stronger immunisation coverage enhances preventive healthcare capacity and reduces infant vulnerability to vaccine-preventable diseases.

6. Exponential Rise in Rotavirus Vaccine Coverage

- Rotavirus immunisation increased dramatically from 36.4% to 85.4%.** This indicates successful public health expansion in combating diarrhoeal diseases, a major contributor to child mortality and malnutrition.

7. Public Healthcare Dominance in Immunisation

- **95.6% of child immunisations occurred through public health facilities.** This highlights the critical role of state-led healthcare delivery and growing trust in public institutions for preventive healthcare.

8. Expansion of Financial Health Protection

- **Health insurance coverage increased from 41% to 60.2%.** Welfare schemes such as Ayushman Bharat strengthened financial protection and reduced catastrophic out-of-pocket healthcare expenditure.

9. Closing the Female Digital Divide

- **Women using the internet increased from 33.3% to 64.3%.** Digital inclusion strengthens women's agency, access to healthcare information, financial independence and participation in governance.

The "Pain": Unaddressed Needs and Emerging Lacunae

Despite gains, NFHS-6 reveals structural vulnerabilities requiring urgent policy attention.

1. India's Dual Burden of Malnutrition

- **Undernutrition coexists with obesity and metabolic disorders.** India simultaneously faces persistent nutritional deprivation among vulnerable groups and increasing lifestyle-linked illnesses caused by urbanisation and dietary changes.

2. Obesity Surge and Lifestyle Diseases

- **Women: 24% → 30.7%; Men: 22.9% → 27.3%.** Rising obesity signals growing prevalence of diabetes, hypertension and cardiovascular diseases, increasing long-term healthcare burdens.

3. Decline in Exclusive Breastfeeding

- **Exclusive breastfeeding declined from 63.7% to 55.8%.** Reduced breastfeeding weakens infant immunity and nutritional security, heightening risks of infections, malnutrition and developmental delays.

4. Sharp Rise in Caesarean Deliveries

- **C-section births increased from 21.5% to 27.2%.** The sharp rise raises concerns regarding medicalisation of childbirth, unnecessary surgical interventions and widening inequities in maternal care.

5. Inadequate Attention to NCD Financing

- **SRS and National Health Accounts indicate weak preparedness for metabolic disorders.** India's healthcare expenditure remains disproportionately curative rather than preventive, undermining long-term disease preparedness.

Implications of NFHS-6: India's "Greyer Nation" Dilemma

1. Demographic Transition and Population Ageing

- **India is steadily moving toward an ageing population structure due to declining fertility and rising life expectancy.** While this reflects developmental progress, it will significantly increase the demand for geriatric care, long-term healthcare financing and social security systems.

2. Rising Burden of Non-Communicable Diseases (NCDs)

- **The obesity surge and lifestyle shifts indicate a future explosion of diabetes, hypertension and cardiovascular diseases.** If ignored, NCDs may become the leading cause of disability and mortality, overwhelming India's already stretched healthcare infrastructure.

3. Threat to Demographic Dividend and Economic Productivity

- **A disease-burdened workforce can weaken India's demographic dividend advantage.** Rising healthcare costs, absenteeism and lower labour productivity may reduce economic growth and increase dependency burdens.

4. Increased Household Financial Vulnerability

- **Lifestyle diseases require prolonged treatment and repeated medical expenditure.** This can push vulnerable households into poverty through catastrophic out-of-pocket spending despite rising insurance coverage.

5. Need for Public Health System Reorientation

- **India's health architecture remains largely maternal-child and infectious disease centric.** NFHS-6 signals the urgent need to redesign healthcare systems toward preventive, life-cycle and chronic disease management models.

Way Forward: Policy Interventions

- **Institutionalise nationwide screening for diabetes, hypertension and cardiovascular diseases.** Early diagnosis lowers treatment costs and shifts India toward preventive and community-based healthcare governance.
- **Promote healthy diets, physical exercise and exclusive breastfeeding.** Mass awareness campaigns can reduce obesity prevalence, improve nutrition behaviour and prevent lifestyle-related diseases.
- **Increase taxation on sugary beverages and ultra-processed foods.** Fiscal disincentives can curb unhealthy consumption while generating revenue for preventive healthcare investments.
- **Strengthening the 3-Tier Healthcare System: Strengthen NCD management from Ayushman Arogya Mandirs to tertiary hospitals.** Building local diagnosis and referral systems improves accessibility, affordability and continuity of chronic care.
- **Sustain Maternal and Child Health Gains: Prevent slippages in immunisation, nutrition and reproductive healthcare delivery.** Existing achievements must be preserved through uninterrupted funding, quality healthcare and last-mile accessibility.
- **Evidence-Based Governance: Use NFHS data for targeted interventions and resource prioritisation.** Data-driven policymaking improves accountability, regional targeting and efficiency of welfare delivery.

Conclusion

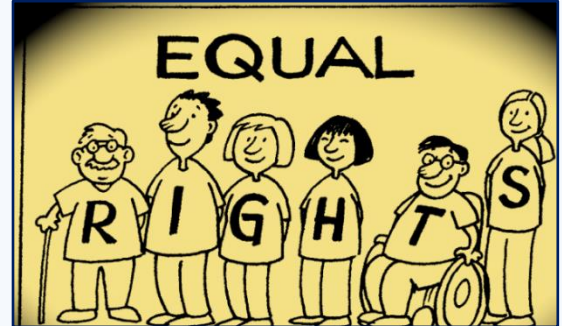
NFHS-6 acts both as a scorecard of India's developmental success and an early warning system for future public health vulnerabilities. While gains in maternal-child healthcare, fertility stabilisation and immunisation deserve celebration, India must simultaneously pivot toward preventive, NCD-centric and life-cycle healthcare to sustain a healthy demographic transition.

Q. *NFHS-6 reflects both the achievements and emerging vulnerabilities of India's public health transition." Examine the key health gains, emerging challenges and policy measures required to ensure a sustainable demographic transition in India. 15 Marks*

2.3.2. EQUALITY OF TREATMENT FOR PERSONS WITH DISABILITIES (PwDs):

Context

- India has strengthened welfare delivery through DBT, UPI, and Digital India initiatives. However, Persons with Disabilities (PwDs) continue to face inadequate and uneven social security support.
- Disability pensions vary across States, creating significant regional disparities in welfare entitlements.



Introduction

- The Rights of Persons with Disabilities (RPwD) Act, 2016 and Article 41 of the Constitution recognize the State's responsibility towards PwDs.
- The creation of a **Minimum Universal Disability Pension Floor Rate (MUDPFR)** to guarantee a minimum level of social security across India.

Significance of a Universal Disability Pension for Persons with Disabilities (PwDs)

1. Ensures Social Security and Dignity

- Provides a minimum income guarantee, enabling PwDs to meet basic needs and live with dignity.
- Shifts disability support from a welfare-based approach to a rights-based entitlement.

2. Addresses Growing Disability Burden

- Supports an increasing PwD population driven by ageing, longer life expectancy, and changing disease patterns.
- Creates a robust social protection mechanism for a vulnerable and expanding demographic group.

3. Promotes Equality and Reduces Regional Disparities

- Ensures uniform minimum support irrespective of State of residence.
- Eliminates the "postcode lottery" where benefits vary according to State finances and policy priorities.

4. Fulfils Constitutional and Legal Obligations

- Gives effect to Article 41 and the principles of equality, dignity, and social justice.
- Operationalises the social security guarantees provided under the Rights of Persons with Disabilities Act, 2016.

5. Enhances Economic Participation

- Improves household stability, consumption capacity, and labour market participation.

- Enables PwDs to move from dependency towards greater economic inclusion and productivity.

6. Generates Positive Economic Outcomes

- Acts as an economic stimulus through increased spending and local demand generation.
- Helps reduce GDP losses arising from exclusion of PwDs from education, employment, and social security systems.

7. Delivers High Social Returns

- The socio-economic benefits of disability pensions outweigh their fiscal costs.
- Strengthens human capital development and promotes inclusive growth.

8. Supports Inclusive Development

- Ensures that the benefits of India's welfare architecture reach one of the most vulnerable sections of society.
- Contributes to the vision of *Sabka Saath, Sabka Vikas* and an inclusive *Viksit Bharat*.

9. Strengthens India's International Commitments

- Advances India's obligations under the **UN Convention on the Rights of Persons with Disabilities (UNCRPD)**, **SDGs**, and **ILO Social Protection standards**.
- Demonstrates commitment to inclusive and rights-based development at the global level.

Proposal: Minimum Universal Disability Pension Floor Rate (MUDPFR)

1. National Minimum Pension Guarantee

- Every eligible Person with Disability (PwD) should receive a guaranteed minimum pension regardless of their State of residence.
- This would ensure a basic level of income security and reduce regional disparities in welfare support.

2. Uniformity with Flexibility

- A nationally prescribed pension floor would establish uniform minimum standards across the country.
- At the same time, States would retain the flexibility to provide additional top-up benefits based on local needs and resources.

3. Rights-Based Approach

- Disability pensions should be recognised as a legal and constitutional entitlement rather than a discretionary welfare measure.
- This would reinforce the dignity, equality, and citizenship rights of PwDs while reducing dependence on charity-based support.

4. Portability Across India

- Pension benefits should remain accessible even when beneficiaries migrate for employment, education, or family reasons.
- Nationwide portability would promote labour mobility and ensure uninterrupted social security support for PwDs.

Institutional Reforms Required

1. Creation of a National Disability Pension Authority (NDPA)

- A dedicated national authority should be established to oversee the implementation, coordination, and monitoring of disability pension schemes.
- It would ensure uniform standards, improve accountability, and reduce administrative fragmentation across departments.

2. National Disability Registry

- A comprehensive national database should be created to accurately identify and track eligible beneficiaries.
- This would minimise exclusion and duplication errors while enabling efficient delivery of benefits and services.

3. Digital Integration

- Existing digital infrastructure such as DBT, Aadhaar, and UPI should be integrated with disability welfare programmes.
- This would facilitate timely, transparent, and direct transfer of pension benefits to beneficiaries.

4. Strengthened Grievance Redressal

- Accessible, transparent, and time-bound grievance mechanisms should be established for resolving beneficiary complaints.
- Effective redressal systems would enhance trust, accountability, and responsiveness in welfare delivery.

5. State Performance Monitoring

- A common monitoring framework should be adopted to assess implementation outcomes across States.
- Regular evaluation would improve accountability, encourage best practices, and ensure uniform service standards nationwide.

Challenges in Implementing a Minimum Universal Disability Pension Floor Rate (MUDPFR)

1. Fiscal Concerns

- Implementing a nationwide disability pension programme would require substantial and sustained financial commitment from the government.
- Ensuring long-term fiscal sustainability while balancing other welfare and development priorities remains a key challenge.

2. Identification Issues

- Accurate assessment and certification of disabilities continue to face administrative and procedural difficulties.
- Variations in disability evaluation standards may lead to errors in identifying eligible beneficiaries.

3. Administrative Coordination

- Disability welfare is currently administered by multiple ministries and departments, leading to fragmented implementation.
- Lack of coordination can result in duplication, delays, and inefficiencies in service delivery.

4. Inclusion Errors

- Complex procedures, documentation requirements, and limited awareness may exclude deserving beneficiaries from receiving support.
- Vulnerable groups in remote and underserved areas are particularly susceptible to such exclusion errors.

5. Centre–State Coordination

- Successful implementation requires clear agreement between the Centre and States on funding, administration, and monitoring responsibilities.
- Differences in fiscal capacity and policy priorities across States may complicate the creation of a uniform national framework.

International Best Practices in Disability Pension Systems

1. South Africa

- South Africa provides a nationally administered disability grant with uniform eligibility criteria across the country.
- This ensures equitable access to financial support irrespective of region and promotes social inclusion for persons with disabilities.

2. Brazil

- Brazil operates the **Benefício de Prestação Continuada (BPC)**, which guarantees a minimum income to eligible persons with disabilities and elderly citizens.
- The scheme functions as a rights-based social assistance programme aimed at reducing poverty and vulnerability.

3. Australia and New Zealand

- Both countries maintain nationwide disability pension systems integrated with broader social security and welfare frameworks.
- These systems combine income support with healthcare, employment assistance, and rehabilitation services to enhance overall well-being.

4. Emerging Economies

- Countries such as Kenya, Rwanda, Thailand, and Indonesia have established national disability income support programmes despite resource constraints.
- Their experiences demonstrate that developing nations can successfully implement inclusive social protection measures through strong policy commitment and targeted welfare interventions.

Way Forward

1. Establish a National Minimum Pension Floor

- A uniform minimum disability pension should be guaranteed to all eligible PwDs irrespective of their State of residence.
- This would reduce regional disparities and ensure a basic level of income security across the country.

2. Create a National Disability Pension Authority

- A dedicated national authority should oversee policy implementation, monitoring, and coordination of disability pension programmes.
- It would improve accountability, streamline administration, and ensure uniform standards nationwide.

3. Strengthen Digital Delivery Systems

- Existing digital platforms such as DBT, Aadhaar, and UPI should be leveraged for seamless pension disbursement.
- Digital integration would enhance transparency, reduce leakages, and ensure timely transfer of benefits.

4. Adopt a Rights-Based Framework

- Disability pensions should be recognised as a constitutional and legal entitlement rather than a discretionary welfare measure.
- This approach would strengthen the dignity, equality, and citizenship rights of Persons with Disabilities.

5. Integrate Social Security with Employment Support

- Income support should be linked with skill development, vocational training, and livelihood promotion programmes.
- Such integration would enable PwDs to achieve greater economic independence and productive participation.

6. Enhance Social Protection Convergence

- Disability pensions should be integrated with healthcare, insurance, rehabilitation, and other welfare schemes.
- A holistic approach would address multiple dimensions of vulnerability and improve overall well-being.

7. Promote Inclusive Public–Private Participation

- Governments should encourage employers to hire PwDs through tax incentives, wage subsidies, and accessibility support.
- Greater private-sector participation would improve employment opportunities and foster inclusive economic growth

Conclusion

A Minimum Universal Disability Pension Floor Rate (MUDPFR) would transform disability welfare from a fragmented, charity-based approach into a rights-based system, ensuring dignity, equality, and meaningful inclusion for Persons with Disabilities in India's journey towards a truly inclusive Viksit Bharat.

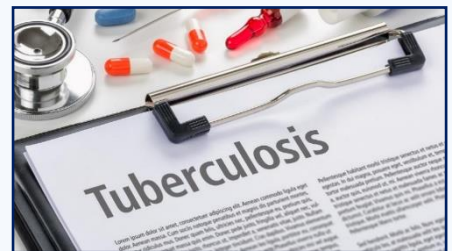
Q. "Despite constitutional and legal protections, social security for Persons with Disabilities (PwDs) in India remains fragmented and inadequate. Examine the need for a Minimum Universal Disability Pension Floor Rate (MUDPFR) and its role in promoting inclusive development." 15 Marks

2.4. HEALTH

2.4.1. INDIA NEEDS INNOVATIVE STRATEGIES TO ELIMINATE TUBERCULOSIS (TB)

Context

- More than a century after the introduction of the **Bacillus Calmette–Guérin (BCG) vaccine**, tuberculosis (TB) remains one of the world's deadliest infectious diseases, disproportionately affecting **low- and middle-income countries (LMICs)** such as India.
- Recently, findings from the **PreVenTB trial** have highlighted the potential of targeted vaccination strategies, reinforcing the need for a comprehensive approach that combines vaccination, early detection, preventive therapy, and nutritional support to achieve TB elimination.



Tuberculosis Continuing to be a Major Public Health Challenge in India

A. Complex Nature of TB Infection

- **TB infection does not follow a single pathway**, making disease control difficult.
- After exposure to **Mycobacterium tuberculosis**, some individuals remain **asymptomatic**, some develop **latent infection**, while others progress to **active disease**.
- **Active TB can appear as:**
 - **Pulmonary TB (PTB)** affecting the lungs and driving transmission.
 - **Extrapulmonary TB (EPTB)** affecting organs such as lymph nodes, bones, brain, kidneys, and intestines.

B. Burden of Disease Remains High

- **Highest burden in the world:** India accounts for roughly **25% of global TB cases** and the **highest number of drug-resistant TB cases (about 32% of the global total)**, making it the epicentre of the disease.
- **Real but insufficient progress:** India's TB incidence has fallen by about **21% (from 237 to 187 cases per lakh)** in roughly the last decade, nearly **double the global pace**, while TB deaths have dropped from **28 to 21 per lakh**, but this is still far short of the elimination goal.
- **A systemic problem:** In many **low- and middle-income countries**, TB incidence runs at **200–300 per 100,000**, and bringing it down to the elimination threshold of **10–20 per 100,000** demands sustained effort and large-scale public health investment.

C. Challenges Associated with Extrapulmonary TB

- **EPTB is often difficult to diagnose due to non-specific symptoms.**
- It frequently remains undetected for long periods, resulting in severe complications and higher healthcare costs.
- Delayed diagnosis often leads to disability and poor treatment outcomes.

D. Why a “One-Shot” Vaccine Is Unrealistic

- As TB follows so many different pathways in the body, expecting a **single vaccine to prevent every form** of the disease is impractical and has fuelled repeated global disappointment.
- Most earlier vaccine trials targeted only **pulmonary TB**, leaving the dangerous extrapulmonary form largely untested and unaddressed.

The PreVenTB Trial: A Landmark Development in TB Vaccination

1. About the Trial

- The **PreVenTB trial**, conducted by **ICMR** across **18 sites in India** and involving over **12,700 household contacts of TB patients**, is the world's first **Phase III TB vaccine trial** to evaluate protection against both **Pulmonary TB (PTB)** and **Extrapulmonary TB (EPTB)** under real-world conditions.
- **Two Candidates:** It evaluated **VPM1002** (a single-dose, modified **BCG-based** vaccine) and **Immuvac**, including people with other illnesses and varying infection status, closely reflecting real life.

2. Key Findings: VPM1002

- **VPM1002**, developed by the **Serum Institute of India (SIPL)**, is a modified recombinant **BCG vaccine** designed to generate a stronger immune response.
- It demonstrated **21.4% efficacy against all forms of TB (PTB and EPTB combined)** across the study population.
- Notably, it showed **50.4% efficacy against Extrapulmonary TB**, marking the first **significant evidence of vaccine protection against EPTB**.
- Among **children aged 6–14 years**, efficacy reached **64.6% against all forms of TB**, highlighting the potential for a school-age booster vaccination strategy.
- As a **single-dose vaccine**, VPM1002 offers important operational advantages for large-scale deployment.

3. Key Findings: Immuvac

- **Immuvac**, developed by **Cadila Pharmaceuticals**, demonstrated **over 60% efficacy against EPTB among children aged 6–10 years**.
- It also showed **more than 60% efficacy in preventing progression from latent TB infection to active disease**, indicating its potential role in interrupting disease development and transmission.

4. Why This Trial Matters?

- **Tackling the hidden epidemic:** A reduction of **over 50% in extrapulmonary cases** delivers a real clinical and public health impact, lowering both **healthcare costs and patient suffering**.

- **Protecting school-age children:** The strong signal of **over 60% efficacy in children and adolescents** is vital because India currently has **no structured TB vaccination strategy beyond infancy**, opening the door to a possible **booster-dose approach**.
- **Nutrition Link:** Vaccine protection was **weaker in people with low Body Mass Index (BMI)**, proving that **nutritional support is essential** for vaccines to work well in undernourished populations.

Key Challenges in TB Elimination

- **Uneven Access to Diagnostics and Prevention:** Access to tools for detecting **latent and subclinical TB** remains patchy in rural, tribal, and urban slum areas, allowing silent infection reservoirs to persist. Access to **preventive therapy** is equally uneven, making targeted vaccination a critical pillar rather than an optional add-on.
- **Drug Resistance:** The growing burden of **Multidrug-Resistant TB (MDR-TB) and Extensively Drug-Resistant TB (XDR-TB)**, worsened by incomplete treatment and antibiotic misuse, demands longer, costlier, and more toxic regimens, straining the health system and pushing patients toward treatment abandonment.
- **Social Vulnerabilities and Poverty:** TB thrives on **undernutrition, overcrowded housing, poor ventilation, HIV, diabetes, and tobacco use**. Stigma, especially among women, further delays care and fuels household transmission, making medical interventions alone insufficient.
- **Funding fragility:** Global TB financing has stagnated, threatening hard-won gains, while India must reduce dependence on unpredictable international donor funding.
- **Perfect Vaccine Trap:** Waiting for a single ideal vaccine has cost decades of progress, when **moderately effective vaccines deployed strategically** can deliver immediate public health gains, as **India's rotavirus and COVID-19** experience clearly demonstrated.

India's Existing TB Elimination Architecture

- **National TB Elimination Programme (NTEP):** The **National TB Elimination Programme (NTEP)**, implemented under the **National Health Mission (NHM)**, follows the **Detect-Treat-Prevent-Build (DTPB)** strategy and aims to achieve **TB elimination by 2025**, five years ahead of the global United Nations **SDG 2030** target.
- **Pradhan Mantri TB Mukh Bharat Abhiyaan:** The **Pradhan Mantri TB Mukh Bharat Abhiyaan** seeks to transform TB elimination into a **Jan Andolan (People's Movement)** through the **Ni-kshay Mitra Initiative**, which enables **individuals, NGOs, institutions, and corporate entities** to support TB patients with nutritional, social, and community assistance.
- **Ni-kshay Poshan Yojana: Strengthening Nutritional Support:** Under the **Ni-kshay Poshan Yojana**, monthly nutritional assistance has recently been increased from **₹500 to ₹1,000** through **Direct Benefit Transfer (DBT)**, complemented by **Energy Dense Nutrition Supplementation (EDNS)** for undernourished TB patients.
- **Promoting Indigenous Public Health Innovation:** India has demonstrated a willingness to adopt **home-grown health innovations**, including the early deployment of the **TrueNat molecular diagnostic test**, the emergency approval of **Covaxin** during the COVID-19 pandemic, and the introduction of the **indigenous Rotavirus vaccine** despite modest initial efficacy, reflecting a pragmatic and innovation-driven public health approach.

Way Forward for a Smarter TB Elimination Strategy

- **Strengthen Early Detection:** Wider deployment of **TrueNat, CBNAAT (GeneXpert), and AI-powered screening tools** must reach every primary health centre to catch **latent and subclinical TB** before it progresses and spreads.
- **Scale Up Preventive Therapy:** **Latent TB Preventive Therapy (LTPT)** must be systematically provided to **household contacts, healthcare workers, diabetics, HIV patients,** and immunocompromised individuals as a non-negotiable second layer of prevention.
- **Deploy Targeted Vaccination:** **VPM1002 and Immuvac** must be rolled out first among **household contacts and school-age children aged 6 to 14 years,** where trial efficacy was highest, using a **combination multi-vaccine framework** since no single vaccine covers all TB forms.
- **Integrate Nutrition:** **Nikshay Poshan Yojana** must be expanded and nutritional support treated as a **medical intervention,** not merely welfare, since low **BMI** directly reduces vaccine effectiveness and disease resistance.
- **Address Drug Resistance:** Stronger surveillance and strict treatment adherence protocols are essential to contain **Multidrug-Resistant TB (MDR-TB)** and **Extensively Drug-Resistant TB (XDR-TB).**
- **Build Community-Centred Systems:** Reducing **stigma,** strengthening **frontline health workers,** and building on India's own precedents of **Covaxin** and **rotavirus vaccines** will ensure that urgency drives policy over the pursuit of perfection.

Conclusion

India's TB challenge will not be solved by one miracle vaccine but by the smart, combined use of **early detection, prevention, targeted vaccination, and nutrition support.** By deploying the tools available today, especially those that reduce the dangerous **extrapulmonary** form of the disease, India can convert its ambitious elimination goal into a realistic and achievable public health success.

Q. "Tuberculosis in India is as much a social and nutritional disease as it is a medical challenge." Critically examine the key bottlenecks in eliminating TB in India, and suggest an innovative, community-centered roadmap for the future. 15 Marks

2.4.2. RETHINKING INDIA'S PUBLIC HEALTH POLICY

Context

Recent public health policies aim to achieve universal health coverage but fail to improve access due to rising private sector costs and poor public sector quality. Two government initiatives—the Ayushman Bharat Health and Wellness Centres and the Ayushman Bharat Digital Health Mission—clearly illustrate these inadequacies and the shift in policy focus.



Introduction

Public health policies are crucial in determining population health and securing a nation's demographic dividend. However, recent policies are concerning because they often lack an evidence-based approach and fail to guarantee minimal health benefits. A noticeable shift away from preventive and promotive healthcare toward subjective, individualized goals has left the structural deficiencies of India's healthcare system largely unresolved.

Understanding the Government Health Policy and Its Core Ideas

The Institutional Transition to Ayushman Bharat Health and Wellness Centres

- The policy altered the identities of grassroots-level institutions, namely the health sub-centres, primary health centres, and community health centres, by mandatorily adding a "Health and Wellness Centre" prefix.
- This universal renaming created considerable ambiguity among policymakers and professionals regarding the actual mandate of these three-tier institutions.
- Consequently, the core focus of these centers shifted away from measurable population health outcomes toward the highly subjective goal of individual well-being.

The Difference Between General Health Promotion and Individual Wellness

- **Health Promotion:** This is a population-based approach that recognizes how broad social, economic, and environmental conditions actively shape a community's ability to adopt healthy behaviors. It relies on concrete, measurable metrics.
- **Individual Wellness:** This concept places the primary responsibility of health entirely on the individual, assuming they have the capacity to modify their lifestyle choices.
- Focusing on wellness heavily underestimates the deep structural and social determinants of health and creates outcomes that are inherently subjective and impossible to measure universally.

The Digitization Gap in the Ayushman Bharat Digital Health Mission

- The Ayushman Bharat Digital Health Mission aims to create a digital repository of health information for every individual through a unique health ID (Ayushman Bharat Health Account card).
- While it maps health facilities and professionals, generating digital databases and operating in silos cannot address the severe lack of physical access to affordable care.
- An information portal alone does not justify massive budget allocations when healthcare infrastructure remains grossly inadequate for large sections of the population.

Significance of Evidence-Based Public Health

1. **Reaping the Demographic Dividend:** Structured public health policies optimize human capital, which is a major contributor to national economic growth.
2. **Achieving Universal Health Coverage:** Proper implementation ensures individuals access needed health services without suffering catastrophic financial hardship.
3. **Addressing Structural Determinants:** Evidence-based approaches target essential community needs, such as drinking water, nutrition, and emergency care.

4. **Ensuring Measurable Improvements:** Using quantifiable health metrics allows policymakers to accurately evaluate health systems and address concrete deficiencies.
5. **Mitigating Private Sector Reliance:** Strengthening public facilities protects citizens from the unaffordability of private sector healthcare.

Challenges in the Current Public Health Framework

1. **Subjective Outcome Measures:** The concept of individual well-being is inherently subjective, triggering the management risk that "if you cannot measure it, you cannot improve it."
2. **Loss of Institutional Identity:** The mandatory renaming of primary and community health centres has blurred their historically evolved roles within the district health system.
3. **Failure to Address Physical Access:** Digital ID cards and facility registries do not resolve the pressing lack of quality physical healthcare infrastructure.
4. **Operating in Information Silos:** Digital portals primarily generate data on individuals and professionals who continue to function in isolated silos without robust institutional delivery mechanisms.
5. **Weakening of the Three-Tier System:** Current policies lack concrete measures to physically strengthen the three-tier health-care system, causing these institutions to weaken across many parts of the country.
6. **Unaffordability of Private Care:** Rising medical costs in the private sector continue to restrict healthcare access, making basic medical needs unaffordable for large sections of the population.
7. **Misallocation of Financial Resources:** Allocating an annual budget of around ₹300 crore to digital missions lacks strong public health justification when there are no measurable outcomes to solve inadequate physical care access.

Way Forward

1. **Strengthen Physical Healthcare Institutions:** Shift policy focus back to investing concrete resources into the physical infrastructure of sub-centres, primary health centres, and community health centres.
2. **Prioritize Immediate Curative Needs:** Recognize that access to affordable curative care is a pressing need that must be met before individuals can meaningfully engage with promotive interventions.
3. **Adopt Measurable Population Metrics:** Discard subjective wellness goals in favor of rigorous, population-level health promotion metrics that capture unmet health needs.
4. **Acknowledge Social Determinants:** Design policies that actively address the social, economic, and environmental conditions shaping health, rather than placing the burden solely on the individual.
5. **Integrate Digital Data with Provisioning:** Ensure that digital missions move beyond data collection and actively facilitate the physical delivery of care through robust institutional mechanisms.

6. **Align Policy with Public Concerns:** Reorient health initiatives so they address the felt, actual concerns of the population rather than merely advancing the administrative priorities of policymakers.
7. **Ensure Evidence-Based Policy Formulation:** Formulate and implement public health policies based strictly on empirical evidence and rigorous data, avoiding populist ideas that fail to deliver minimal health benefits.

Conclusion

For public health policies to genuinely succeed, they must look beyond subjective wellness concepts and isolated digital repositories. Achieving true Universal Health Coverage requires returning to evidence-based health promotion, addressing social determinants, and urgently rebuilding the physical capacities of India's three-tier healthcare system to meet the immediate curative needs of the population.

Q. Critically evaluate the impact of Ayushman Bharat Health and Wellness Centres and the Ayushman Bharat Digital Health Mission on achieving Universal Health Coverage. 15 Marks

Scan to attempt more questions...



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GENERAL STUDIES 3

3.1. ECONOMY

3.1.1. BETWEEN GOVERNMENT AND RBI, GETTING BACK THE INVESTOR

Context:

The RBI's latest monetary policy review was conducted amid rising geopolitical tensions in West Asia, increasing crude oil prices and growing concerns over inflation. While the policy is being discussed primarily in terms of inflation management, the larger objective is to protect investor confidence and safeguard India's external sector stability.



Introduction

India's macroeconomic management is becoming increasingly complex as rising inflation risks coincide with external sector vulnerabilities. In this context, the RBI's focus extends beyond inflation and growth to preserving investor confidence and economic stability.

Why Has the RBI's Policy Dilemma Intensified?

The RBI faces a difficult policy environment due to the simultaneous emergence of inflationary and growth-related concerns.

1. Rising Inflation Risks

- **Escalation of conflict in West Asia has increased crude oil prices:** Higher crude oil prices raise transportation and production costs, leading to imported inflation across the economy.
- **El Niño-related concerns have raised fears of weak monsoon conditions:** A deficient monsoon can reduce agricultural output and trigger food inflation, which constitutes a major component of India's CPI basket.
- **Food and fuel inflation may create broader price pressures:** Rising food and fuel costs can spill over into other sectors, making inflation more persistent and widespread.
- **RBI has consequently revised its inflation outlook upwards:** Anticipating these risks, the RBI has increased its inflation projections, indicating a less comfortable price environment.
- **Increase the Current Account Deficit (CAD):** A larger trade deficit directly contributes to a widening current account deficit.

2. Slowing Growth Concerns

- **Elevated energy costs can dampen consumption and investment:** Higher fuel and electricity prices reduce household purchasing power and increase business operating costs.
- **Weak monsoon may adversely affect rural demand:** Lower farm incomes due to poor agricultural output can suppress rural consumption, which remains a key driver of economic growth.

- **Global economic uncertainty continues to affect external demand:** Slower growth in major economies may reduce demand for Indian exports, affecting industrial and services sector performance.
- **Excessive monetary tightening could weaken the ongoing recovery:** Higher interest rates may discourage borrowing, investment and consumption, thereby slowing economic growth.

RBI's Strategy to Safeguard External Sector Stability and Restore Investor Confidence

1. Why Investor Confidence Becomes Crucial

- **Finance the Current Account Deficit:** Foreign capital inflows help bridge the gap between external earnings and payments.
- **Maintain adequate foreign exchange reserves:** Continuous investment inflows strengthen the country's reserve position.
- **Stabilise the rupee:** Capital inflows increase foreign currency availability and reduce exchange-rate volatility.
- **Reduce the risk of external financing shocks:** Stable investments provide protection against sudden stops or reversals of capital flows.
- **Preserve overall macroeconomic stability:** Investor confidence supports financial market stability and economic resilience.

2. Measures to Encourage Foreign Investment in Debt Markets

- **Expansion of the Fully Accessible Route (FAR):** Allows foreign investors greater access to Indian government securities without investment limits.
- **Easier access to government securities for foreign investors:** Makes India's debt market more attractive to global investors.
- **Greater participation of Foreign Portfolio Investors (FPIs):** Enhances the flow of overseas capital into domestic bond markets.

Challenges Ahead

Despite the RBI's efforts to attract capital inflows and strengthen external stability, several risks could undermine macroeconomic resilience.

- **Persistent inflationary pressures:** A weak monsoon coupled with rising food and energy prices could keep inflation elevated and limit the RBI's policy flexibility.
- **Fragile domestic demand:** Sluggish rural consumption and higher input costs may weaken investment and overall economic growth.
- **Oil price and geopolitical risks:** Sustained increases in crude oil prices and escalating geopolitical tensions can worsen inflation and external sector vulnerabilities.
- **Global financial uncertainty:** Volatile financial markets and tighter monetary policies in advanced economies may trigger capital outflows from emerging markets like India.
- **Structural external sector vulnerabilities:** Continued dependence on imported energy and foreign capital makes India's Current Account Deficit and exchange rate highly sensitive to global shocks.

Way Forward

1. Short-Term Measures

- **Maintain a calibrated monetary policy stance:** The RBI should balance inflation control and growth support by avoiding both premature tightening and excessive easing.
- **Closely monitor inflation and oil price trends:** Continuous assessment of food and energy prices is essential for timely policy interventions.
- **Ensure adequate forex reserve buffers:** Strong foreign exchange reserves can help absorb external shocks and stabilise the rupee.

2. Medium-Term Measures

- **Diversify energy sources and accelerate renewable energy adoption:** Reducing dependence on imported fossil fuels can improve energy security and lower external vulnerabilities.
- **Strengthen export competitiveness:** Enhancing productivity, infrastructure and market access can boost exports and improve the trade balance.
- **Deepen domestic bond markets:** A stronger bond market can provide alternative sources of financing and reduce reliance on external capital.
- **Encourage stable long-term capital inflows:** Promoting FDI and other long-term investments can ensure more reliable financing than volatile portfolio flows.

3. Long-Term Measures

- **Reduce structural dependence on imported energy:** Expanding domestic energy production and clean energy capacity can lower exposure to global oil price shocks.
- **Build stronger external sector resilience:** A diversified export base and robust external buffers can help withstand global economic disruptions.
- **Improve domestic investment and productivity growth:** Higher productivity and investment-led growth can strengthen economic fundamentals and reduce vulnerability to external shocks

Conclusion

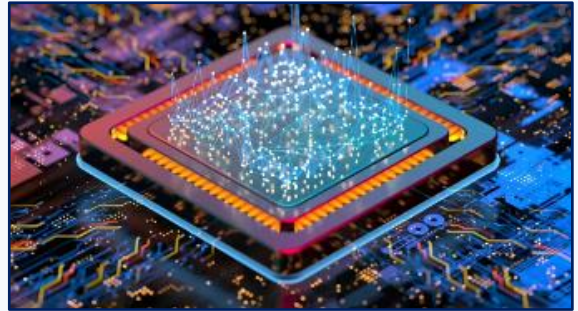
The RBI's policy reflects the evolving nature of macroeconomic management, where external sector stability is becoming as important as inflation control. Going forward, sustaining investor confidence and stable capital inflows will be crucial for navigating global uncertainties. A resilient external sector will remain vital for ensuring durable growth and economic stability.

Q. *The challenge before the RBI is no longer confined to balancing inflation and growth alone. Examine in the context of rising external sector vulnerabilities and global economic uncertainty.*
15 Marks

3.1.2. THE FUTURE OF INDIA'S CHIP INDUSTRY

Context:

India has identified semiconductors as a strategic sector due to their critical role in consumer electronics, telecommunications, automobiles, artificial intelligence, defence systems, and emerging technologies. A recent report by NITI Aayog titled *Future of India's Semiconductor Industry* highlights both the opportunities and challenges facing India's semiconductor ambitions.



Why Semiconductors Matter for India

1. Economic Growth and Digital Transformation

Semiconductors are the backbone of the digital economy and are essential for manufacturing electronics, telecommunications equipment, electric vehicles, and consumer devices. They also support flagship initiatives such as Digital India, Make in India, Industry 4.0, and the growth of AI-driven technologies.

2. Strategic and National Security Imperatives

Semiconductor chips are critical components in defence systems, aerospace technologies, communication networks, and cybersecurity infrastructure. Heavy dependence on imported chips creates strategic vulnerabilities and may compromise India's technological and security interests during crises.

3. Supply Chain Resilience and Technological Sovereignty

Global semiconductor manufacturing is concentrated in a few regions, particularly Taiwan, South Korea, and China, making supply chains vulnerable to geopolitical tensions, trade restrictions, and natural disasters. Developing domestic capabilities is essential to ensure uninterrupted access to critical technologies and enhance India's technological self-reliance.

Current Government Initiatives for Semiconductor Development

1. India Semiconductor Mission (ISM)

The India Semiconductor Mission (ISM) is a flagship programme backed by a ₹76,000 crore corpus to develop a comprehensive semiconductor ecosystem in India. It aims to attract investments and establish domestic capabilities in chip manufacturing and related sectors.

2. Financial Incentives and Manufacturing Support

The government provides substantial capital subsidies, covering up to 50% of project costs for semiconductor fabrication units and other strategic projects. Additional support is offered through production-linked incentives (PLI) and incentives for component manufacturing.

3. Strengthening Design and Research Ecosystem

India is promoting semiconductor innovation by providing access to industry-grade chip design software and tools for students, researchers, and academic institutions. This initiative seeks to build a skilled workforce and strengthen indigenous research and design capabilities.

Major Challenges Before India's Semiconductor Ambition

1. Underdeveloped Domestic Ecosystem

India lacks a complete semiconductor supply chain and continues to depend heavily on imported chips to meet domestic demand.

2. Long Gestation Period of Fabs

Semiconductor fabrication plants require 4–5 years for construction and additional time for testing, yield optimisation, and commercial production.

3. Massive Capital Requirements

Chip manufacturing is highly capital-intensive, requiring an estimated \$45–60 billion in government support over the next decade.

4. Technology and Skilled Workforce Deficit

India has strengths in chip design but lacks advanced manufacturing expertise, semiconductor R&D capabilities, and a specialised workforce.

5. Intense Global Competition

Established players such as the United States, China, Japan, South Korea, and Taiwan enjoy technological leadership and mature semiconductor ecosystems.

Implications on India's Semiconductor Ambition

1. Strategic Dependence on Imports

Heavy reliance on foreign suppliers exposes India to external shocks and supply disruptions.

2. Delayed Economic Returns

Long project timelines increase investment risks and postpone profitability for investors.

3. Fiscal Burden on the Government

Sustaining large-scale financial incentives over many years may strain public resources.

4. Technological Vulnerability

Limited domestic expertise constrains innovation and reduces India's ability to achieve technological self-reliance.

5. Difficulty in Achieving Global Competitiveness

Competing against countries with decades of experience and economies of scale remains a major challenge for India.

Way Forward for India's Semiconductor Ecosystem

1. Build Strategic Self-Reliance through R&D and IP Creation

Strengthen indigenous semiconductor research, sovereign chip design capabilities, and domestic intellectual property to transform India from a design-services hub into a technology innovator.

2. Adopt a Pragmatic Manufacturing Strategy

Prioritise mature and compound semiconductor nodes aligned with industrial, automotive, and defence needs instead of immediately competing in high-risk frontier chip manufacturing.

3. Scale Up Packaging, Testing, and Import Substitution

Develop ATMP/OSAT facilities as a core pillar of the ecosystem to generate employment, integrate into global value chains, and reduce dependence on imported electronics components.

4. Ensure Sustained Investments and Leverage Emerging Technologies

Provide long-term financial support through ISM 2.0 while harnessing AI-driven semiconductor engineering, advanced materials research, and next-generation chip architectures.

5. Forge Trusted Global Partnerships for Technology Access

Deepen collaboration with the United States, Japan, the European Union, and South Korea to secure technology transfer, equipment access, resilient supply chains, and skilled workforce development.

Conclusion

India's semiconductor mission represents a strategic investment in the nation's technological future. With sustained policy support, innovation-driven R&D, global partnerships, and ecosystem development, India can evolve from a major consumer to a trusted global semiconductor hub, strengthening economic resilience, technological sovereignty, and leadership in the emerging digital and AI-driven world.

Q. Semiconductors have emerged as the new strategic resource of the digital age." Examine the significance of developing a domestic semiconductor ecosystem for India. Discuss the challenges in achieving semiconductor self-reliance and suggest measures to strengthen India's semiconductor industry. 15 Marks

3.1.3. LAND POOLING: A SUSTAINABLE SOLUTION TO INDIA'S LAND ACQUISITION CHALLENGE

Context

- India's rapid urbanisation has significantly increased the demand for **roads, housing, public infrastructure, transport networks, and urban amenities**. However, securing land for these projects has become one of the biggest challenges for governments.
- In this context, **land pooling** has emerged as a practical and collaborative alternative to conventional land acquisition. Rajasthan's decision to launch its first land pooling scheme reflects the growing recognition of this model as a sustainable solution for urban development.



What Are the Major Challenges of Land Acquisition in India?

- High Financial Burden on Governments:** The **Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013** has increased the financial burden on governments by mandating **higher compensation**, along with **rehabilitation and resettlement costs**, making **large scale infrastructure and urban development projects** increasingly expensive.
- Frequent Legal Disputes and Litigation:** Land acquisition often leads to disputes over **compensation, ownership claims, and rehabilitation measures**, resulting in **prolonged litigation and legal** delays that frequently stall infrastructure projects for years.

- **Administrative Delays in Project Implementation:** Multiple **approvals, surveys, notifications,** and **consultations** make the acquisition process **lengthy and complex**, slowing project execution and increasing overall development costs.
- **Social Resistance and Public Opposition:** Compulsory acquisition is often perceived as a threat to **livelihoods** and **social security**, leading to **resistance from landowners and local communities**, which can delay or even halt important development projects.
- **Displacement and Social Disruption:** Land acquisition may force the relocation of families and communities, disrupting **social networks**, affecting **livelihood opportunities**, and creating long term **socio economic challenges** for affected populations.

Land Pooling as a Viable Alternative to Land Acquisition

- **Voluntary Contribution of Land by Landowners:** Under **land pooling**, landowners **voluntarily contribute a portion of their land** for infrastructure development and, in return, receive a share of the developed land with better amenities and higher value.
- **Balanced Land Sharing Mechanism:** Generally, landowners contribute around **25% to 40%** of their land for roads, parks, public amenities, and **Economically Weaker Section (EWS)** housing, while the remaining **60% to 75%** is returned as reconstituted plots with improved infrastructure.
- **Town Planning Scheme as a Successful Model:** The **Town Planning (TP) Scheme**, widely implemented in **Gujarat** and **Maharashtra**, is one of the most successful examples of the land pooling approach in India.
- **Integrated Framework for Urban Development:** The model simultaneously facilitates **land assembly, infrastructure creation,** and **cost recovery**, ensuring planned and efficient urban development.

Key Advantages of Land Pooling

1. **Promotes Participatory Development:** Land pooling transforms landowners into **partners in development** rather than subjects of compulsory acquisition, fostering greater cooperation and trust.
2. **Reduces Conflicts and Ensures Equitable Benefits:** The voluntary nature of the model minimises disputes and enables **equitable sharing of development benefits** among stakeholders.
3. **Provides Financial Sustainability:** Development costs are largely recovered through the **increase in land value**, reducing the need for substantial upfront government expenditure.
4. **Minimises Displacement and Preserves Communities:** The model reduces displacement, helps maintain **community ties**, and protects the social fabric of local populations.
5. **Supports Sustainable Urban Planning:** Land pooling encourages **environmentally sensitive urban development** while facilitating the expansion of cities and improvement of urban infrastructure.

State Level Experiences Revealing About Land Pooling

- **Gujarat is the most successful example, with land pooling practised for nearly 100 years.** Formalised under the **Gujarat Town Planning and Urban Development Act, 1976**, over **1,000 sq. km** across Ahmedabad, Surat, Rajkot, Vadodara, and Gandhinagar have been developed through TP schemes. Strong legal support and institutional experience are the key reasons for this sustained success.

- **Maharashtra allowed its statutory provisions to become outdated but is now reviving the model.** TP schemes have recently been reintroduced in Pune and the Mumbai Metropolitan Region, demonstrating that legal reforms and political will can restart dormant planning tools effectively.
- **Guwahati adapted the model creatively to overcome local obstacles.** Challenges included unclear legal provisions and non digitised land records. Authorities simplified the process by relying on existing maps and reducing landowner contributions to just **12 to 15 percent**, which increased public acceptance and sped up implementation.
- **Rajasthan is modifying land value calculations and absorbing part of the development cost.** Although land pooling provisions existed in legislation since 2016, the state lacked experience. It is now tailoring the financial model to reduce the burden on landowners and make participation more attractive.

Way Forward for Effective Implementation of Land Pooling

- **Adopt State Specific Models:** States like **Tamil Nadu, Madhya Pradesh, and Delhi** must customise **land pooling frameworks** according to their **legal, administrative, and socio economic conditions**, as there is no one size fits all approach.
- **Build Trust and Public Participation:** Governments should strengthen **stakeholder consultations**, create awareness about the benefits of land pooling, and build trust among landowners to encourage voluntary participation.
- **Strengthen Legal and Institutional Frameworks:** Clear laws, well defined implementation procedures, and strong institutions are essential for ensuring smooth execution and resolving disputes effectively.
- **Ensure Fair and Transparent Mechanisms:** Transparent decision making, equitable land contribution norms, and fair benefit sharing arrangements are necessary to enhance acceptance and long term sustainability.
- **Improve Land Records and Governance Systems:** Accurate **digitised land records** and better governance mechanisms can reduce disputes, improve transparency, and facilitate efficient implementation of land pooling schemes.

Conclusion

Land pooling marks a decisive shift from the adversarial logic of compulsory acquisition to a model where landowners, communities, and governments share in the gains of urban growth. With **strong legal frameworks, transparent governance, institutional capacity, public participation, and state specific innovations**, land pooling can become a transformative instrument for building India's future cities and achieving balanced urban development.

*Q. Land pooling represents a shift from compulsory acquisition to collaborative urban development. Critically examine the potential of land pooling in addressing India's urban infrastructure needs.
15 Marks*

3.1.4. INDIA'S GROSS-NET FDI PARADOX

Context

India's net foreign direct investment (FDI) dropped sharply to \$7.6 billion in 2025-26 despite historically strong gross inflows of \$94.6 billion. This expanding divergence highlights a structural transition in international capital movements, where accelerating corporate disinvestments and capital repatriation are outpacing fresh capital accumulation.



Introduction

Foreign Direct Investment (FDI) is traditionally regarded as a stable, long-term, non-debt capital flow that transfers technology and enhances productive capacity. However, contemporary accounting realities indicate that capital exits are significantly challenging India's net capital retention, requiring a thorough analysis of the underlying structural changes.

Regulatory Framework of FDI

- **Definition and Equity Threshold** FDI involves long-term non-debt capital investments made by non-resident entities, specifically targeting unlisted Indian companies or exceeding a 10% equity stake in listed domestic firms.
- **Nodal Regulatory Governance** Foreign investments are strictly governed by the Foreign Exchange Management Act (FEMA), 1999, and the FDI Policy 2020, administered jointly by the DPIIT under the Ministry of Commerce and Industry and the Reserve Bank of India (RBI).
- **Operational Inflow Routes** Capital enters either via the Automatic Route, requiring post-facto RBI notification (e.g., Greenfield Biotechnology), or the Government Approval Route, demanding prior ministerial clearance (e.g., Digital Media News Streaming).
- **Statutory Sectoral Prohibitions** To preserve strategic sovereignty, FDI is completely prohibited in specific sectors, including atomic energy generation, lottery businesses, gambling, chit funds, and tobacco manufacturing.
- **Balance of Payments (BoP) Accounting Matrix** Net FDI is calculated by subtracting capital disinvestments and repatriations from gross inflows within the Financial Account; notably, dividend payouts are logged under the Current Account and do not depress net financial metrics.

Significance of Analyzing Net FDI Trends

- **Refines Quality Over Quantity Assessment** Shifting analytical focus from headline gross numbers to net flows allows policymakers to measure actual long-term capital retention within the economy.
- **Exposes Balance of Payments Vulnerabilities** Monitoring the rate of capital flight is crucial for assessing long-term external sector stability and predicting pressure points on foreign exchange reserves.
- **Measures Genuine Technology Transfer and Depth** Tracking persistent real asset commitments serves as a reliable proxy for structural technology absorption, localized patenting, and industrial maturation.

- **Informs National Manufacturing Strategy** Granular data on net investment distribution helps align foreign capital targets with domestic initiatives like the Production Linked Incentive (PLI) scheme.

Classification of Inward Capital Flux

- **Real FDI (RFDI)** Consists of traditional multinational enterprises setting up local production bases, transferring proprietary technology, and demonstrating long-term commitments to the host nation.
- **Financial Investors** Comprises private equity (PE) funds, venture capital (VC) firms, and sovereign wealth funds focused primarily on medium-term capital growth and predefined exit strategies.
- **Diaspora and Special Purpose Vehicles (SPVs)** Includes capital raised overseas and channelled through offshore financial centres, which can occasionally involve the recycling or round-tripping of domestic funds.
- **Corporate Reorganization Inflows** Represents non-fresh capital injections stemming from internal mergers, share swaps, and intra-group debt-to-equity conversions that do not bring fresh foreign exchange.
- **Outward Foreign Direct Investment (OFDI)** Reflects cross-border capital investments by Indian corporate entities, which are frequently directed into holding holding companies in jurisdictions like Singapore and the UAE.

Structural Challenges

- **Persistent Decline in Manufacturing Real FDI** Long-term industrial commitments (RFDI) into the core manufacturing sector have contracted, accounting for just 10.6% of total effective inflows in recent years.
- **Dominance of Short-Term Financial Exits** Financial investors (PE/VC funds) comprise 40.5% of effective inflows, leading to massive capital outflows during strategic exit phases, as illustrated by recent multi-billion dollar divestments.
- **Inflation via Non-Fresh Accounting Adjustments** Approximately \$40 billion of gross equity inflows since 2014-15 consist of internal corporate reorganizations and paper transactions rather than fresh cash injections.
- **Distortions via Shell Entities and Capital Recycling** Nearly 45% of India's outward investments (OFDI) are funneled into financial, insurance, and business service holding companies abroad rather than direct operational entities.
- **The Capital Outflow-to-Inflow Deficit Paradox** When accounting for disinvestments, dividend remittances (\$118.9 billion), and IPR royalties (\$46.6 billion), for every \$1.00 of fresh equity entering the country, approximately \$1.50 flows out.

Way Forward for Enhancing Net FDI Retention

- **Calibrate Sectoral Incentives to Prioritize Real FDI** Introduce targeted fiscal and regulatory advantages that specifically favor long-term Greenfield industrial investments over short-to-medium-term portfolio-style PE/VC flows.

- **Modernize and Disaggregate Reporting Formats** Revise DPIIT and RBI data structures to clearly separate fresh foreign exchange cash entries from internal corporate balance-sheet restructurings like share swaps.
- **Strengthen the Domestic Industrial Ecosystem** Deepen structural ease-of-doing-business reforms and improve infrastructure availability to incentivize multinational corporations to reinvest profits locally rather than opting for full repatriation.
- **Develop Deep and Resilient Exit Absorption Pathways** Expand domestic financial and institutional markets to allow smooth absorption of large-scale PE/VC exits without triggering sudden shocks in the Financial Account of the BoP.
- **Tighten Anti-Round-Tripping and Capital Recycling Supervision** Enhance enforcement cross-coordination to systematically monitor outbound investments directed toward offshore holding hubs and shell companies.
- **Harmonize GIFT City Metrics with Mainstream Inflows** Create a comprehensive tracking architecture for capital moving through International Financial Services Centres (IFSCs) to cleanly differentiate between productive expansion and capital flight.

Conclusion

While robust gross FDI statistics indicate sustained international interest in India's market, escalating capital outflows and a low share of real manufacturing commitments highlight the need for policy recalibration. Shifting strategic focus from total volume to the retention of high-quality, technology-intensive industrial capital is essential for long-term macroeconomic stability and economic growth.

Q. India's foreign direct investment (FDI) ecosystem displays a stark divergence between robust gross inflows and a sharp decline in net capital retention. Evaluate the structural causes behind this gross-net paradox and discuss its long-term implications for India's balance of payments and industrial development. 15 Marks

3.1.5. THE 8TH CPC: A CHANCE TO REFORM PAY COMMISSIONS

Context:

- As India moves towards the 8th Central Pay Commission (CPC), public attention has largely focused on salary revisions, fitment factors, and arrears, while the more fundamental question of whether the framework for determining public sector compensation remains equitable, transparent, and fiscally sustainable has received far less scrutiny.
- The manner in which the state structures salaries, allowances, and pensions is not merely an administrative matter but reflects broader institutional priorities, influences public trust in governance, and carries significant long-term fiscal consequences for the nation.



Challenges in the Existing Compensation Framework

1. Absence of a Common Evaluation Framework

- **Narrow and time-bound process:** Pay Commissions operate as small, time-bound bodies tasked with evaluating a diverse ecosystem of civil, military, and technical services, largely on the basis of representations from the services themselves, without recourse to independent or standardised assessments.
- **No universal benchmark for comparison:** The system lacks a uniform mechanism for assessing risk, responsibility, technical expertise, and career progression across different public services, resulting in compensation decisions that seek parity without clearly defining its basis.
- **Institutional incoherence:** Different services operate under distinct career structures and working conditions, yet compensation is often aligned without transparent and consistently applied principles, creating perceptions of inequity and weakening the credibility of the entire framework.

2. Civil Services versus Armed Forces: Structural Differences Ignored

- **Pyramidal military career structure:** Military careers involve a sharply pyramidal hierarchy with limited promotion opportunities, significant operational risks, and mandatory early retirement, making direct compensation comparison with civilian services structurally flawed.
- **Civilian services offer broader advancement:** In contrast, civilian services generally provide longer career tenures and wider avenues for progression and promotion, which must be transparently accounted for when aligning compensation across these two very different institutional systems.
- **Need for objective criteria:** Aligning compensation across such structurally different systems requires clear, evidence-based, and publicly explainable criteria that account for differences in career trajectory, risk, responsibility, and service conditions.

3. Career Progression, Experience, and the Efficiency Trade-off

- **Accelerated promotions raise governance concerns:** The reduction in experience required for senior administrative positions reflects a push for efficiency, but effective governance also depends on institutional memory, accumulated expertise, and mature judgment that only experience can provide.
- **Risk of shallow leadership:** When complex policy challenges are handed to officials with insufficient field experience, the quality of decision-making and implementation suffers; a balanced approach that values both dynamism and administrative depth is essential.
- **Allowances lack a transparent framework:** Allowances are intended to compensate for hardship, remoteness, or operational risk, but the absence of a standardised and transparent assessment framework results in disparities across services that are difficult to justify and generate perceptions of inconsistency.

4. Non-Functional Upgradation (NFU): Equity and Accountability at Stake

- **Financial advancement without responsibility:** Non-Functional Upgradation (NFU) allows officers to receive financial benefits equivalent to a higher pay grade without a corresponding increase in duties or accountability, which fundamentally weakens the link between role, performance, and compensation.

- **Introduced to address promotion bottlenecks:** While NFU was originally introduced to compensate for slow promotion avenues in certain services, it continues to generate debate regarding inter-service equity and the institutional rationale for decoupling financial progression from actual responsibility.

5. The Growing Pension Challenge

- **Multiple coexisting pension systems:** India currently operates several parallel pension arrangements, including legacy defined-benefit schemes for older employees, the contributory National Pension System for newer entrants, and separate provisions for elected representatives, creating concerns about uniformity and fairness.
- **Fiscal sustainability under pressure:** According to the **Reserve Bank of India's State Finances Report (2023)**, rising expenditure on salaries, pensions, and interest payments consumes a large share of government budgets, leaving limited fiscal space for developmental and social investments.
- **Inter-generational equity concerns:** A compensation system that locks in unsustainable long-term pension liabilities shifts the fiscal burden onto future generations, making inter-generational equity a central concern that any reform of the CPC framework must squarely address.

6. Fragmentation Across Government Institutions

- **Different processes for different branches:** Compensation frameworks for the executive, legislature, and judiciary evolve through entirely separate mechanisms, which, while constitutionally necessary, creates inconsistencies and reduces overall transparency in how public functionaries are compensated.
- **Public trust depends on explainability:** In a democratic system, compensation structures must not only be financially sustainable but also publicly explainable; fragmented frameworks that operate opaquely erode public confidence and weaken the accountability of state institutions.

Global Best Practices

- **United Kingdom – Senior Salaries Review Body (SSRB):** Independent Pay Review Bodies provide annual, evidence-based recommendations for public servants, ensuring regular pay revisions and avoiding large periodic fiscal shocks.
- **Australia – Remuneration Tribunal:** An independent body determines compensation using **transparent criteria**, including responsibilities, market benchmarks, and public interest considerations.
- **Singapore – Performance-Linked Pay System:** Public sector salaries are **benchmarked with private-sector earnings** and linked to performance, strengthening accountability and talent retention.
- **New Zealand – Pay Transparency:** Mandatory **public disclosure of pay bands** enhances transparency, accountability, and citizen trust in compensation decisions.

Way Forward

- **Establish a National Compensation Authority:** A permanent, independent National Compensation Authority should replace the decadal Pay Commission model, providing a

continuous, institutionalised mechanism for reviewing public sector compensation based on clear benchmarks, regular periodic assessments, and transparent principles.

- **Develop a common evaluative framework:** A universally applicable framework for assessing responsibility, risk, technical complexity, hardship, and career progression across all services must be developed, ensuring that compensation decisions rest on objective and consistently applied criteria rather than service-specific lobbying.
- **Transparent criteria for civil-military parity:** The structural differences between military and civilian careers must be formally acknowledged and quantified, with clear and publicly stated principles governing how compensation is aligned across these distinct service systems.
- **Rationalise NFU and allowances:** Non-Functional Upgradation should be comprehensively reviewed with a view to strengthening the link between accountability and financial progression, while allowances must be standardised through a transparent hardship assessment matrix applicable uniformly across services.
- **Address pension sustainability:** The government must work towards harmonising multiple pension systems, building actuarially sound long-term projections into every compensation revision, and ensuring that fiscal sustainability and inter-generational equity are treated as non-negotiable parameters.
- **Respect India's federal structure:** Any national compensation reform must uphold the autonomy of State governments in implementation while providing a common framework grounded in fiscal discipline, transparency, and accountability that promotes comparability and strengthens institutional credibility across the federation.

Conclusion

- The 8th CPC should evolve from a periodic pay revision exercise into a framework for ensuring equity, transparency, accountability, and fiscal sustainability in public compensation.
- A fair and sustainable compensation system is essential not only for employee welfare but also for strengthening institutional credibility and public trust in governance.

Q. The existing decadal Pay Commission model is increasingly viewed as inadequate for a modern and complex public administration system. Evaluate 15 Marks

3.1.6. IMPLEMENTATION COMPLETE, BUT WORKERS STILL VULNERABLE

Context

- India's four Labour Codes, enacted during 2019–20, recently had their implementation rules notified, completing the legislative framework after nearly six years of delay.
- Trade unions and academics had hoped that these Rules which lay down standard operating procedures (SOPs) for implementing a law, would moderate the more contentious provisions of the Codes, but those expectations have been belied.



Significance of India's Labour Reforms

- **Consolidation of fragmented law:** The four Codes — **The Code on Wages (2019), The Industrial Relations Code (2020), The Code on Social Security (2020), and The Occupational Safety, Health and Working Conditions Code (2020)** — consolidate over 29 central labour laws into a simpler, unified framework.
- **Ease of compliance for employers:** The unified framework reduces the multiplicity of returns, inspections, and procedures that businesses had to follow under the old laws, signalling India's intent to improve its ease-of-doing-business ranking.
- **Extension of social security coverage:** For the first time, gig workers, platform workers, and unorganised sector workers are formally acknowledged within the social security architecture of the Codes, even if their protections remain inadequate.
- **Standardisation of definitions:** The Codes introduce uniform definitions of key concepts such as 'worker', 'wages', and 'employer' across all four legislations, reducing interpretive ambiguity that plagued earlier labour law.
- **Role of Rules in implementation:** Rules cannot contradict the parent legislation, but they become critical wherever a law is broad or open-ended — they fill gaps, define procedures, and protect against misuse; this is precisely why the new Rules have drawn criticism.

Issues Highlighting Critical Gaps in the Labour Codes

1. Fixed-Term Employment: A Door Left Wide Open

- **Formal introduction without safeguards:** The Industrial Relations Code formally introduced Fixed-Term Employment (FTE) into India's labour law framework, although such arrangements had already been widely used for decades.
- **No minimum tenure specified:** Neither the Code nor the Rules specify a minimum tenure for FTE contracts; a minimum period of one year could have protected workers from exploitatively short-term engagements.
- **Unlimited renewals permitted:** The Rules remain silent on any cap for the number of contract renewals, opening the possibility that even permanent regular positions could be converted into FTEs with unlimited renewals — a significant regression in job security.

2. Minimum Wages: Vague Standards and Embedded Gender Bias

- **Unclear floor wage definition:** The Code on Wages (Central) Rules provide only a vague definition of 'floor wage' without clearly distinguishing it from the minimum wage, leaving room for ambiguity in actual wage fixation.
- **Symbolic consultations:** While the Rules require consultation with State governments before fixing wages, they specify no framework for such consultations, raising fears that the process will remain largely symbolic.
- **Gender bias entrenched in wage-fixing:** The Rules perpetuate a gender bias baked into existing convention — a four-member family is treated as comprising three consumption units, where an adult female is assigned a weight of 0.8 against 1.0 for an adult male, yet the Rules do nothing to correct this discriminatory practice.
- **Flawed hourly wage formula:** The Rules define the hourly wage as simply the daily wage divided by eight — a conceptually flawed approach, since workers may not find work for the

remaining hours of the day; internationally, minimum hourly wages are fixed independently of daily wages, which is especially important for domestic workers and the growing gig economy.

3. Gig Workers: Left in a Legal Grey Zone

- **Employment status unresolved:** The Social Security Code (Central) Rules make no attempt to clarify the employment relationship of gig and platform workers; they continue to be treated as self-employed and remain part of the unorganised workforce, outside the protective ambit of formal labour law.
- **Mandatory gratuity insurance undefined:** The Rules are silent on the modalities for mandatory gratuity insurance envisaged under the Code — a safeguard meant to protect workers from employers who fail to pay gratuity — leaving this important worker protection undefined in practice.

4. Trade Union Recognition: A Higher Bar, Less Bargaining Power

- **30% membership threshold introduced by Rules:** The Industrial Relations Code (Central) Rules require that a sole registered trade union must have at least 30% membership to be formally recognised — critically, this threshold does not appear in the Code itself and has been introduced unilaterally through the Rules.
- **Weakening of collective bargaining:** In large establishments, smaller or newly formed unions may struggle to meet this 30% bar, further eroding workers' collective bargaining power at a time when union membership has already been declining for decades.
- **Ambiguity in FTE renewal terms:** The Rules also fail to provide clarity on the conditions for engaging and renewing fixed-term employees, leaving significant scope for ambiguity and potential misuse by employers.

5. Missing Safeguards in Occupational Safety and Contract Labour

- **Plantation workers' welfare omitted:** The Occupational Safety, Health and Working Conditions Code (Central) Rules omit certain occupation-specific welfare measures — notably housing and medical facilities for plantation workers — leaving a historically vulnerable workforce without adequate statutory protection.
- **Core versus non-core activity undefined:** The Rules do not specify which activities may be performed by contract labour, nor do they distinguish between core and non-core activities, facilitating the growing informalisation of the labour market through the use of contract labour even in core operations of an establishment.

Way Forward

- **Amend Rules to cap FTE renewals:** The government should revisit the Industrial Relations Code Rules to introduce a minimum tenure of one year for fixed-term contracts and a ceiling on the number of renewals to prevent abuse of the FTE mechanism.
- **Reform the wage-fixing methodology:** The wage-fixing convention must be revised to eliminate the gender-weighted consumption unit approach; an independent expert body should determine minimum hourly wages separately from daily wage rates, in line with international best practices.
- **Clarify gig worker classification:** A clear legal definition of the employment relationship for gig and platform workers must be provided through subordinate legislation, along with mandatory notification of gratuity insurance modalities under the Social Security Code.

- **Revise trade union recognition threshold:** The 30% membership threshold for union recognition should be reconsidered or its rationale explained transparently; where multiple unions exist, a graduated recognition framework would better protect workers' right to collective bargaining.
- **Define core and non-core activities:** The Occupational Safety Code Rules must specify a clear list of core activities in which contract labour cannot be deployed, curbing the informalisation of permanent jobs and providing legal certainty to both workers and employers.
- **Inclusive tripartite consultations:** Wage fixation and rule-making processes should involve meaningful consultation with trade unions and civil society organisations, not merely state governments, to ensure that worker perspectives are genuinely incorporated.

Conclusion

- Labour reform must balance the ease of doing business with the dignity of work, and when rules that could have protected millions are left deliberately vague, it is not a legislative oversight but a policy choice that the working class will live with for years.
- The notification of Labour Code Rules marks the completion of a legal process, but it is also a missed opportunity to address long-standing structural inequities and the government must urgently undertake targeted amendments to ensure that the promise of 'labour reform' translates into genuine worker protection.

Q. Labour reforms should balance economic efficiency with social justice. In the light of the recently notified Labour Code Rules, discuss whether India's labour reforms adequately protect workers' rights. 15 Marks

3.1.7. THE RBI AND ITS GROWING FISCAL ROLE

Why in News?

The Reserve Bank of India (RBI) has approved a record surplus transfer of **₹2.87 lakh crore** to the Union Government for FY 2025–26 under the **Economic Capital Framework (ECF)**. While the transfer strengthens government finances, its unprecedented scale has sparked debates on the RBI's growing fiscal role, central bank independence, monetary-fiscal coordination, and the implications for fiscal federalism.



Introduction

Central banks are responsible for maintaining monetary and financial stability through inflation control, currency management, and financial regulation. However, the RBI's record surplus transfer to the Union Government highlights its growing role in supporting public finances, raising important questions about the evolving monetary-fiscal relationship and central bank independence.

Understanding RBI Surplus

A. What is RBI Surplus?

RBI generates income from various sources while performing its monetary and financial functions:

- **Interest on Government Securities:** RBI earns interest on government bonds held as part of its asset portfolio.
- **Returns on Foreign Currency Assets:** Investments in foreign government securities and deposits generate regular income.
- **Foreign Exchange Transactions:** RBI earns gains through buying and selling foreign currencies to manage exchange rate stability.
- **Liquidity Management Operations:** Operations such as repo and reverse repo transactions contribute to RBI's earnings.
- **Investments in Gold and Other Reserve Assets:** Appreciation and returns from gold and reserve holdings add to RBI's income.

After setting aside funds for contingency reserves and risk buffers, the remaining profit is transferred to the Union Government as **RBI surplus (dividend)**.

B. Economic Capital Framework (ECF)

Recommended by the **Bimal Jalan Committee**, the ECF provides a rule-based mechanism for determining RBI's capital requirements and surplus transfers.

- **Risk Provisioning:** Specifies the amount of capital RBI must retain to absorb financial, monetary, and operational risks.
- **Surplus Distribution:** Determines the quantum of excess capital and profits that can be transferred to the Government.
- **Financial Stability Objective:** Ensures that surplus transfers do not compromise RBI's balance sheet strength and institutional credibility.
- **Transparency and Predictability:** Provides a structured framework for balancing fiscal needs with central bank autonomy.

Structural Shift in RBI's Fiscal Role and Why Surplus Has Increased

A. Structural Shift in RBI's Fiscal Role

1. Traditionally, Governments Finance Expenditure Through:

- **Taxation:** Revenue collected from individuals and businesses forms the primary source of government funding.
- **Borrowing:** Governments raise funds through market borrowings, which create future repayment obligations.
- **Economic Growth:** Higher economic activity increases tax collections and expands fiscal capacity over time.

2. RBI Transfers as an Emerging Source of Fiscal Space

- **No Additional Tax Burden:** Surplus transfers provide resources without imposing new taxes on citizens.
- **No Increase in Public Debt:** They generate revenue without requiring additional government borrowing.

- **Independent of Immediate Economic Growth:** Fiscal resources are created without a corresponding increase in production or economic output.
- **Enhances Fiscal Capacity:** Large transfers provide the government with additional spending space for welfare, infrastructure, and fiscal consolidation.

3. Evidence of the Structural Shift

- **Rapid Expansion of RBI's Balance Sheet:** The RBI's balance sheet grew by over 20% to nearly ₹92 lakh crore, increasing its income-generating capacity.
- **Higher Earnings from Financial Operations:** Growth in foreign asset holdings, reserve management, and interest income significantly boosted RBI's gross income.
- **Sharp Rise in Surplus Transfers:** Annual transfers that typically ranged between ₹30,000–65,000 crore have surged to a record ₹2.87 lakh crore in FY26.
- **Growing Fiscal Significance:** The size of the transfer now rivals the annual budgets of several States, highlighting RBI's increasing role in supporting government finances.
- **Closer Monetary-Fiscal Linkages:** RBI's reserve management and monetary operations are increasingly influencing fiscal outcomes alongside their traditional monetary objectives.

B. Why Has the Surplus Increased?

1. Higher Earnings from Foreign Exchange Reserves

- **Interest Income on Foreign Assets:** RBI earns interest from investments in foreign government bonds and securities.
- **Valuation Gains:** Appreciation in the value of reserve assets contributes to higher earnings.
- **Returns on Foreign Securities:** India's large forex reserves generate substantial income through diversified investments abroad.

2. Active Foreign Exchange Management

- **Currency Market Interventions:** RBI's buying and selling of foreign currencies to manage rupee volatility can generate profits.
- **Reserve Operations:** Efficient management and deployment of foreign exchange reserves enhance overall returns.

3. Reserve Rebalancing

- **Gold Sales:** Strategic sale of a portion of gold reserves generated gains for the RBI.
- **Higher Foreign Currency Holdings:** Increased investment in foreign assets improved income from reserve management.
- **Optimised Asset Allocation:** Rebalancing reserves helped maximize returns while maintaining liquidity and safety.

4. Rising Global Interest Rates

- **Higher Returns on Overseas Investments:** Elevated global interest rates increased earnings from foreign government bonds and securities held by the RBI.
- **Improved Yield on Reserve Assets:** Foreign currency assets generated greater interest income than in previous years.

5. Expansion of RBI's Balance Sheet

- **Growth in Total Assets:** The RBI's balance sheet expanded significantly, increasing the volume of income-generating assets.
- **Enhanced Earning Capacity:** A larger asset base naturally led to higher income from investments, securities, and reserve management operations.

Significance of the Record RBI Surplus Transfer

1. **Strengthens Government Finances:** The large surplus transfer provides significant non-tax revenue, helping the government reduce fiscal deficit pressures, fund development expenditure, and limit additional borrowing.
2. **Enhances Fiscal Stability:** Additional fiscal resources improve the government's financial position without imposing new taxes or increasing public debt.
3. **Reflects Effective Reserve Management:** The record surplus highlights the RBI's efficient management of foreign exchange reserves, gold holdings, and investment portfolios.
4. **Supports Macroeconomic Stability:** Lower government borrowing requirements can ease pressure on bond markets, moderate interest rates, and encourage private investment.
5. **Demonstrates Institutional Strength:** The transfer follows the Economic Capital Framework, reflecting a transparent and rule-based approach to surplus distribution.

Challenges and Concerns

1. **Threat to Central Bank Independence:** Growing government dependence on RBI profits may create pressure for larger transfers, potentially reducing the RBI's operational autonomy and institutional distance.
2. **Fiscalisation of the RBI:** The increasing fiscal importance of RBI earnings risks blurring the distinction between monetary management and government financing.
3. **Dependence on Non-Tax Revenue:** Excessive reliance on RBI surplus transfers may weaken incentives for tax reforms, revenue mobilisation, and prudent fiscal management.
4. **Fiscal Federalism Concerns:** Since RBI surplus is classified as non-tax revenue and excluded from the divisible pool, States do not receive a share despite their substantial expenditure responsibilities.
5. **Fiscal Centralisation:** Rising reliance on RBI transfers, along with cesses, surcharges, and borrowing constraints on States, strengthens the fiscal dominance of the Union Government.
6. **Reduced Shock Absorption Capacity:** Large surplus transfers could reduce the RBI's financial buffers, limiting its ability to manage future crises, exchange-rate shocks, and economic uncertainties.

Way Forward

1. **Preserve Central Bank Independence:** Monetary policy and reserve management decisions should remain free from fiscal considerations to safeguard RBI's autonomy and credibility.
2. **Strict Adherence to the Economic Capital Framework:** Surplus transfers should continue to be governed by transparent, rule-based criteria rather than short-term fiscal needs.

3. Strengthen Transparency: Regular disclosure of reserve adequacy, capital buffers, and risk assessment practices can enhance accountability and public trust.
4. Maintain Adequate Contingency Buffers: RBI must retain sufficient financial reserves to effectively manage future economic, financial, and external sector shocks.
5. Revisit Fiscal Federal Concerns: Policymakers should examine the implications of large non-shareable RBI transfers on fiscal federalism and Centre–State financial relations.
6. Promote Sustainable Fiscal Consolidation: Long-term fiscal health should be achieved through stronger tax revenues, higher economic growth, and efficient public expenditure rather than dependence on RBI dividends.

Conclusion

A strong economy requires both a fiscally responsible government and an independent central bank; preserving the balance between the two is essential for long-term macroeconomic stability and cooperative federalism.

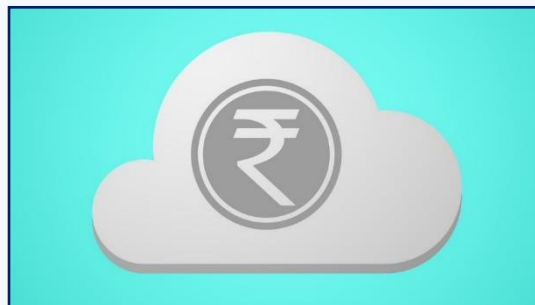
Q. *The RBI's record surplus transfer reflects an evolving role of the central bank beyond monetary management. Examine the factors responsible for the rise in RBI's surplus and its implications for the Indian economy. 15 Marks*

3.2. ENVIRONMENT

3.2.1. FUNDING INDIA'S CLIMATE TRANSITION: GAPS AND THE WAY FORWARD

Context

- India needs around **₹162.5 trillion (\$2.5 trillion)** by 2030 to achieve its **Nationally Determined Contributions (NDCs)** and nearly **\$10.1 trillion** by 2070 to achieve **Net Zero emissions target**.
- While climate finance instruments are available, the major challenge lies in creating an effective institutional and financial framework to channel funds towards climate action efficiently.



Understanding Climate Finance

A. What is Climate Finance?

- **Climate Finance** refers to financial resources mobilized from **public, private, domestic, and international sources** to support activities aimed at addressing climate change.
- It primarily finances **two categories of actions: Climate Mitigation**, which focuses on reducing greenhouse gas emissions, and **Climate Adaptation**, which aims to reduce vulnerability to climate change impacts.
- **Examples of Climate Finance:** Renewable energy projects, Green hydrogen initiatives, Electric mobility, Climate-resilient agriculture, Flood control and coastal protection infrastructure.

B. Why is Climate Finance Important for India?

- **Meeting Climate Commitments:** India needs large-scale investments to achieve its **NDC targets** and long-term **Net Zero emissions goal**. Hence, adequate climate finance is essential to accelerate this transition.
- **Supporting Green Industrial Transition:** Sectors such as **Steel, Cement, Power, and Road Transport** account for a major share of India's emissions. Financing is required to adopt cleaner technologies and reduce carbon intensity.
- **Enhancing Climate Resilience:** Investments are needed in **climate adaptation**, including drought management, flood protection, coastal resilience, and sustainable agriculture. Climate finance helps reduce the socio-economic impacts of extreme weather events.
- **Promoting Sustainable Development:** Green investments generate employment, improve energy security, and support sustainable economic growth. They contribute to achieving both environmental and developmental objectives simultaneously.

Magnitude of India's Climate Finance Challenge

- **Massive Investment Requirements**
 - According to estimates, India requires **₹162.5 trillion (\$2.5 trillion)** by 2030 to meet its climate commitments under the **Paris Agreement**.
 - Achieving the country's **Net Zero target by 2070** is expected to require investments worth nearly **\$10.1 trillion**, which is approximately three times India's present GDP.
- **Sector-Specific Financing Needs**
 - Decarbonization of the **Steel, Cement, Power, and Road Transport sectors** alone will require around **\$467 billion** in additional investments between 2022 and 2030.
 - These four sectors account for **more than half of India's carbon emissions** and therefore remain central to **India's green transition strategy**.
- **Insufficiency of Global Climate Finance**
 - Developed countries had committed to mobilizing **\$100 billion annually** under the **Paris Agreement**, but the target was not fully achieved.
 - The **New Collective Quantified Goal (NCQG)** agreed at Baku aims to mobilize **\$300 billion annually by 2035**, which many developing countries, including **India**, consider inadequate.
 - Consequently, India will have to mobilize the majority of climate finance from domestic sources rather than relying heavily on international funding.

What is Climate Finance Taxonomy?

- **Meaning:** A **Climate Finance Taxonomy** is a classification framework that clearly defines which **economic activities and investments** qualify as **green, sustainable, or climate-friendly**. It serves as a common standard for governments, regulators, investors, banks, and financial institutions.
- **Expected Benefits:**
 - A **well-defined taxonomy** will improve transparency and **investor confidence**.
 - It will facilitate **greater domestic and international investment** in climate-friendly sectors.
 - It will provide a **standardized framework for sustainable finance** across sectors.

India's Existing Climate Finance Ecosystem

- **Growing Green Debt Market:** By the end of 2024, India had issued approximately **\$55.9 billion** worth of **Green, Social, Sustainability and Sustainability-Linked (GSS+) Debt Instruments**. This represents a significant increase since 2021 and reflects growing investor interest in sustainable finance.
- **Role of Sovereign Green Bonds:** India has issued **Sovereign Green Bonds worth ₹477 billion**, helping establish benchmarks for green financing. These bonds have strengthened investor confidence and contributed to the development of India's green finance market.
- **Availability of Financial Instruments:** India already possesses several climate finance instruments, including **Green Bonds, Sustainability-Linked Bonds, Blended Finance Mechanisms, Transition Finance Instruments**, and **Infrastructure Investment Trusts (InvITs)**. However, the challenge lies in scaling up these instruments and improving coordination among them.

Role of RBI in Strengthening Climate Finance

- **Climate Risk Management Framework:** In **2025**, the **Reserve Bank of India (RBI)** introduced the **Climate Finance and Management of Climate Change Risks Directions**, requiring banks to integrate **climate-related risks** into their lending and risk-management practices.
- **Green Activities under Priority Sector Lending (PSL):** The RBI has allowed eligible **green activities** to qualify under **Priority Sector Lending (PSL)**. Since PSL targets strongly influence **bank lending behaviour**, this measure can channel larger volumes of credit towards sustainable and climate-friendly sectors.
- **Climate Risk Information System (CRIS):** The RBI is developing a **Climate Risk Information System (CRIS)** to help **banks assess and manage climate-related financial risks** more effectively. This will strengthen risk assessment capabilities and improve the resilience of the banking sector.
- **Future Regulatory Reforms:** Going forward, the RBI may introduce **Climate Stress Testing** to evaluate the **impact of climate-related shocks on financial institutions**. It may also adopt **Differentiated Capital Requirements**, making carbon-intensive lending more costly while incentivising green investments.

Key Gaps in India's Climate Finance Architecture

- **Absence of Climate Finance Taxonomy:** Without a clear definition of what qualifies as "green", investors and financial institutions face uncertainty regarding project eligibility and sustainability standards.
- **Weak Institutional Coordination:** Existing climate finance instruments often operate in isolation, resulting in weak **institutional coordination** and therefore, reduces the efficiency of capital mobilisation and deployment.
- **Limited Private Sector Participation:** **Private sector participation** remains limited because green technologies in sectors such as steel and cement are still expensive and commercially challenging.
- **Inadequate Climate Adaptation Financing:** **Climate adaptation financing** continues to be inadequate because adaptation projects generally generate limited direct financial returns despite

providing significant social and environmental benefits. Consequently, adaptation finance receives far less attention than mitigation finance.

- **State-Level Financing Constraints:** Many States lack the **borrowing capacity, technical expertise, and institutional mechanisms** needed to access climate finance effectively.

Way Forward

1. **Finalize and Operationalize Climate Finance Taxonomy:** India should expedite the implementation of a comprehensive **Climate Finance Taxonomy** to establish clear standards for sustainable investments.
2. **Strengthen RBI's Climate Finance Framework:** RBI should move beyond enabling green finance and adopt stronger measures such as mandatory climate stress testing and differentiated capital requirements.
3. **Expand Priority Sector Lending for Climate Action:** Climate adaptation and mitigation projects should receive greater support under the **Priority Sector Lending** framework.
4. **Establish a State Climate Finance Facility:** A dedicated financing mechanism involving the Union Government, **NABARD**, and international institutions should be created to improve States' access to climate finance.
5. **Scale Up Sovereign Green Bond Issuance:** Greater issuance of **Sovereign Green Bonds** can deepen domestic green finance markets and attract long-term investors.
6. **Promote Blended Finance at Scale:** Public capital should be strategically utilized to mobilize significantly larger volumes of private investment in climate-related sectors.

Conclusion

India's climate finance challenge is not primarily a problem of resource availability but one of institutional capacity and effective financial architecture. By strengthening regulatory frameworks, finalizing the **Climate Finance Taxonomy**, and improving access to climate finance at both national and State levels, India can successfully transform climate commitments into tangible outcomes.

Q. India requires massive investments to achieve its NDCs and Net Zero target. Discuss the role of climate finance in India's green transition and examine the challenges associated with mobilising and deploying climate finance. 15 Marks

3.2.2. THE MISSING LINK IN INDUSTRIAL DECARBONISATION

Why in the News?

India's BTR-1 submitted to the UNFCCC reveals that over 20% of national emissions come from industry, with nearly 40% classified under "non-specific industries" that remain largely outside existing decarbonisation policies.



Introduction

India's goals of Make in India, Viksit Bharat@2047, and Net-Zero 2070 require rapid industrial growth, but rising industrial emissions and the limited coverage of PAT and CCTS expose significant gaps in the country's decarbonisation strategy.

Industrial Sector and India's Emissions Profile

Key Findings from First Biennial Transparency Reports

- Industrial sector contributes **more than 20% of India's total emissions**.
- Fuel consumption in manufacturing industries and construction contributes around **13%**.
- Industrial Processes and Product Use (IPPU) contribute another **9%**.
- Industrial emissions continue to rise with economic growth and urbanisation.

Why the Industrial Sector Matters?

- Central to India's economic growth and employment generation.
- Major consumer of commercial energy.
- Critical for achieving Net-Zero 2070 commitments.
- Determines India's ability to balance development with climate action.

Emissions Puzzle

- Identified industrial sectors contribute around **55%** of manufacturing emissions.
- Nearly **40% of emissions are classified under "Non-Specific Industries"**.
- Similar trends observed in **2014, 2016, 2019, and 2020**, indicating a persistent policy blind spot.

India's Existing Industrial Decarbonisation Framework

1. Perform, Achieve and Trade (PAT) Scheme

Objective:

Improve energy efficiency in energy-intensive sectors by reducing the amount of energy consumed per unit of output, thereby lowering overall industrial energy demand and emissions.

Coverage:

Includes Thermal Power Plants, Railways, DISCOMs, Commercial Buildings, and major energy-intensive industries such as cement, steel, aluminium, fertilizers, and paper sectors.

Mechanism:

The government sets specific energy consumption reduction targets for designated consumers, and entities exceeding targets earn Energy Saving Certificates (ESCerts), which can be traded with underperforming units.

2. Carbon Credit Trading Scheme (CCTS)

Objective:

Reduce greenhouse gas emission intensity across industrial sectors through a market-based carbon pricing and trading mechanism.

Covered Sectors:

Includes Aluminium, Cement, Fertilizers, Iron & Steel, Petrochemicals, Petroleum Refineries, Pulp & Paper, Textiles, and Chlor-Alkali industries, which are among India's major industrial emitters.

Mechanism:

Sector-specific emission benchmarks are prescribed, and industries that reduce emissions beyond targets earn carbon credits that can be traded with entities failing to meet their emission reduction obligations.

Challenges Associated with the Current Industrial Decarbonisation Model

1. Limited Sectoral Coverage

Existing mechanisms such as PAT and CCTS primarily target traditional heavy-emitting industries, leaving a substantial share of emissions from "non-specific industries" outside the regulatory framework.

2. Lack of Granular Emissions Data

The broad classification of non-specific industries obscures the actual sources of emissions, making it difficult to identify high-emitting sub-sectors and design targeted interventions.

3. Weak Monitoring and Accountability

Inadequate sectoral disaggregation hampers effective monitoring of emission trends, assessment of policy outcomes, and identification of major polluters.

4. Policy and Regulatory Gaps

The absence of detailed sector mapping creates policy blind spots, preventing the expansion of mitigation measures to emerging and previously unregulated industries.

5. Misalignment Between Industrial Growth and Climate Goals

Rapid industrial diversification under initiatives such as Make in India and Viksit Bharat is not adequately integrated with climate mitigation strategies, resulting in fragmented policymaking.

6. Risk to Net-Zero Targets and Equitable Transition

Excluding nearly 40% of industrial emissions from mitigation frameworks undermines India's decarbonisation pathway while placing disproportionate compliance burdens on a limited set of industries.

Way Forward

1. Disaggregate "Non-Specific Industries"

The government should identify and classify the industries grouped under the "non-specific industries" category to accurately locate emission hotspots and design targeted mitigation measures.

2. Expand Coverage of CCTS and PAT

India's carbon trading and energy efficiency frameworks should gradually include currently uncovered sectors to ensure comprehensive industrial decarbonisation and equitable regulatory coverage.

3. Develop Sector-Specific Decarbonisation Roadmaps

Tailored transition strategies should be prepared for different industries based on their technological maturity, energy requirements, and emission profiles to facilitate a realistic green transition.

4. Strengthen Industrial Emissions Database

A robust, real-time emissions monitoring and reporting system should be established to improve data accuracy, policy evaluation, and regulatory oversight.

5. Improve Transparency in Climate Reporting

More detailed and disaggregated emissions inventories should be published to support evidence-based policymaking and strengthen accountability in climate governance.

6. Promote Adoption of Green Technologies

Industries should be incentivized to adopt Green Hydrogen, renewable energy, process electrification, carbon capture technologies, and circular economy practices to reduce their carbon footprint.

7. Integrate Climate Goals with Industrial Policy

Climate objectives should be embedded within flagship initiatives such as Make in India, the National Green Hydrogen Mission, Net-Zero Strategy, and industrial development policies to ensure sustainable growth.

8. Strengthen Institutional Coordination

Greater coordination among the Ministry of Environment, Forest and Climate Change, Ministry of Power, Ministry of Heavy Industries, and NITI Aayog is essential for coherent policy formulation and effective implementation of decarbonisation strategies.

Conclusion

While India has advanced industrial decarbonisation through PAT and CCTS, achieving **Net-Zero 2070** requires expanding coverage beyond traditional sectors, improving emissions transparency, and bringing all significant industrial emitters within a comprehensive climate mitigation framework.

Q. Industrial decarbonisation is critical for achieving India's net-zero target. Examine the limitations of India's current industrial climate strategy and suggest measures to improve emission mitigation across all industrial sectors. 15 Marks

3.3. INTERNAL SECURITY

3.3.1. AFTER MAOISM, THE REAL BATTLE FOR ADIVASI TRUST HAS JUST BEGUN

Context:

1. The declaration of India as **Maoist-free on March 31, 2026**, marked a significant milestone in the country's internal security efforts, while the **government's vision** of integrating every resident of **Bastar into the mainstream by 2031** signals a shift from a security-centric approach towards development and social inclusion.



2. However, **achieving lasting peace** will require more than welfare measures and infrastructure development;

it will depend on addressing structural issues related to **Adivasi rights, governance, natural resource management, and the effective implementation of constitutional safeguards through meaningful community participation.**

Shifting of Focus from Security to Inclusive Development

A. Government's Post-Maoist Development Agenda

1. Following the decline of Maoist insurgency, the government has prioritised **welfare delivery, road construction, mobile connectivity, and greater administrative outreach** in remote tribal regions.
2. The government also aims to expand service delivery through dedicated centres and strengthen developmental interventions to improve the quality of life in Bastar.
3. These measures can significantly enhance **access to services, connectivity, and socio-economic opportunities** for tribal communities.

B. Challenges in the Transition to Lasting Peace

- Development initiatives alone cannot address concerns relating to **justice, representation, and community control over resources**.
- As security challenges diminish, the government's performance will increasingly be judged on **justice delivery, protection of rights, and democratic accountability** rather than infrastructure creation alone.
- Adivasi communities are increasingly aware of their constitutional safeguards and are unlikely to lower their aspirations, making meaningful institutional reforms essential.

PESA and Constitutional Self-Governance

A. Constitutional Framework of Tribal Governance

- The constitutional vision for tribal governance is based on two parallel channels:
 - **Panchayati Raj Institutions (PRIs)** led by the Gram Sabha.
 - **Government-appointed administrative institutions** such as Tehsildars and District Collectors.
- While both systems are intended to complement one another, bureaucratic institutions have often overshadowed elected local bodies in practice.

B. Significance of the PESA Act, 1996

- The **Panchayats (Extension to Scheduled Areas) Act, 1996 (PESA)** seeks to strengthen decentralised governance in Fifth Schedule Areas by placing the **Gram Sabha at the centre of local self-governance**.
- PESA represents one of the most important constitutional mechanisms for ensuring tribal participation in governance and development.

C. Powers of the Gram Sabha

- Protection of **Adivasi identity, customs, and traditions**.
- Management of **community resources**.
- Resolution of local disputes through customary practices.
- Consent on matters affecting **lives, livelihoods, and local development**.

D. Jal, Jungle and Zameen: The Foundation of Trust

- For Adivasi communities, **water, forests, and land** are not merely economic resources but form the basis of identity, culture, livelihoods, and social organisation.

- The manner in which the state addresses **land rights, forest rights, and community resource ownership** will ultimately determine the level of trust that tribal communities place in government institutions.

E. Consent versus Consultation

- A crucial feature of PESA is the requirement of **Gram Sabha consent** on matters affecting local communities. Unlike consultation, **consent provides meaningful decision-making authority and protects community interests**. Any **dilution of consent-based provisions** weakens the spirit of tribal self-governance and grassroots democracy.

Major Challenges in Building Adivasi Trust

- **Weak Implementation of PESA:** The implementation of PESA across **Fifth Schedule States** has remained uneven, with states often interpreting and applying the Act in ways that dilute its original intent.
- **Attempts to Undermine Gram Sabha Authority:** The 2022 proposal in Chhattisgarh to replace "consent" with "consultation" reflected attempts to weaken the decision-making authority of Gram Sabhas.
- **Bureaucratic Dominance:** Administrative institutions continue to dominate governance processes, often sidelining elected local bodies and reducing meaningful community participation.
- **Manipulation of Democratic Processes:** Allegations of fabricated Gram Sabha resolutions and forged consent records have raised concerns regarding transparency and accountability.
- **Historical and Structural Grievances:** Issues relating to **land alienation, displacement, denial of resource rights, and limited participation in governance** continue to influence tribal perceptions of the state.
- **From Negative Peace to Positive Peace:** The decline of Maoist violence represents **negative peace**, characterised by the absence of armed conflict. Sustainable peace requires **positive peace**, which is rooted in **justice, inclusion, dignity, rights protection, and democratic participation**.

Way Forward for Strengthening Trust Through Constitutional Governance

- **Effective Implementation of PESA:** The post-Maoist phase presents an opportunity to fully implement the **Panchayats (Extension to Scheduled Areas) Act (PESA), 1996** across all Fifth Schedule areas, with greater oversight to ensure uniform and effective enforcement.
- **Protecting the Authority of the Gram Sabha:** The **consent-based powers of the Gram Sabha** must be safeguarded through legal protection, transparent procedures, and independent monitoring mechanisms to prevent manipulation or fabrication of records.
- **Strengthening Forest Rights:** Effective implementation of the **Forest Rights Act (FRA), 2006**, alongside PESA, is essential to secure tribal rights over forest land, minor forest produce, and community resources.
- **Promoting Participatory Integration:** Adivasi communities must be empowered to shape their own vision of development and integration, ensuring that inclusion into the mainstream remains a **participatory and rights-based process** rather than a top-down exercise.
- **Balancing Administrative Outreach with Democratic Empowerment:** Welfare delivery and administrative outreach should be complemented by strong democratic institutions and constitutional safeguards, ensuring that governance promotes **empowerment, participation, and self-governance** rather than dependence.

Conclusion

The defeat of Maoism in Bastar is a significant achievement, but it marks the beginning and not the end of the state's responsibility to its Adivasi citizens. **Lasting peace can only be built on the foundation of constitutional integrity, resource justice, and genuine participatory governance**, and the true measure of India's success in Bastar will not be the absence of conflict but the presence of trust.

Q. The elimination of Left-Wing Extremism marks only the first step towards peace. Discuss the challenges involved in transforming security gains into sustainable peace and development in tribal regions. 15 Marks

3.4. SCIENCE & TECHNOLOGY

3.4.1. DRONE REVOLUTION AND MODERN WARFARE

Context

Recent conflicts in Ukraine, Lebanon, Israel-Iran theatre and West Asia have demonstrated that drones have become central to modern warfare. Cheap, mass-produced unmanned systems are reshaping military doctrines, battlefield tactics, defence economics, and strategic deterrence.



Introduction

Traditionally, military power was determined by advanced platforms such as fighter aircraft, tanks, warships, and missiles. However, recent conflicts in Ukraine and West Asia have demonstrated that inexpensive, mass-produced drones can deliver surveillance, precision strikes, and intelligence capabilities at a fraction of the cost. Consequently, warfare is increasingly shifting from platform-centric warfare to drone-centric warfare.

How Drones Have Changed Modern Warfare

1. Persistent Surveillance and Visibility

- **Enhanced Situational Awareness:** Drones provide real-time intelligence, continuous surveillance, target acquisition, and artillery correction, enabling unprecedented battlefield visibility and information dominance.
- **Increased Battlefield Vulnerability:** Persistent drone surveillance has eliminated traditional concealment, making frontlines and rear areas equally vulnerable, with rapid detection often leading to immediate engagement and destruction.

2. Democratisation of Military Power

- **Democratisation of Military Capability:** Drones have lowered the barriers to military power by enabling smaller states and non-state actors to acquire effective surveillance and strike capabilities without requiring large defence budgets or advanced conventional arsenals.

- Shift in Battlefield Economics: Low-cost drones can destroy high-value military assets such as tanks and artillery systems, creating an asymmetric cost advantage and reducing the traditional dominance of technologically superior militaries.

3. Precision Strike Capability

Modern drones can:

- Deliver explosives accurately
- Attack moving targets
- Conduct kamikaze missions
- Destroy critical infrastructure

FPV (First-Person View) Drone Revolution

What are FPV Drones?

FPV (First-Person View) drones are unmanned aerial systems operated through onboard cameras that transmit live video feeds to VR-style goggles worn by operators. Originally developed for recreational racing and aerial photography, they have been adapted into highly effective military strike and reconnaissance platforms.

Advantages of FPV Drones

- **High Precision:** FPV drones allow operators to accurately engage specific targets through real-time visual control.
- **Low Cost:** They deliver precision strike capabilities at a fraction of the cost of conventional missiles and weapon systems.
- **Easy Production:** Most FPV drones can be rapidly assembled using readily available commercial components.
- **High Adaptability:** They can be easily modified for reconnaissance, kamikaze attacks, bombing, interception, and electronic warfare missions.

Fibre-Optic FPV Drones: The Next Generation

What Makes Them Unique?

Fibre-optic drones use cable-based communication instead of radio signals, making them highly resistant to jamming and electronic warfare. This ensures reliable operation even in contested battlefield environments.

Benefits of Fibre-Optic Drones

- **Resistant to Electronic Warfare:** Fibre-optic communication prevents disruption from enemy jamming and electronic interference.
- **Difficult to Jam:** Since signals travel through physical cables rather than radio frequencies, conventional jamming techniques become ineffective.
- **Reliable Communication:** Provides uninterrupted transmission of commands and video feeds even in contested electromagnetic environments.
- **Enhanced Battlefield Survivability:** Greater communication reliability improves mission success and operational effectiveness in high-threat zones.

Recent Uses

1. Hezbollah's Drone Model: Low-Cost Asymmetric Warfare

- Hezbollah extensively employs Iranian-origin drones such as Ababil, Mohajer, and Shahed for surveillance, reconnaissance, and precision strike missions.
- The recent adoption of fibre-optic FPV drones has enhanced its ability to evade Israeli electronic warfare and counter-drone systems.

2. Israel's Counter-Drone Strategy: Multi-Layered Air Defence

- Israel has developed a layered Counter-UAS architecture combining electronic warfare systems and specialised radars to detect and neutralise hostile drones.
- AI-enabled systems such as the Iron Drone Raider provide cost-effective interception through net capture and direct collision mechanisms.

3. Iran's Drone Strategy: Tool of Strategic Deterrence

- Iran views drones as instruments of deterrence, coercion, and power projection, complementing its conventional military capabilities.
- Through Shahed-series drones and proxy-operated networks, Iran extends its strategic influence across Iraq, Syria, Lebanon, and Yemen.

Emerging Trends in Drone Warfare

1. Swarm Warfare

- **Mass Saturation Attacks:** Large numbers of drones operate simultaneously to overwhelm enemy air defences and exhaust interception capabilities.

2. AI-Enabled Drones

- **Autonomous Combat Systems:** Artificial intelligence enables drones to navigate, identify targets, and support decision-making with minimal human intervention.

3. Integration with Electronic Warfare

- **Multi-Domain Drone Battles:** Future conflicts will witness continuous competition between drones, counter-drones, and electronic warfare systems.

4. Hybrid Warfare

- **Integration Across Domains:** Drones are increasingly combined with cyber operations, information warfare, and precision strikes to achieve strategic objectives beyond the battlefield.

Implications and Challenges of Drone Warfare for India

1. Border Security Threats

Drones are increasingly being used for arms smuggling, drug trafficking, and surveillance activities along India's western and northern borders.

2. Need for Advanced Military Modernisation

India must strengthen indigenous drone manufacturing, anti-drone systems, AI-enabled surveillance, and swarm drone capabilities to maintain battlefield superiority.

3. Strategic Importance of Atmanirbhar Bharat

Future military power will depend on domestic industrial capacity, manufacturing scale, and defence innovation ecosystems rather than solely on expensive platforms.

4. Proliferation to Non-State Actors

The low cost and easy availability of drones enable terrorists, insurgents, and other non-state actors to acquire advanced combat capabilities.

5. Ethical and Humanitarian Concerns

The growing use of autonomous drones raises concerns regarding accountability, civilian casualties, and compliance with international humanitarian law.

6. Regulatory and Governance Challenges

The absence of comprehensive international norms, export controls, and drone governance frameworks creates risks of misuse and unchecked proliferation.

Way Forward

1. Strengthen Indigenous Drone Technology

Invest in domestic development of advanced drones to reduce import dependence and enhance strategic autonomy.

2. Accelerate AI and Autonomous Systems

Promote AI-enabled drones with capabilities such as autonomous navigation, target recognition, and decision support.

3. Build Robust Counter-Drone Capabilities

Develop advanced anti-drone systems, electronic warfare tools, and directed-energy weapons to neutralise emerging threats.

4. Integrate Drones into Military Doctrine

Institutionalise drone warfare through doctrinal reforms, specialised training, and greater tri-service coordination.

5. Foster a Strong Defence Innovation Ecosystem

Support defence startups, strengthen R&D infrastructure, and scale domestic manufacturing under Atmanirbhar Bharat.

6. Promote Global Cooperation and Norms

Work towards international regulations, responsible military drone usage, and collaboration on counter-drone technologies.

Conclusion

As warfare enters the age of autonomous systems, victory will increasingly belong to nations that combine innovation, industrial resilience, and drone dominance. For India, mastering this revolution is both a strategic necessity and an opportunity.

Q. Assess the multidimensional security threats posed by the evolution of drone warfare, particularly focusing on non-state actors and border management. In this context, discuss the strategic necessity of 'Atmanirbhar Bharat' in building robust indigenous counter-drone capabilities. 15 Marks

3.5. DISASTER MANAGEMENT

3.5.1. URBAN FIRE DISASTERS IN INDIA: GOVERNANCE, SAFETY AND ACCOUNTABILITY

Context:

- The recent Delhi B&B fire and Muzaffarpur hospital fire have once again exposed serious deficiencies in urban fire safety and regulatory oversight.
- Similar incidents, from the Uphaar Cinema Fire to the Arpora Nightclub Fire, show that lessons from past tragedies have not been fully translated into institutional reforms.



Introduction

- Fire accidents in Indian cities are increasingly becoming governance issues rather than mere accidental events. They reflect the intersection of rapid urbanisation, weak regulatory enforcement, and inadequate disaster preparedness.
- The recurrence of such incidents raises important concerns regarding citizen safety, accountability of public institutions, and the effectiveness of urban governance systems.

Key Issues Involved

- **Regulatory Non-Compliance:** Many commercial establishments continue to operate without proper fire clearances or violate approved occupancy limits. Such violations often remain unnoticed until a disaster exposes the risks.
- **Unauthorized Structural Modifications:** Illegal additions, blocked exits, and altered building layouts compromise emergency evacuation during fires. These modifications significantly increase casualties by trapping occupants.
- **Weak Enforcement Mechanism:** Fire safety inspections are often irregular and enforcement tends to be reactive rather than preventive. Regulatory agencies frequently intervene only after accidents occur.
- **Accountability Deficit:** While owners are usually prosecuted after accidents, the role of regulatory authorities often escapes scrutiny. This weakens institutional accountability and allows unsafe practices to continue.
- **Urban Planning Loopholes:** Congested urban spaces, narrow roads, and misuse of land-use provisions reduce accessibility for emergency services. Poor planning transforms manageable incidents into major disasters.
- **Safety of Vulnerable Groups:** Hospital patients, elderly persons, children, and persons with disabilities face greater challenges during emergency evacuation. Their vulnerability makes safety compliance even more critical.
- **Inadequate Deterrence:** Delayed judicial processes and inconsistent convictions reduce the deterrent value of existing laws. As a result, safety violations are often viewed as manageable risks rather than serious offences.

Major Challenges

- **Rapid and Unplanned Urbanisation:** Cities are expanding faster than the capacity of regulatory and safety infrastructure. This creates gaps between urban growth and the ability to enforce safety standards.

- **Informalisation of Economic Activities:** Many businesses operate beyond approved norms or under loosely regulated arrangements. Such informality makes monitoring and enforcement difficult.
- **Lack of Safety Culture:** Fire safety is often treated as a procedural requirement rather than a core operational responsibility. Compliance therefore becomes symbolic instead of substantive.
- **Institutional Fragmentation:** Multiple agencies share responsibility for building approvals, inspections, and emergency response. This fragmented framework often results in coordination failures and blame shifting.
- **Infrastructure Constraints:** Inadequate fire stations, poor access roads, and insufficient emergency equipment limit the effectiveness of rescue operations. These shortcomings are particularly visible in densely populated urban areas.
- **Governance and Capacity Deficits:** Local bodies frequently suffer from staff shortages, limited technical expertise, and weak monitoring systems. These institutional limitations reduce the effectiveness of enforcement.
- **Economic Incentives Against Compliance:** Businesses may avoid investing in safety measures to reduce costs and increase profitability. The benefits of prevention are often undervalued until a disaster occurs.

Government Initiatives and Existing Framework

- **National Building Code (NBC), 2016:** The code provides detailed guidelines on fire prevention, emergency exits, evacuation planning, and building safety standards. It serves as the primary technical framework for fire-safe construction.
- **Model Building Bye-Laws:** These bye-laws require adherence to fire safety norms during building approval and operation. They seek to integrate safety considerations into urban development processes.
- **Disaster Management Act, 2005:** The Act promotes a comprehensive approach to disaster prevention, preparedness, mitigation, and response. Fire safety forms an important component of this broader framework.
- **Smart Cities Mission:** The mission encourages the use of technology and data-driven governance to improve urban resilience. Several cities are integrating emergency response systems into smart infrastructure.
- **AMRUT:** By strengthening urban infrastructure and service delivery, AMRUT indirectly contributes to safer and more resilient urban environments. Improved planning reduces disaster vulnerabilities.

Way Forward

- **Shift Towards Preventive Governance:** Safety regulation must focus on identifying and addressing risks before disasters occur. Regular inspections and compliance monitoring should replace reactive enforcement.
- **Strengthen Enforcement and Accountability:** Accountability should extend beyond private violators to include negligent public officials. Fixing responsibility across the chain of governance will improve compliance.
- **Technology-Driven Compliance:** Digital monitoring systems, GIS mapping, and online clearance mechanisms can improve transparency and reduce regulatory loopholes. Technology can also facilitate real-time risk assessment.

- **Mandatory Third-Party Audits:** Independent safety audits can help identify violations that routine inspections may overlook. This would improve the credibility and effectiveness of compliance systems.
- **Improve Urban Planning:** Urban development must incorporate fire safety considerations such as road accessibility, building spacing, and emergency infrastructure. Safety should become a core planning objective.
- **Build a Safety Culture:** Regular fire drills, public awareness campaigns, and staff training can foster behavioural change. A culture of preparedness is essential for reducing disaster risks.
- **Enhance Institutional Coordination:** Better coordination among municipal bodies, fire departments, police, and disaster management authorities can improve both prevention and emergency response. Integrated governance is crucial for effective risk management.
- **Protect Vulnerable Populations:** Hospitals, schools, old-age homes, and hospitality establishments require specialised safety protocols. Evacuation plans should account for the needs of vulnerable groups.
- **Strengthen Legal Deterrence:** Faster prosecution and stricter penalties for safety violations can increase compliance. Effective punishment reinforces the seriousness of fire safety obligations.
- **Promote Urban Resilience:** Fire safety should be integrated into broader urban resilience and disaster risk reduction strategies. Resilient cities are those that systematically reduce vulnerabilities before crises emerge.

Conclusion

- Recurring urban fire disasters reveal that the problem lies not only in accidental ignition but also in persistent governance failures that allow risks to accumulate over time.
- Ensuring fire-safe cities requires a combination of effective regulation, accountable institutions, resilient urban planning, and an enduring culture of safety.

Q. Recurring fire tragedies in Indian cities are less a consequence of accidental ignition and more a reflection of governance and regulatory failures. Examine. Discuss the challenges in ensuring urban fire safety and suggest measures for building fire-resilient cities. 15 Marks

3.5.2. EARTHQUAKES

Why in the News?

The recent twin earthquakes (Magnitude **7.1 and 7.5**) in **Venezuela** caused widespread destruction, raising concerns about earthquake preparedness globally. The event also highlights India's vulnerability due to delayed revision of seismic building standards.

What is an Earthquake?

An **earthquake** is the sudden shaking of the Earth's surface caused by the abrupt release of energy accumulated due to the movement of **tectonic plates** along faults.



How Do Earthquakes Occur?

Plate Tectonic Theory

Earth's lithosphere consists of tectonic plates that constantly move over the semi-molten asthenosphere.

Earthquakes mainly occur along **plate boundaries**:

1. Convergent Boundary

- Plates collide.
- Produces the most destructive earthquakes.
- Example: Himalayas.

2. Divergent Boundary

- Plates move apart.
- Moderate earthquakes.
- Example: Mid-Atlantic Ridge.

3. Transform Boundary

- Plates slide past one another.
- Sudden release of stress causes earthquakes.
- Example: San Andreas Fault, Venezuela's Caribbean Plate boundary.

Key Terminologies

- **Focus (Hypocentre):** Point inside the Earth where energy is released.
- **Epicentre:** Point directly above the focus on Earth's surface.
- **Fault:** Fracture in rocks where movement occurs.
- **Foreshock:** Smaller quake before the main earthquake.
- **Aftershock:** Smaller earthquakes after the main event.
- **Doublet Earthquake:** Two large earthquakes occurring within a short interval due to interconnected fault ruptures.

Causes of Earthquakes

Natural Causes

- Plate tectonic movements
- Volcanic eruptions
- Isostatic adjustments
- Landslides
- Meteor impacts (rare)

Human-Induced Causes

- Large reservoir impoundment
- Deep mining
- Oil and gas extraction
- Hydraulic fracturing
- Nuclear testing

Earthquake Distribution in India

India lies on the collision zone of the **Indian Plate** and the **Eurasian Plate**, making it highly vulnerable.

Seismic Zones (BIS)

- Zone II – Low Risk
- Zone III – Moderate Risk
- Zone IV – High Risk
- Zone V – Very High Risk

Nearly **59% of India's land area** and around **79% of the population** are exposed to varying levels of seismic risk.

Major Earthquake-Prone Regions

- Himalayan Region
- North-East India
- Andaman & Nicobar Islands
- Kutch (Gujarat)
- Delhi-NCR
- Indo-Gangetic Plain

Impacts of Earthquakes

1. Human Impact

- **Mortality and Physical Trauma:** Causes immediate mass casualties and severe trauma from structural collapses and crushing injuries. (*WHO*)
- **Public Health Crises:** Disrupts emergency healthcare infrastructure, triggering disease outbreaks in overcrowded relief camps. (*WHO*)
- **Human Capital Erosion:** Reduces long-term cognitive and educational outcomes due to early childhood exposure to seismic stress.

2. Economic Impact

- **Direct Asset Destruction:** Inflicts massive capital loss through the total obliteration of housing, industries, and critical public infrastructure.
- **Macroeconomic Strain:** Depresses GDP growth by disrupting domestic supply chains and diverting fiscal resources into debt-ballooning reconstruction.
- **Livelihood Disruption:** Paralyzes regional production, causing exports to plummet while forcing a sharp surge in reconstruction-driven imports.

3. Environmental Impact

- **Landscape Modification:** Triggers severe secondary terrain hazards like widespread landslides, avalanches, and permanent ground deformations. (*WHO*)
- **Toxic Contamination:** Releases dangerous particulate matter, asbestos, and heavy metals from collapsed structures into local ecosystems. (*PMC-NIH*)
- **Hydrological Alteration:** Disrupts regional groundwater tables, causes soil liquefaction, and risks devastating flood events via dam or river blockages.

4. Societal Impact

- **Mass Displacement:** Forces large-scale internal migration, triggering long-term humanitarian crises and structural deficits in affordable housing.
- **Social Disruption:** Breaks down vital informal community safety nets, leaving displaced and scattered populations highly vulnerable.

- **Structural Inequities:** Disproportionately devastates lower-income groups living in non-engineered housing, trapping vulnerable families in deep poverty.

Challenges in India's Earthquake Preparedness

- **Institutional Dilution of Risk Data:** Scientific updates to seismic hazard maps (like proposing a stricter Zone VI) face administrative resistance or delays due to cost and compliance concerns for ongoing mega-infrastructure projects.
- **Grossly Underestimated Design Standards:** India's maximum seismic design threshold (Zone V at 0.36g) remains significantly lower than global standards and neighboring countries on the same Himalayan front, like Nepal and Pakistan (0.75g).
- **The "Unregulated Housing" Trap:** Nearly 95% of earthquake casualties occur in informal, one-to three-storey residential buildings that completely bypass formal municipal building codes and engineering supervision.
- **Massive Population Exposure:** Approximately 79% of India's population resides in moderate-to-severe seismic zones, exponentially amplifying the potential human and economic toll of a major tectonic rupture.
- **Severe Deficit in Structural Retrofitting:** There is a critical lack of proactive, large-scale structural auditing and retrofitting for existing, vulnerable lifeline infrastructure like older hospitals, schools, and bridges.
- **Over-Reliance on Post-Disaster Response:** National strategy remains heavily skewed toward post-event search, rescue, and relief operations rather than pre-disaster enforcement of resilient engineering and community-level drills.

Government Initiatives

- **NDMA Guidelines:** Drives a strategic paradigm shift from reactive post-disaster relief to proactive structural mitigation.
- **Earthquake Risk Indexing (ERI):** Maps specific hazards and structural vulnerabilities across high-risk urban centers to guide local planning.
- **Techno-Legal Mandates:** Enforces compulsory compliance with the National Building Code (NBC) and BIS seismic codes (IS 1893) for infrastructure.
- **National Seismological Network:** Maintained by the NCS with 165+ stations for real-time monitoring and early-warning research.
- **Community Safety Frameworks:** Leverages the National School Safety Programme (NSSP) and multi-state mock drills for localized capacity building.

International Best Practices

- **Japan (Technology & Engineering):** Deploys a nationwide **Earthquake Early Warning (EEW)** sensor network for real-time public alerts, paired with mandatory "**Base Isolation**" engineering to absorb seismic energy.
- **Chile (Policy & Enforcement):** Enforces **strict seismic construction codes** that mandate structural flexibility, anchored by a centralized disaster agency (**SENAPRED**) for uniform municipal enforcement

Way Forward

- **Implement Science-Backed Standards:** Adopt the updated Bureau of Indian Standards (BIS) seismic maps and upgrade Zone V design forces toward realistic global standards without letting fiscal infrastructure costs delay compliance.
- **Enforce Grassroots Building Codes:** Empower local municipal and panchayat bodies to strictly regulate and inspect informal one- to three-storey residential constructions where 95% of casualties occur.
- **Mandate Large-Scale Retrofitting:** Launch a targeted, institutional framework for structural auditing and retrofitting of existing lifeline infrastructure, particularly older schools, hospitals, and transit hubs.
- **Expand Early Warning Infrastructure:** Scale up real-time Earthquake Early Warning (EEW) sensor networks across the high-risk Himalayan front, integrating them with automated public broadcast systems.
- **Institutionalize Community Resiliency:** Conduct regular, localized community mock drills and integrate mandatory disaster preparedness training into school curriculums to create a bottom-up culture of readiness.

Case Study: Bhuj Earthquake (2001)

Magnitude: 7.7

Lessons Learned

- Importance of earthquake-resistant construction.
- Need for community participation.
- Modernisation of disaster management institutions.
- Adoption of the Disaster Management Act, 2005.
- Establishment of NDMA and NDRF.

Conclusion

Securing India's future demands transitioning from **reactive relief** to **risk-informed, smart engineering**. Integrating **automated early-warning networks** and enforcing **next-generation building codes** will build absolute **tectonic resilience** against inevitable seismic shocks

Q. Discuss about the vulnerability of India to earthquake related hazards. Give examples including the salient features of major disasters caused by earthquakes in different parts of India during the last three decades. 10 Marks

3.5.3. FIRE SAFETY & URBAN GOVERNANCE

Introduction

The recent Lucknow fire tragedy, which claimed 15 lives (mostly students), highlights the critical intersection between India's demographic dividend and its regulatory deficits. It reflects a booming, unregulated education economy thriving amidst unplanned urbanization, emphasizing that India's transition to a developed nation (**Viksit Bharat**) is fundamentally incomplete without ensuring a safe nation (**Surakshit Bharat**).



Core Reason of the Fire Safety & Urban Governance Crisis

A. Socio-Economic Drivers

- **Booming Coaching Ecosystem:** A young population eager to acquire skills for a rapidly changing job market (driven by AI disruptions) has fueled a high-profit, low-capital ecosystem of coaching centres.
- **Institutional Lag:** Formal educational institutions are failing to keep pace with modern skill requirements, forcing students toward these parallel, informal training hubs.

B. Structural & Regulatory Failures

- **Unauthorized Commercialization:** Educational hubs frequently operate out of buildings not zoned or authorized for commercial use.
- **Enforcement Deficit:** Despite repeated demolition notices by civic authorities, illegal structures continue to operate, highlighting corruption and administrative inertia.
- **Commodification of Safety:** Business owners consistently bypass basic fire safety norms and mandatory building codes to maximize profit margins.

C. Systemic Bottlenecks in India's Fire Governance

- **Lack of Investigative Culture:** Post-disaster investigations are superficial, rarely moving beyond superficial blame to identify systemic engineering or electrical flaws.
- **Infrastructure & Human Resource Deficit:** India suffers from a severe shortage of modern firefighting equipment and trained **fire-forensics experts** capable of conducting rigorous root-cause analyses.
- **Absence of Standard Systems:** Unlike developed nations, Indian commercial buildings largely lack automated, mandatory fire detection and suppression systems (e.g., smart sprinklers, integrated smoke alarms).

Government scheme and legislation

1. **Article 243W & the 12th Schedule of the Constitution:** Empowers Urban Local Bodies (ULBs) and municipalities with the constitutional functional domain to organize, regulate, and execute fire services locally.
2. **Disaster Management Act, 2005 (NDMA Guidelines):** Shifts the national fire response paradigm from reactive firefighting to proactive mitigation by mandating periodic, regular vulnerability assessments and structural fire safety audits.
3. **AMRUT 2.0 (Atal Mission for Rejuvenation and Urban Transformation):** Links central fiscal devolution to urban programmatic reforms, incentivizing municipalities to digitize, monitor, and streamline building plan approvals alongside safety compliance.

Global Examples of Fire Safety and Urban Governance Models

- **United Kingdom (Hackitt Review Implementation):** Introduced strict, continuous "safety case" regimes for high-rise buildings following the Grenfell Tower tragedy to eliminate regulatory loopholes.
- **Singapore (Fire Safety Act & SCDF Regulation):** Enforces mandatory, automated fire-shutter and sprinkler links directly tied to the Civil Defence Force for real-time monitoring of commercial properties.

- **United States (NFPA Code Enforcement):** Utilizes the National Fire Protection Association's highly standardized, legally binding codes coupled with third-party forensic investigations to prevent electrical failures.
- **Japan (Disaster-Resilient Urban Zoning):** Integrates strict fire-retardant material mandates with localized community firefighting infrastructure within dense, historic commercial districts.

Way Forward

- **Launch National Risk Audits:** Initiate scientifically designed, sample-based national building surveys to create a data-driven vulnerability database for urban centers.
- **Enforce Smart Technology:** Update building bye-laws to mandate **Arc-Fault Protection Devices (AFPDs)** and sensor-based, automated fire suppression systems in all commercial hubs.
- **Fix Institutional Accountability:** Establish strict legal and administrative penalties for civic officials who fail to execute issued demolition or safety violation notices.
- **Institutionalize Fire Forensics:** Establish a dedicated cadre of trained fire-forensics experts to move post-disaster investigations from superficial blame to technical root-cause analysis.
- **Empower Urban Local Bodies:** Enhance the fiscal and technical capacities of municipalities under **Article 243W** to modernization local firefighting infrastructure and emergency response times.
- **Formalize Parallel Education Hubs:** Implement a strict, mandatory registration and licensing framework specifically targeting informal coaching centers to regulate their spatial and structural safety.

Conclusion

Transforming India into a **Viksit Bharat** demands prioritizing a *Surakshit Bharat* through data-driven sample safety audits, mandatory smart sensor-based automated suppression systems, and strict municipal accountability to secure its demographic dividend.

Q. *Fire safety is an integral component of disaster risk reduction in rapidly urbanising India. Discuss the causes of recurring urban fire accidents and evaluate the preparedness of India's fire safety ecosystem. 15 Marks*

Scan to attempt more questions...



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